On Rationality

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Revision	Notes
1.01	Rough draft complete. To inserted barcodes and ready for proof reading.

Introduction

A friend and I were having an intellectual wrestling match. It was spirited and fair. It is a gift when people with different conclusions step into your life; especially when they are willing to show their trail of thought and are just like you... open to being corrected. The wrestling match unfolded with several breaks in between the sessions. This very nature provided lots of opportunity to think about my friend's arguments. His arguments were solid. His knowledge was rooted in lived experience. He is a respectable family man, a part of a larger community, and by all other accounts a serious person. Well, maybe his shaved legs are a bit difficult to justify, but short of this one imperfection, he is a fair and honest person (who races bicycles). We are both quite rational. Simply a byproduct of being technical people who work with the real world where the correlation between action and outcome is immediately obvious. In our sessions we were using what I thought was rationality as a means to victory. Where victory could be defined by one of us saying "I think you may be right", and wholesale subscribe to the other's correct position. During the last session, an epiphany occurred. The epiphany was that it was impossible for either one of us to subscribe to the other's conclusion, because our positions were built on something more fundamental than the product of each person's rationality. Our positions differed because one viewed humans as something associated with the divine (and all the 'can of worms' that this position opens with free will, duty, and souls), and the other viewed people as an end in-and-of themselves as a contained singular universe. So, there we were, in a wrestling match using debate to argue about some third/forth/fifth order conclusion that was sprouting for each of us out of our fundamental position. Can you see the futile point of the wrestling match using reason as the tool to resolve the stalemate?

This experience initiated curiosity into rationality. The point of this essay was to throw up some basic thoughts on the wall of the internet about rationality.

This work was supposed to be short, yet, rationality turned out to be surprisingly complicated. During the writing of this paper multiple paradigm shifts have occurred. Who thought that one little word made of a few letters would open to so many concepts.

This paper hopes to be as simple and practical as possible.

Thanks for joining me.

Links to Resources

In this essay you will find numbered references, all of which are on the internet. Please consult the last two pages of this essay to find the numbered reference that corresponds to a barcode. The barcode enables you to use your mobile device camera to go quickly and easily to that specific reference. One last note, this essay relies on two essays, which are "Exploring Truth"⁽¹⁾ and "On Knowledge"⁽²⁾. In theory, it would be optimal to read these works prior to this work, but that is not a prerequisite.

Part 1 - Foundations of Rationality

1.0 Introduction

This section considers rationality from the perspective of the underlying structures on which it exists. Rationality cannot exist without some prerequisites and this section lays out the core partnerships that must be present to allow rationality to perform its work. For rationality to perform it's work it requires support from various structures, and this section explores the partners, and the general relationship between them.

1.1 The physical Brain

It is interesting to note that as of February 2025 both neuroscience and cognitive psychology do not fully know everything about how the human brain works. We do not fully understand dreams, near death experiences, and what effects substances like ayahuasca have on the brain. What this means in practical terms is that until the brain is fully understood, we cannot be overly sure about what is true and what is not. However, something we can all likely agree on, that will not be refuted in the future, is that when a person dies, the ability to express rationality to other people is gone. The same goes for when the brain is dead or is excessively damaged. A dead brain is not carrying out any rationality. Perhaps the brain is a standalone system; perhaps the brain has some capacity as an antenna to tap into some other medium; but regardless of the total set of the capability of the human brain, when it's dead, rationality is a process that is no longer running in that dead brain.

Before moving forward, let's consider a devil's advocate question: Is it possible that rationality is external to the brain?

Well, record keeping societies with doctors who investigated the human body have existed for a while now. The Greeks had Hippocrates who I am sure had seen some real damaged humans from battle. The Romans had Galen of Pergamum, who tended to gladiators and had a chance to understand how the human body works. History is filled with wars, and doctors could observe incredible injury prior to death and could extrapolate a lot of knowledge about how the body works. In modern times Michael Marzenich and colleagues have done various experiments on monkeys and discovered neuroplasticity. Alexander Romanovich Luria worked with brain damaged WW2 soldiers to use the physical brain damage to understand which parts of the brain were correlated to specific tasks. The point is that all these people, and many more in history had a chance to look at the body, and there is a consensus that the brain does the cognition for the body.

