1.0 Introduction

1.1 An Ethics for Robots or Heroes?

When asked to picture an engineer making engineered things, people will commonly imagine a scientist in a lab with the most futuristic technology possible. Shiny metal, wires, glowing energy sources, and lab coats dominate the scene. What does any of this have to do with your life? The answer, of course, is nothing. This scene is both wrong and incomplete in several important ways.

Technology is not just shiny metal and glowing energy sources; it is not just things we can touch. The recipes for manufacturing these things, the algorithms that control them, the techniques used to improve their appearance; are all ideas. Ideas are technologies. Most engineers work primarily with ideas and rarely personally manufacture the products they help design.

Engineering is the craft dedicated to applying existing technology to a design. While it uses the findings of science, engineering is not simply applied science. It is a fundamentally different activity. A person doing science looks for *the answer,* for knowledge. When doing engineering, a person is focused on *an answer*, using the best available knowledge and resources to design a product that is practical and desired. The same person can do both activities, but while the difference between them may appear subtle, it is profound. Science is about acquiring knowledge; engineering is about applying that knowledge to designing products people will use. The scientist discovers a long stick and a log can be used as a lever to lift heavy objects. The engineer applies this knowledge to specific materials and positions for prying heavy rocks at Stonehenge.

Philosophy includes technologies for living. Ideas that address the fundamental issues of existence, knowledge, morality, reason, and human purpose. Since engineering uses technology to design products, "life engineering" is applied philosophy. The product is a good life. The results of the world's mythological, religious, spiritual, and philosophical systems are all examples of practical and desired designs. These designs have been innovated over the millennia and have shown themselves to be highly robust and successful.

The foundational idea of life engineering is that engineering tools and techniques are used to iteratively learn the best-available component technologies that combine into your good life. While more specific definitions will be provided, the good life is the name provided here for what it is asserted that most people want most of the time. This includes high quality of life, well-being, flourishing, sustained feelings of fulfillment and contentment, a balance of physical, mental, and spiritual health. The main argument is that the good life is achieved as a byproduct of living an engaged and meaningful life. You choose to be content, have at least minimal levels of health, wealth, meaningful work, and deep relationships with others, and understand yourself.

While undoubtedly there are exceptions, this book will make the case that for most people most of the time, a recipe to prevent failure is as conceptually simple as the folk wisdom passed down from generation to generation, embedded in myths and stories and the advice of loved ones. This book argues for the importance of all the seemingly trivial and unimportant advice of your grandma. A standard recipe for the good life could be summed up in a simple list made up of this wisdom: show up, work hard, know yourself, choose to be content, be grateful, honor your family, make and cherish friends, treat others as you'd like to be treated, find what you are good at and turn it into your career, sleep, exercise, eat well, learn from your mistakes, learn from the mistakes of others, leave it better than you found it, among others.

This book's ultimate aspiration is to explain why this timeless wisdom you already know is wisdom and not empty platitudes. That except in extreme cases, implementing this wisdom will lead to your good life. It is claimed that **if you are not living a good life, knowledge of what to do is not the problem. Motivation is.** In part, this motivation comes from understanding why something is important, how it works, and the full long-term benefits when it is best applied. If you are already living a good life but unaware of it, this book aspires to help you recognize this. Perhaps this awareness alone will simply provide you with more confidence, or maybe it will motivate you to increase the goodness of your good life.

The first part of the job for an engineer crafting a new design is to prevent failure. Only then can the focus be on performance. First, a bridge will be required to stay standing before how good it looks will be appreciated. While exciting and interesting in many ways, critically examining and refining a design to prevent failure can be tedious and mundane. Life engineering can be similar. To live a *good* life, you first have to avoid a *bad* or *mediocre* life. Before you can thrive, you must first survive.

At times, life engineering will feel like designing ethics for robots. A tedious list of obvious rules to follow, no soul required. An analytical organization of the fundamentals of your life such that you can focus on what matters to you. This book argues to get the boring, robotic stuff set up as a solid foundation to use your unique creativity to become wholly human and perform. To increase the goodness of your good life to levels as high as possible, to maximize its goodness.

It is also an ethics for heroes. A hero is a person that should be admired for courage, outstanding achievements, or noble qualities. A hero has done heroic things. Yet, heroes can only be as brave as the opportunities of their lives allow. You can't save a child from a burning building if there is no fire. The trade-off here is that you don't get the pride and glory of being this type of hero if there are no such opportunities, but nothing sacred is risked or lost either.