From personal experience I can also attest that broken bones, extensive tissue damage, foreign implants, and multiple surgeries that do not affect the brain do not affect rationality. When the brain is functioning properly, and is not under incredible load (attention, pain, etc...) the state of the body is irrelevant to the human ability to use rationality. I don't think there is a case of a broken finger, knee, back, or wrist that resulted in lost rationality. Yet I am sure a neurologist can remove enough of a brain from a person to keep them alive without machines, but have no rationality (with some other functionality missing too I'm sure). This is why I firmly believe that without a functioning brain, rationality is no longer a part of the picture.

This paper's position is that while the brain is alive and well, it is the container that is storing rationality. Regardless if it's a standalone system or is able to tap into something external to itself, it is a container that houses circuits that perform various cognitive functions. Image below shows the brain as a container, which we will build up:



1.2 Model/Understanding of the world

A key partner of rationality is a model/understanding of the world, which is housed by the brain. This essay is not concerned how this model comes to be, or how it is stored in the brain. The point is that it exists. Healthy adults know a lot about the world, and with experience can make very many accurate predictions about it. The model is our unique understanding of the world that we create over our lifetime. It is a changing structure that is modified by new experiences, thinking, new facts, and so on. I believe that the model of the world comes into existence (develops in children) way before rationality. By the time rationality begins to develop in children, the model of the world has been developing for a significant amount of time. Our understanding of the world as a model is a structure that exists in the brain.

The relationship between the model of the world is important as the model of the world constrains the total set of possibilities for rationality to consider and to output as it's finished work. The model of the world and its relationship to rationality will be explored shortly. For now, this paper simply insists that a model of the world exists. Can the devil's advocate claim that such a structure does not exist be true?

First of all, let's consider what this paper calls a model/understanding of the world. From an abstract perspective it is a means to store and access information; regardless of how the information is kept in the brain. This seems irrefutable, because then learning wouldn't be possible. But does a "model of the world structure" exist? If the model is a single circuit in the brain, then this paper got very lucky. In the worst-case scenario, let's say the model of the world is kept in separate unrelated circuits in the brain. In that case the concept of a "model/understanding of the world" is an intellectual paradigm used to simplify the complexity of the brain. Even in this worst case, the global functionality of storing and retrieving information about the world and everything within it, exists. In the worst case scenario, the model/understanding of the world is simply a way of looking at separate items and grouping them together for simplicity based on function. For example, take a bunch of metal, plastic, foam, cloth, and fluids and call it a car. The paradigm of a car is pretty useless and odd if we drill super deep on the technical front of each component's sub-component, but it's quite functional for high level communication.

Our model of rationality at this time consists of the brain as the container with a model/understanding of the world:



<u>1.3 Goals</u>

Another core partner of rationality is goals, objectives, and desires; all of which are categorized as goals in this paper. Once again, this essay is not concerned with how goals and needs arise and become the current and most pressing (how they come to be, how they coexist, and how they are "scheduled"), how and where they are stored in the brain, nor anything else. This essay only contends that goals exist. Goals relate to rationality because this is the structure that calls upon rationality (if that is the right tool for the goal). When a challenge which is complicated (has multiple routes of action) needs resolution (to choose the best action that will likely produce the best outcome), that is the domain of rationality. Goals call on rationality to fire up and ideally generate a solution to a life puzzle. Not all goals task rationality, as some goals require no rationality. For example, a bear attack will not trigger rationality, rather some other circuit in the brain that is closer to the muscular circuitry will activate. This paper understands that goals are incredibly varied and can be technical (such as a plumbing problem requiring math), biological (such as hunger), philosophical (such as contemplating what is right), or some other types. Either way, goals are complicated, and I am only bringing them up with the objective of showing that some subset of goals call on rationality to solve a puzzle where there are many options for action.