It is argued that pursuing the good life is among the most heroic things a person can do. To aspire and work to become the best version of yourself even though it will be imperfect and will end not at your choosing. To try to achieve hard things without fearing the failure that will inevitably occur due to chance, fallibility, and trade-offs. To help preserve and even improve the norms of society critical to its stability, despite your sacrifices never being understood and celebrated. To do the innumerable small and humble acts whose effects will be forever unknown and unappreciated. To improve the world by first improving yourself. This book will attempt to lay out an analytical explanation of why following your grandmother's advice is both heroic and the path to living the good life.

1.2 Framework Limitations

A mental model is a simplified concept of a real thing. A map of a city is a small two-dimensional diagram of the main roads and landmarks. It is a model of the city, useful as a tool for navigating through the actual three-dimensional place. A common theme of the book will be that all models have limitations. Choosing a model is choosing a blind spot. The city map will not have all the detail you want and will be outdated, but very conveniently, you can fit it in your pocket. The life engineering model presented in this book is limited as well. The blind spot of this model stems inherently from the very definition of technology. Technology and engineering, by their definitions, are focused on human utility. Applying them to an individual's life is only applicable to the extent that the individual wants to be useful.

The second major limitation is that there is no precise definition for what is *good*, for quality, what features a design should have, and how well these features should perform at the expense of other features. At this point, you may be asking: "what use is a book on the good life that doesn't even define *good*?" Fair question! An argument is made that the precision is correct; the trade-offs made offer significant benefits.

These pros include derivations of common folk wisdom and philosophical principles and an overall conceptually simple and internally consistent framework. The cons that come as a trade for these strengths are generally low precision in practicality, nuance, and human nature. While strategies for addressing the weaknesses of this framework will be further discussed, the framework aspires to motivate you to improve the clarity, confidence, completeness, ownership, and empowerment of your unique good life design. Rendering your point of view ever more coherent allows for a more straightforward design to operate and maintain.

Imagine you are standing next to a beaver looking up at the world's largest hydroelectric dam. The beaver turns to you and says: "I didn't build it myself, but it's based on an idea of mine." This book humbly comes to you as the beaver, attempting to provide the simplest possible practical framework for life engineering, along with associated key component technologies innovated by innumerable people long ago. Only you can take these and apply them to a grand and sophisticated product that is practical and desired, or in this analogy, a large hydroelectric dam.

Yet even more humbly, just like the beaver, this book misses the essential part of the design. The beaver is oblivious to the blockage of water being just a requirement for the dam's primary purpose, to control the fall of water through a turbine to produce electricity. Similarly, this book misses the essence of the human condition, why you would want to live or engineer the good life in the first place. The presented framework is merely a means to address the requirements needed for the good life to occur and help increase the amount of goodness.

It is argued that the two significant weaknesses of this framework, the focus on utility and the lack of definition of *good,* is one big, interrelated issue left for you to address. One can attempt to engineer design features that are intended to address spirituality. Such features worthy of cultivation include peace, joy, wonder, awe, love, beauty, truth, meaning, purpose, humility, the immaterial, and something bigger than oneself. These are but a few among other difficult to define but fundamentally essential parts of being human.

To the extent such cultivation efforts are practical is an open question left to each life engineer to resolve. This is one of the many burdens of responsibility. Yet, there are many resources to draw upon to for help and inspiration. The strengths of other frameworks, such as the philosophies of Phenomenology, Existentialism, Transcendentalism, and the rich philosophy embedded in religious practices, culture, literature, and art, among other sources, may all be used to complement the weaknesses of this framework.

1.3 De-Mystifying Philosophy

Is philosophy even relevant and helpful? If so, why isn't this more obvious? It's all too easy to laugh at people arguing over the existence of a chair or whether you have free will. Caricatures of philosophers as silly and impractical fools, with their heads in the clouds, goes back to the first philosophers. After listening to one absurd thought experiment too many, you too may have such a reaction.

Unfortunately, philosophy is often taught and perceived as a scientific endeavor, yet any application to one's life is an engineering activity. Academic philosophers tend to look for *the answer* when only lots of good *an answer's* are possible. Academic philosophy is an inherently critical activity that picks at helpful *an answers*, revealing their flaws and trade-offs, showing how each is not *the answer* in a multitude of ways. In the proper context, this is an essential and valuable service to the applied philosopher. Understanding both the strengths and weaknesses of the technologies used in a design is beneficial to the engineer.