I have been convinced that goals play a large role for people. Having said this, goals are a word that maps to many ideas. There are short term goals, easy goals, high level guiding goals, and all kinds of goals. One commonality that all goal types share, are their relationship to our model/understanding of the world. If I insist on taking a car to cover a 100km distance in a developed country in 2024, that's a very reasonable goal. Other options are reasonable as well. Cycling, running, walking, taking a bus, hitchhiking, asking a friend, even stealing a car is an (undesirable and not recommended) option to achieve the goal. What is interesting to note is that during my many, many times of various transportation needs I have never sought out being energized by Scotty (reference to sci-fi transportation). Which tells me that goals are correlated to our understanding of the environment we operate in. Maybe teleportation by Scotty is possible, but

it's not in my model/understanding of the world as an option for travel, so I don't build goals around it. This tells me that goals/desires are rooted in our model/understanding of the world.

Another consideration regarding goals, is that goals use rationality only for specific types of goals. It seems to me that goals that call on rationality are in cases where the decision is important, there is time to think, and the problem is essentially a puzzle, and action is needed. By puzzle I mean that there are many variables, and each affects the other variables, which generates an incredible amount of options for action.

So far, we can see that goals are constrained by what we think is possible based on our model/understanding of the world; and rationality called upon in our objective to achieve a goal that is important and complicated. The graphic below captures adds goals to our graphic:



1.4 Values of the Self

One more foundational structure related to rationality is values.

Values are our view of ourselves. It's our fundamental objectives, our red lines we won't allow to be crossed, how we see ourselves fit into society, and how we relate to the world. Our values are not a part of goals, nor a model of the world but do shade into those concepts. Values are a mix of explicit and implicit understanding about ourselves that provide high level guidance. Values encourage a constraint on future action that doesn't align with the values, and encourages action that is aligned. Values are about the self, where the model is more tilted to external. Values are more of a description of ourselves, where the model is our understanding of our experiences.

Morality and values are not the same. Values are not a structure figuring out how to "life life the right way". Values of the self are not the internal chaperon that somehow knows the difference between right and wrong. Values can encourage behavior but are not the ultimate arbiter over action. However, a misalignment of values with morality will likely cause suffering.

The relevance of values as a structure to rationality, is that our understanding of how we relate to the world, strongly impacts our model of the world, and our goals. Our understanding of ourselves, or our story about ourselves shapes the foundation on which rationality is built (the model & goals).

Reflection suggests that values are initially all about the ability to be self-sustaining. Meaning acquiring resources, building relationships, and meeting our basic needs. Once those are reasonably met, the positive progression of values eventually leads to ego negation, and an emphasis on moral conduct, and assistance to others.

Without values, rationality would become like an anchored boat. For one, there would be conflicts between goals. Without a global view, each goal will achieve its objective at the expense of other goals. Similar to a large bureaucracy where one department will do what is beneficial to itself at the cost of another department, regardless of the effect on the overall enterprise. Secondly, the model of the world would become riddled with inconsistencies. The values of the self are slow changing and are persistent; which means that the same line of thinking is present across the board. With this consistent line of thinking the sensory experience is understood and integrated into the model of the world in accord with the stable values. If the values are missing, or are frequently changing, the model will begin to house the sensory experience with contradictory perspectives. Which ultimately will render the model of the world as inconsistent and would undermine its utility. The third consideration is that rationality requires parameters for its work. For example, the model of the world provides input parameters that articulate the realities of the situation, which rationality has to consider. Another parameter, which is values of the self provides is a weighting on what is important beyond the goal itself. For example, perhaps using a car is more "rational", but since the individual is an avid cyclist, the cycling option carries more gravity. This indicates that the view of the self in terms of love for cycling is not a part of the goal, nor is it part of the model of the world; it is a value of the self, which provides an important parameter to rationality.

Here is our current graphic:



1.5 Rationality at long last

With a model of the world established, a goal in mind (both of which are built up with a guide from our values), rationality is called to solve a puzzle. Rationality as a cognitive process is a conscious, high-level process. It is high level in the sense that it is not responsible for physical action, as in, rationality is not controlling muscles or any other low-level tasks. It is conscious in the sense that it takes attention and focus and is not running in the background like the ability to play a musical instrument. Rationality deals with information that is stored in the "model/understanding of the world"; with goals/needs; and values; and only when the person is reasonably comfortable. Imagine you are deep in thought with your rationality running at full speed (like "the thinker" statue), and then your baby wakes up and starts freaking out. Guess what, you're suddenly too busy for rationality, as you are now busy moving your body through space to handle the delicate baby and solve a high priority problem. All this is not to say that rationality doesn't have access to low level information such as sensory signals; sensory information is available on request to rationality as it works. However, the sensory information is a request for action, and it's results from some other brain circuit, which is fed back into rationality. It is not that rationality is controlling the action itself. All this brings us to a key point about the relationship between rationality and the model of the world. Rationality relies on the "model/understanding of the world", because if rationality has to work out the best option for future action, it has to contend with the individual's understating of the way the physical world works. This is the core reason why the model of the world is connected to rationality.

So when is rationality called upon? Rationality is called when there are multiple options that seem to be able to achieve a goal. Only then does the high level, conscious, information processing called rationality become needed. When else is it needed? It's key to note that rationality is a high cost process. When you are sitting in "the thinker" position, and using rationality, you are not hunting, or doing anything else that is conscious or hard. The mere fact that when we use rationality, we are unable to do anything else that's not automatic, should tell you that it is a high cost tool, so calling on rationality has to be done when it's important. Think about it this way: overuse of rationality will reduce our ability to do much of anything else. Yet, if we under use it, we are not efficient in reaching results. Like all expensive tools, they are very specialized; this paper contends that rationality is needed only under these conditions:

- The environment in the present moment seems safe, and we have time to leverage rationality to achieve a good outcome.
- It's a high stakes situation coming up, and we pause to make a solid decision.

What does rationality produce at the end of its work? Its role is to solve a puzzle. Through conscious effort, rationality works to arrive at a conclusion/comprehension/understanding that is used is to enable making a good decision. Where a "good decision" is the individual's subjective view across the following characteristics:

- Considering the full set of relevant information from the model of the world.
- Consistent across values of the self.
- Achieving the goal in an efficient manner.

In a nutshell, rationality considers multiple solution variants against one another (as the person understands each variant), and chooses one of them, the one which provides the best outcome relative to values, the goal, and based on the person's model of the world. The outcome of the work of rationality, the choice that is made, generates an understanding that enables, or leads to action. The purpose of rationality is to create an understanding that ultimately leads to "good" action as understood by the person.

If we dig a bit deeper, we realize that rationality considers all the information relevant to the challenge, each part of the challenge, its effects on the other parts, and produces an outcome that is one of the following:

- Pathway to action An understanding that ultimately guides action. In this case, the puzzle is solved and the best solution to achieve the next step or few steps is captured in an understanding that can be acted out. It is always the case that optimal use of rationality is regarding future action.
- Updates model/understanding of the world It's possible that on consideration, the individual realizes that something isn't right in the model. This can cause the model being modified, where parts of it are jettisoned; or brings about the next possible outcome, a new goal to get more information.
- Sets a new goal If the goal is somehow invalidated, where either there is not enough information in the model of the world, or, on consultation with the model a better goal is found, setting a new goal is a very possible outcome.
- In very rare cases, updates values Values do change, and rationality does play a part in this process. However, the shifting of values is beyond this paper's desire to explore.

One of the biggest human challenges is the endless stream of internal conflict of interests. The number of important decisions that we make is surprisingly voluminous. Decisions, which are the precursor to action have to take into account physical circumstances (winter is coming), social circumstances (I can't piss off Tony because he's related to dad's boss), values (our view of ourselves relevant to the world), goals (the change we want to bring about), and not least of all biological pressures (eating, sleep, children, injuries, and so on), and more (ex: morality). It takes decades to be able to handle all this complexity so that realizations that are generated by rationality lead to good decisions. Rationality solves the puzzle that balances an incredible amount of consideration, and creates an understanding that gives way to action. Action generates all kinds of information which is then used to improve the model of the world, goals, and nudge values. Notice that by changing the physical world through action, we are changing internal structures.

Here is a graphic of where we are now:



For the remainder of this essay the term "rationality system" refers to the model which includes values, goals, model of the world, rationality, and the puzzle solution which is the output of rationality. All of this taken in aggregate is the rationality system.