It is argued here that the most significant contribution of academic philosophers is that they haven't found *the answer* to the good life. They've innovated many excellent *an answers*, inevitably flawed, full of trade-offs, and customized for a particular time, place, and personal style. **There's been an estimated 100 billion people that have come before you. If *the answer* could be put into a scientific law, it would have by now.** While stated as a fact for dramatic effect, this, of course, is just a theory. If you find this theory persuasive, it saves you time from repeating things that don't work <u>and</u> gives you confidence that your customized *an answer* is as good as it can be.

Yet before you apply technology, it is generally the case that the more you understand how it works, the more you will be successful. Here academic philosophy can be prohibitively abstract and specialized to be accessible to most people most of the time. Trying to start with the most recent contributions is joining a conversation that has been going on without you for several thousand years. When we consider human nature and incentives inherent in social systems, it is easy to see how something already abstract can quickly become even more complicated and obscure. Along with subtle great ideas taken for granted are countless half-baked ideas that don't live up to their hype. Philosophy, just like science, is performed by people, after all. Such noble pursuits are subject to negative trade-offs between humans and organizations, such as confirmation bias and identity feedback loops, fashion trends, groupthink, politics, ego, and selfishness. While philosophers and scientists have noble goals, the pursuit of wisdom, knowledge, and truth, this alone is not enough to avoid some of these all too common pitfalls.

Going all the way back to how philosophy got its name, it meant simply "love of wisdom." Here philosophy is the pursuit of wisdom, not the source of it. Like the difference between science and engineering, the focus on pursuit instead of possession is very subtle and consequential. This book attempts to follow this original spirit, starting with the simplest possible yet still helpful introduction. The three main branches of philosophy of (1) metaphysics, (2) epistemology, and (3) ethics are recast into the following three simple yet profound questions:

1. **Where does it all come from, and why?**
2. **How do I know anything?**
3. **How should I act?**

There are many ways to answer these questions. All world mythological, religious, spiritual, and philosophical beliefs have attempted to answer them. One part of the challenge is the inter-dependence; each answer can affect the others. As we will see, sometimes, the answer to #3 directly follows from the answers to #1 and #2. However, sometimes #1 and #2 are treated as unknowable, and only question #3 is answered.

A standard set of answers made by a theist (religions and mythologies) to the three questions offered is that a single or multiple supernatural being(s) brought you and everything into existence and has provided you with knowledge and guidance for how to act.

The naturalist's alternative set of answers is that you were created and have the capacity for knowledge out of a combination of physical processes. It appears this creation occurred with no specific purpose, and thus there is no inherent meaning for your existence or guidance for acting. You may provide your own meaning and learn from the successes and failures of others who have come before you.

Comparing and contrasting these two sets of answers reveals potentially enormous differences in how you decide to act, the path of your life. And yet, it will be argued that most religions, cultures, and philosophies end up with more or less the same general answers to the how-to act question: to "live virtuously." Of course, virtue is defined and explained in unique ways, with different values emphasized. In engineering terms, the guidance is provided in different units, analogous to the apparent difference between 66 seconds and 1 minute. These two numbers remain unequal in the same units as 66 vs. 60 seconds or ~1.1 vs. 1 minute. And yet, they are much closer than they initially appear before performing the unit conversion. The most powerful analytical tool in the engineer's toolbox may be the simplest: converting everything into the same units.

A slightly more complicated engineering analysis technique for conceptual understanding is to examine extremes to learn about the averages. One such example of how the first two questions can change the answers to the third comes from a philosophical school in Ancient Greece. Their responses to the first two questions were that numbers are the underlying substance of reality. All souls are in a cycle of reincarnation, moving up or down through a hierarchy of animals and humans. By studying mathematics and science, one could transcend the cycle of reincarnation. As a result of these answers, they dedicated their lives to learning mathematics and did not eat any animals or insects since they were reincarnated.

Another less extreme but more relevant example starts with the implications of the naturalist's answer to the first question: there is no inherent meaning for one's existence. In this example, instead of making one's own meaning, it is concluded that since none exists, one might as well maximize pleasure while it lasts. A rebel without a cause, they should live fast and hard. Dying young doesn't matter anyway since their life is inherently meaningless. This book will argue against such an answer to the third question in favor of the conventional "living virtuously" approach.