1.6 Closing Thoughts on Part 1

Beyond understanding that rationality is a process for generating an understanding that gives rise to action, this section explored the core partners of rationality, their relationships and roles. Without goals rationality would not be called upon to solve a puzzle. Without a model of the world the operational parameters are not defined. Without values of the self the overall system will not be a stable singularity. Of course, without a working brain, this system falls apart. With the model of rationality identified by articulating its core components and core relationships, all the assumptions of the paper are made explicit. In the next section, we will consider the overall system to see what can be extrapolated from this model.

It is very important to mention that it is likely that there are other smaller circuits that play a role in the rationality system, however, let's leave that for the scientists. Our objective is more on the practical side of things, and the macro components should be enough to provide what we seek.

Part 2 – Focus on Rationality

2.0 Introduction

Where part 1 considered the rationality system as a whole, Part 2 looks at how we can use our understanding of the rationality system. From the perspective of applying knowledge, part 2 considers how the rationality system can be used to extrapolate an understanding about action, and practical considerations regarding the rationality system.

2.1 Rationality as a Tight Grouping Across the Board

The first extrapolation is that we can't learn anything about rationality by contrasting behavior or beliefs between individuals. The core partners of rationality (values, the model of the world & goals) are never the same across different people. Any comparison between individuals as a means to distill anything about rationality is moot; there are so many variables across people's values, model/understanding of the world and their goals that it is not possible to achieve a reasonable comparison of rationality and how it functions. For this reason, this paper believes that trying to learn about rationality by comparing people's behavior is not telling us much about rationality.

To explore rationality on its own, we can leverage a thought experiments where we hold the values, model, and the goals constant. If we hold all those key partners to rationality constant, this paper believes that different people will come to the same understanding/conclusion. This belief gives way to this paper's position on the process of rationality. Which is the view that rationality is roughly the same across people, much like hands are roughly the same across people. There is some deviation, but overall, it's the same tool that can be developed in all kinds of ways. Where each individual takes their rationality is the result of conscious effort, yet, rationality without any conscious modification is a range that is likely a tight grouping between all healthy, mature people. One assumption in this thought experiment is that we also hold constant the ability of the individual to muster the courage, and strength to carry out the action that rises out of the understanding that rationality provided.

In short, we can't look at rationality by comparing people due to extreme variability across values, goals/needs, and the model/understanding of the world. Yet a thought experiment where we hold the variability at zero in these areas, shows rationality to be within a very tight grouping in the vast majority of people.

2.2 Subjectivity of Rationality Due to Experience & Values

This essay has made the argument that the outcome of rationality is very dependent on the individual's values, their understanding of the world, and their goals. That is to say that the output of rationality is very subjective, and unique to that person. This paper's view is that rationality is actually a tight grouping across the vast majority of people; and it is the other parts of the rationality system that create the subjectivity. This paper's view is that the output of rationality depends to an incredible degree on a person's model/understanding of the world, and to a slightly smaller degree, their values.

Let's first consider differences in the rationality system when the only difference is the model of the world. In our example, let's say we have a car with some technical issue. We take two people who have never seen this technical issue before, so that direct experience can be eliminated. Both people have the same ability to use rational thinking (same IQ, same rational mindset, etc...). Let's also says that both are equally goal driven to repair the issue. At the same time the two people are mechanics of equal skill, car knowledge and ability. Let's differentiate them by saying that one mechanic has spent their entire career working on Honda, and the other on Mercedes Benz;

meaning the only difference between the two is the model/understanding of the world (how this particular car functions). If we state that the car with the technical issue is a Honda, then the person who is very well versed in fixing that same brand of cars, will be able to diagnose the problem in a superior manner than the person who knows much less about the same car (all else being equal). What this example demonstrates is that the foundational knowledge in each person which rationality uses generates different outcomes even though the ability to use rationality is the same.

How about values? What can be understood about the rationality system if the values are drastically different? It's a funny question considering this essay has now come full circle. Different values, for example atheist vs. religious, will generate different goals, and a different model of the world. What ultimately happens is that when rationality within each person's rationality system creates its output, the output will likely differ; as it did in the introduction of this essay. It is likely that at this time, two people who value rationality look each in the face, and think the same thought: "c'mon bro. Let's be rational here".