1.4 Value of Life Engineering (Applied Philosophy)

We've seen the potential consequences for how the answers to the first two questions can profoundly shape how you decide to act, the very course of your life. It is argued that applied philosophy is essentially the act of answering these three questions. In other words: attempting to address the fundamental issues of your existence, knowledge, morality, reason, and purpose.

Throughout this book, several significant insights from academic philosophy will be introduced, among many other sources. This book is intended just as a starting point from which further inquiry and development can be pursued. Doing philosophy does not have to be an academic exercise, wading through everything that has come before and then scientifically cataloging and critiquing them. Applying philosophy can instead be an engineering activity, where the best existing technologies of living can be used in the design of a good life. Figure 1-1 depicts an ideal balance between many frustrating aspects of academic philosophy and popular self-help. A common theme in this book is that *good* is a balance between extremes. In this case, life engineering aspires to be the appropriate balance of the best attributes of the extremes, including the simplicity and confidence of popular self-help and the rigor and humility of academic philosophy.

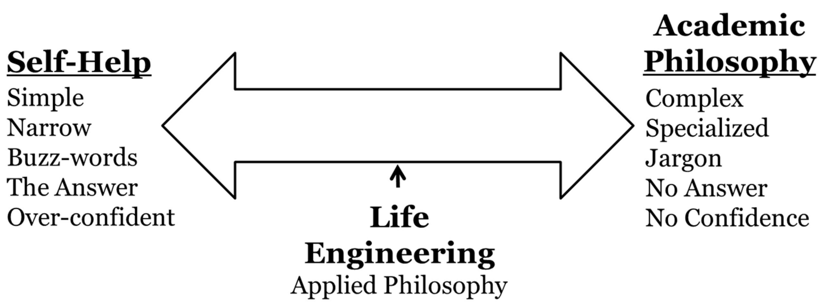

Figure 1-1. Life engineering between extremes

Can you be successful without studying? Of course! The school of hard knocks, life experience, will teach all the same lessons as the best teachers. But, and this is a big but, that is a hard way to go. **If you're going to be dumb, you better be tough!** It is claimed that life engineers benefit from getting to the same place faster, easier, and more confidently. You know, because you've methodically learned from the great ideas of others, learned from their mistakes before you make similar ones, because you don't have to wait for experiences to happen to gain understanding. Yet, and of the utmost importance, you have to do more than just read and study to really understand. Until you experience something, you may know conceptually, but you really don't fully understand, you don't know emotionally, you haven't fully added the concept into your intuition.

The school of hard knocks is effective, no doubt. But the suffering from these knocks is out of your control regarding when, how much, and for how long. Studying can bring the best of both extremes, the necessary understanding and at least a little more control over the suffering needed to attain that understanding. Philosophy is a special thing because, by its very nature, it changes how we view the world. It changes us. As such, philosophical change tends to be invisible to us because it is incorporated into our points of view. We don't see it because we see with it.

But it's not all invisible. It is repeated that the single most significant contribution of academic philosophers is that they haven't found *the answer* to the good life. Their many excellent *an answers* have been customized for a particular time, place, and personal style. Knowing this is a massive advantage at the start of your own design. You can avoid chasing impossible perfection and instead prioritize what is truly important to you, given finite time, energy, and resources. Much more to come on this ultimate balance of balances.

1.5 Not Simply Reverse Engineering

So now you're entirely convinced life engineering is the way to go, great! Time to study and plan and then reverse engineer your good life? You can define precisely who and where you want to be in the future and deductively work backward to determine all the choices you need to make along the way? You can reproduce and even improve the technology of others by understanding and replicating it? No.

It's not so simple to just make a plan, execute it, and live happily ever after, even if it's an excellent plan. You won't be the same person when you get there, your friends and family will be different, the whole world will have changed. You don't know everything you would like to do or will be good at. While planning and reverse engineering are good tools, they are not the only ones and are certainly insufficient. Many tools and techniques are required to continuously re-engineer your design.

Strategic planning, such as is needed for engineering your good life, is not as simple as imaging a set of different futures and then picking the one you want. As alluded to and discussed further, this is due to a lack of information on your part. You simply don't have enough of the needed information to make informed design decisions. Instead, strategic planning is imagining many different futures, then for each one brainstorming what you wish you were doing right now to best prepare for each scenario. You can then choose the actions and behaviors you will do now to best prepare for possible futures you aspire to.

In other words, an iterative learning approach to life engineering is recommended and will be further explained in the next chapter. Initially, a crude design is guessed using coarse information; eventually, a sophisticated design is optimized with refined details. This is a skill, an art, a craft. Luck can play a prominent role. Even determining good luck from back luck can be difficult, for success and failure have dual natures. Just as failure prevents you from doing what you initially planned, success blocks you from access to other opportunities. You're too busy succeeding to have time to try new things that you are initially bad at.

Let us examine an ancient story that begins when a rather peculiar farmer saw his horse run away. His neighbor came over to commiserate and said, "I'm so sorry about your horse." The farmer replied, "Who knows what's good or bad?" The neighbor was confused because it was obviously terrible to lose the most valuable thing he owned. But the horse came back the next day, bringing with him a dozen wild horses. Coming back over to celebrate, the neighbor said, "Congratulations on your great fortune!" The farmer replied again: "Who knows what's good or bad?" Then the next day, the farmer's son was taming one of the wild horses when it threw him, breaking his leg. The neighbor came back over, "I'm so sorry about your son." The farmer repeated: "Who knows what's good or bad?" Sure enough, the next day, the army came through their village, conscripting young men to go and fight in a war, but the son was spared because of his broken leg. And then…you get the idea, apparent tough luck can turn out to be beneficial in the long-term.

There are several lessons from this story besides just the dual natures of success and failure. The role of chance and the persistent lack of information about the future at every moment are two. No permanent victories or defeats are a consequence of "complexity," which will be much discussed. Both life engineering and living are skills, crafts, and arts for all these reasons and more.

1.6 Skills, Crafts, Arts

A fundamental theme of this book is that engineering, and more importantly, living, are skills, crafts, and arts. As will be explained further in the next chapter, there is no one right way to engineer, but wrong ways can be identified by a track record of failed designs. Designs either prevent failure and perform, or they don't. You either live a good life, or you don't. While *good* won't be defined generically in this book, each engineer can and must define *good* for their unique design.

Since there is no one method, engineering is a skill, a craft, an art. A master of any craft is defined here as one who makes challenging tasks appear effortless. In some cases, the master may have an inherent talent or have created new techniques. Generally, what distinguishes them is a mastery of the fundamentals to such an extent that they are implemented with ease and then creatively combined in the right way, at the right time, with the right objects, with the right people.

Fundamentals are, by definition, simple, basic, known. Why devote time and energy to covering things everybody already knows? Just because something is simple doesn't mean it is easy to implement. In fact, the simpler something is, the less motivated you may be to implement it since its importance can so effortlessly be taken for granted. As engineers are humans and thus inherently fallible, so too are the resulting engineered products. No further evidence is needed, but there is no shortage of engineering failures, from the mundane to the astonishing Tacoma Narrows bridge, Chernobyl nuclear plant, and the Space Shuttle Challenger, among innumerable others.

This book is dedicated to studying and pursuing life engineering mastery, with the ultimate goal to master the craft of living. It is thus focused on the fundamentals, all the simple but not easy advice of your grandma. As a result, there is "nothing new under the sun." Instead, these principles and techniques have been discovered repeatedly in every culture in every era of humankind and only occasionally written down. Whole books could be written on the history, justification, and nuances for a single principle or concept, of which there are hundreds. And in most cases, there have been. Suffice to say, every craftsperson, artist, engineer, philosopher, religious leader, and respected successful person deserves credit for discovering many of the ideas and concepts presented.

Can it be really this simple? Just follow the advice of your grandma, and you'll live a good life? Shouldn't it be more esoteric than this? Don't profound questions like "what is the meaning of life?" have profound answers? This book argues no. That dramatic questions, if they even make sense, don't have dramatic answers. They don't get answered in a montage in a movie scene set to climatic music. Instead, in any one good life, there is no single defining action, no grand program, no one killer innovation, no solitary lucky break, no miracle moment. Philosophers, religions, cultures, and "successful" people everywhere throughout time and space have long mastered and uniquely combined fundamentals.