The rationality system is tremendously subjective, where the difference between people is not in the subcomponent of rationality, but rather in the model of the world, and likely to a smaller extent values.

2.3 Optimal use of Rationality & Developing the Model

Considering the optimal use of rationality is a very practical approach. After all the purpose of cognitive pursuits is action. Wouldn't it be great if someone put together a list of activities for which rationality was very well suited? Unfortunately, that is impossible. Here is why: let's say that "diagnosing an electrical generator" is on the list of activities very well suited for rationality. This is true, however, what happens if the person diagnosing the defective electric generator has absolutely no knowledge about electric generators?! In that case, the "electric generator" item on the list is great for one person, but terrible for another. This means that a list of activities which works across the board for everyone is not possible. The reason a list enumerating optimal activities for rationality falls apart is that the model of the world, built by sensory experience is drastically different across different people.

Is there an optimal approach towards rationality? The rationality system is indeed a very powerful system that enables making excellent decisions, and efficiently achieving results. Especially in our modern reality. Food is abundant, civil society is incredibly safe from violence, and housing that protects from the elements is easily available. It is clear that today, with our basic survival needs met, rationality can be used much more frequently than if we are in the midst of fighting for survival. Unlike our distant relatives, who had little time to sit around, the modern human in a developed country has a free option to overuse rationality as much as needed. However, the issue at this time is not the ability to use rationality as much as wanted, but rather the quality of output. The issue is that the output of the rationality system, which is the understanding that leads to action varies incredibly between people. Some people use rationality to take incredibly good action, while others take incredibly bad action. Why is that the case? One big reason is the quality of the model of the world. Let's consider a simplistic example. A lower middle-class teenager rebels against their parent's wishes to study and instead begins to sell cocaine because of the monetary incentives. From the perspective of the teen, the rationality system has produced a solution to the puzzle of life that is optimal. The teen will have money, they climb in status, they can have the things they want, and there is no "dead time" of years of study. Selling cocaine is not a brain fart from the rationality system. It has solved a puzzle that is complicated in a manner that seems practical and achievable. From the perspective of the parent, the activity of studying results in a stable ability to earn a living wage by having a skill that is needed by society. What separates the two perspectives is experience;

or said another way, the model of the world. The teen, unlike the parents, has not had the experience of seeing successful drug dealers, the ones that buy everything they want, and become flashy, get arrested, which leads to some real problems. Which means that the model of the teenager is not incorporating a premise that the moment the drug dealer becomes successful, they fail. What this example shows is that every rationality system is outputting an understanding at its current capacity. Both the teen, and the parent have a well-functioning rationality system, it's just that the teen's system is lacking experience. Where lacking experience could be seen as having a model of the world that is not quite ready to allow the rationality system to generate an understanding that leads to wise action. Perhaps asking "what is the optimal use for the rationality system?" is the wrong question. The system exists, and the system is constantly used. Perhaps the most important question is: How can we get the rationality system to be the best it can be? Where "best" can be seen as, generating an understanding that typically leads to wise action. Without defining "wise", let's say action that has maximal upside, and minimal downside. Another parallel view could be "how do we get excellent long-term results"? The future is always coming, so if we manage to take action that leads to good future outcomes, then as the future arrives, the present will be bright. This paper is suggesting that the optimal use of rationality is not really the correct approach to the rationality system. A significantly better approach is focusing on improving the rationality system so that its output generates good outcomes.

How can we improve our rationality system? One low hanging fruit to improve the rationality system is to improve the model of the world. It is the belief of this paper that the model of the world can only be improved by experience⁽²⁾. By undertaking action which has all the characteristics enumerated below, the model of the world will improve:

- 1. Verifiable any (ideally firsthand) activity that on completion is able to add to the model of the world a valid and correct packet of knowledge. For example, the information "the price for riding the public transport is \$2.75 in the New York subway" after paying a fare and being let through the payment turnstile is an example of a verifiable activity. Ideally the verifiable activity would have been experienced firsthand. As we move through the physical world, we get significant feedback and are able to improve our model of the world. There is order and predictability in the natural world, which is discoverable, and verifiable. In the event that there is failure, the ability to understand and verify why the failure occurred is really just another verifiable experience.
- 2. Novel any activity that has components that are totally new to the individual. The more elements that are new, the better.
- 3. Completion milestones any activity that has a finish line, or multiple milestones that are objectively and empirically either finished and completed or not. For example, did I get on the New York subway and ride it to my destination or not? This is a binary view that allows to state if the activity was completed or not.
- 4. Completing the activity The point of taking on a verifiable, and novel activity that can be completed, is to complete it.