So if it's so simple and obvious, why doesn't everybody already do it? Simple does not mean easy. It is asserted that designing and implementing the good life is not a knowledge problem. It's a motivation problem. **The main benefit of the life engineering craft is motivation.** It is taken as a general rule of human nature that appreciating why something is important is infinitely more motivating than being told what others say is important. This is the difference between being taught to engineer such that you can design your own concept and then construct it versus simply being given a blueprint.

1.7 Not Simply Math

Engineering is a craft in which math is often the best tool for the job. For some designs, math is needed to check for failure and to predict performance. When designing a bridge with a requirement to not collapse, the current best tool in the engineer's toolbox to check this requirement is to calculate the strength of the materials in the unique geometry and compare that to the amount of stress it will be under. A design predicted to be stronger than the load passes this requirement, while a weak one would collapse. Yet, not all requirements and performance aspects can be quantified. Can math be used to evaluate how aesthetically pleasing the bridge is? How harmonious it fits into its surroundings?

There is nothing in the definition of engineering provided, applying technology to a design, that requires math. Math only becomes involved when it is the best tool for checking for failure or evaluating performance. For innovating a good life, there are few quantitative aspects and thus little math involved. Generally, things people really care about can't be quantified. Some philosophers have proposed quantifying things like human utility. In one formulation, an action's moral rightness or wrongness is determined based on the numeric amount of pleasure or pain that it produces. Such approaches can be counterproductive for the life engineer if taken to an extreme or used as the only tool. Life engineering is instead argued to be qualitative and conceptual in nature. Critical thinking is necessary, but not necessarily with numbers. Thinking critically will be needed to iteratively learn, check for failure and performance, decompose existing designs into component technologies, combine such components into your unique product, among other valuable tools and techniques of the engineering craft.

If engineering=math is stuck in your mind and that's not going to change, that's fine. Simply substitute "cultivate" for "engineer." An analogy for a life engineer is a gardener who cultivates and nurtures plants. The gardener does not have the power of life and death; they cannot command and control a plant to grow. They can only shape the environment by providing the conditions that they think the plants need to thrive. In time the garden will require less and less of the gardener's intervention. It becomes robust and resilient as a result of the environment cultivated.

You, the combination of your mind, body, and spirit, cannot be simply controlled. You are not a robot that can be programmed. Since time immemorial, sources of inner conflict have been speculated on: reason vs. passion, mind vs. body, sinner vs. saint, conscious vs. unconscious, left brain vs. right brain, primal vs. evolved, automatic vs. controlled, and on and on. Philosophies, religions, and cultures have long developed sophisticated design features to help balance such opposing forces. Generally, these design features do not call for the tyrannical rule of one side over the other. Through values, beliefs, rituals, and habits, they focus on balancing the conflict and the opposing forces to negotiate and compromise. In other words, like the gardener who works within their limited powers and resources to cultivate the best environment they can.

1.8 What's So Special About Engineering?

A garden is a common metaphor for life. For example, a [life, body, mind, career, relationship] can be cultivated like a garden. Plants need regular watering and sunshine. They need to be protected from insects and birds. Sometimes they need to be pruned. Occasionally a thorough weeding is called for. The end result of careful and regular care, with timely interventions, is a [life, body, mind, career, relationship] that is growing, bringing beauty as it flowers.

Any skill-based activity with trade-offs can be a powerful metaphor for life: gardening, war, games, sports, adventures, professions. The daily practice of engineering is no different. Yet, engineering has the potential to be more than just a metaphor. It is the one and only activity defined as the purposeful application of existing technology to a design. Any critical thinking on the choices and associated performance of one's good life is considered life engineering. This book doesn't claim a monopoly on such activity. You have been doing these examinations to various degrees throughout your life, just as others have over the millennia.

In some respects, engineering the good life is even more fraught with a lack of data and uncertainty than those of more traditional engineering disciplines. On the other hand, there has been no shortage of human experience from before recorded history up to the present day. An estimated 100 billion people have lived or are currently living at the time of this writing. The shared characteristics among the world's mythological, religious, spiritual, and philosophical systems are apparent to even the casual observer. An argument will be made that it is impossible to make universally true scientific laws for the good life. This will be balanced with the justification that the vast available resources of existing philosophy and engineering are more than sufficient to engineer the good life.

1.9 Pre-Job Brief

An engineering best practice before starting any design project is for all stakeholders to discuss the expectations and realities of the project. This simple but not always easy tool can reveal essential differences in the understanding of requirements and in what ways the design should perform. If left uncorrected, these communication failures will result in a design failure since the minimum requirements of all stakeholders would not be met. To go back to the much-used bridge example, a pre-job brief might reveal the size of the boats that must pass under it, the number of cars needed to fit to make it commercially viable, the expectations for pedestrian access, and so on. Even if the bridge doesn’t collapse, it can still be considered a failure if a must-have is not had.

The primary goal here is to introduce a life engineering framework that aids a responsible engineer in designing their individual good life. The first step towards this goal is the examination of engineering fundamentals in the next chapter that may be used in the process. Through the explanation of these fundamentals, the good life will be defined in conceptual terms. From this concept, an <u>example</u> working hypothesis of the good life will be proposed. A working hypothesis is a good guess of the solution to a problem, which is then checked for effectiveness. It may not be understood how or why the solution works, at least not initially. As experienced is gained and if the proposed solution effectively solves the problem, insight into how the solution works may be achieved. As the famous saying goes, “Magic is technology you don’t yet understand.”

Guessing and checking is an attractive option for starting a new design, where little information is known about what may be best. You don’t have to know and choose from different complicated theories and figure out how to correctly apply them to derive a recommended design. Yet you only have one life to live. It’s not a laboratory where endless guesses can be made and checked for effectiveness. Guessing wisely as early as possible is of the utmost importance.

The example working hypothesis is based on shared characteristics in existing mythological, religious, spiritual, and philosophical beliefs. The scientific discipline of positive psychology has produced similar theories. To the extent possible, circumstantial evidence for the wisdom of the example guess will be provided. Rigorous, let alone complete, evidence will not be presented. The most important reason for this is because it is asserted sufficient conclusive evidence does not currently exist. If you want absolute undeniable proof, you may be waiting infinitely long for such a book.

Secondly, the book's scope is on how to engineer the good life, not what scientists claim to know about the good life. If implementing the provided example design, or your own unique guess, results in success, then you have circumstantial evidence it is an effective part of the design. Will you know if it is absolutely true? No. Are there other, better solutions? Likely yes. Alas, the reality as humble engineers is that the best we can aspire to is a design that works in the real world and is desired. One that is as simple as possible to understand, build, maintain, and operate.

Before a design can perform, it must first survive. Avoiding failure means satisfying minimum requirements for the design engineer. To this end, after an introduction to engineering fundamentals, the following four chapters are devoted to exploring the hypothesized minimum requirements for an example good life. As will be further explained, these are guessed to be minimum health, wealth, meaningful work, deep relationships, and self-knowledge.

Each chapter attempts to conceptually examine critical aspects of a minimum requirement to understand why it is a must-have for the good life. The technology involved is decomposed into component building blocks to allow a fuller understanding of how to work with the technology when combined with others into a complete design. Additional engineering tools and techniques are introduced when helpful to the conceptual evaluation.

If you, the engineer, agree with these example minimum requirements, which you very well may not, it is still only the very start of the process. You must define what “minimum” means for each. For the health requirement, is longevity important or only performance, or a balance of both? The best this book will do is provide a high-level conceptual discussion on how the technology works to begin to judge what is best for your design. Further study and testing will likely be needed for better judgment.

These chapters may also aid you in deciding how your design will perform. While not all performance aspects of all designs are covered in these chapters, it will often be the case that an element will not only be a requirement but something to maximize. Health may just be a minimum requirement for some to maximize performance in relationships, while the opposite may be true for others. In other words, these chapters may be helpful for not just surviving (avoiding failure) but thriving (performance).

It will be argued that deciding how a design will perform is the hardest part of engineering. Trade-offs are inherent to physical things like yourself; you can't have it all with finite time, energy, and resources. Improvement past a certain point for one performance goal necessarily results in lower performance for other pursuits. The last chapter is focused on the tremendous challenge of balancing competing performance goals.

These are the expectations and realities of this design project for your good life. Using fundamental engineering tools and techniques developed since time immemorial by the 100 billion people that have come before you, the plan is to first guess and evaluate an example set of minimum requirements, including figuring out what minimum means. Then you can decide how you want your design to perform, balancing the realities of finite time, energy, and resources. While this is no small task in itself, it is just the beginning. As soon as the design is complete, it very well may be out of date or at the very least in need of maintenance. You will have changed; the world will have changed. This design cycle continues endlessly throughout your good life.