A person who chronically undertakes action that has all these characteristics will inevitably generate a model of the world that is incredibly powerful. Such a person will be able to achieve with incredible efficiency the goals that they take on in the domain of the physical world. Meaning as they engage with the physical world to fix a car, an electrical generator, to throw a ball, to import a case of wine, to eliminate UPS delivery fees, and so on, they will achieve their desired outcome with high efficiency. Efficiency in terms of completing the objective with the minimal amount of time and/or resources, and in the rate of successfully finished tasks.

Let's say that a person with a strong drive has developed a pristine model of the world through engaging in the activity with the characteristics laid out in this section. Does this mean that the

rationality system is now ideal? Is this person now able to generate an understanding that leads to wise action? Well, we can say that such a person, at a minimum, will be able to efficiently achieve a wide variety of tasks. However, something that we have not yet considered, that is very important and bears directly on this topic, is values.

2.4 Values & the Rationality System

The values of the self, is how each individual understands their relationship to the world. The topic of values is incredibly complicated, because humans are complicated. Morality and moral conduct are complicated. The domains of values, rationality, and so on, can be argued for and against for a longer duration then we have time for. There are no absolute statements, there are no firm lines between concepts, people who subscribe to any firm position can always be shown to (at least for a brief moment) take the opposite position, and the complexity spirals out of control. Labels like "religious" are essentially meaningless in this context. Religion, which is (in the best light) the word of God on how to live life the right way. Yet religious people have done both incredibly good things, and incredibly bad things. So, the "religious" label loses its shine, which is true for every label. There is no label or symbol that hasn't been, or won't be corrupted; which renders them obsolete for the purposes of this section. All this is tremendously complicated.

Yet, the purpose of this paper is to simplify and to share knowledge without being pedantic, verbose, and rendering important knowledge inaccessible due to presentation. "Any fool can make something complicated, the challenge is to make it simple". Let's stick to that. Let's consider a single value that can separate people into two camps. The point here is to hold the rationality system constant, and to consider individuals that differ across a single parameter in the value of the self structure which gives rise to a wide difference in action. This is essentially an intellectual game where we separate all of humanity across a line. Let's say that the value which separates people into two groups is how we view our relationship to other people. One group holds the position that people across the board are special and important, and the other group views people as simply other people with no built-in value; it's all about how they perform, or what role they play in your life, or how much benefit they bring to you. It is important to note that this intellectual game views the two groups as binary, but in reality, this parameter within the value structure is a range, not a rigid binary grouping.

If we consider two people with similar jobs, from the same locale, with similar life experiences, similar age and background. Let's assume that their rationality systems are very similar, and both view other people as a means to achieving some goal. Then one of them has a near death experience (NDE). This is when a person clinically dies, observes the physical environment surrounding their dead body, and interacts with some "entities", and returns into the body. Just a small side note, this has happened to very many people and is a human phenomenon which science has not vet solved. It is important to note that after an NDE, it is common for people to realize that all humans are somehow interconnected and are somehow special. So, at this point main difference between the two people is that the individual with the NDE views his relationship to the world very differently, then the baseline person. How will this manifest itself in action? Any shade of racism, inborn group supremacy concepts, and identity politics will melt away⁽³⁾. A sea of small action like, returning the cart after shopping, picking up things that fell from a shelf and putting them back on the shelf in a store. There will not be selective "nice treatment". The baseline person, will not likely be kind to strangers who are in a compromising position, such as homeless people. It's likely that when the NDE individual encounters a hungry person, they will find a way to share their food; where the baseline individual will not. The NDE person will not engage in action that has incredibly high undue cost to others, but a small benefit to the self. Some examples may be theft, or litigation. Let's leave it here in terms of action examples, yet we can imagine so many more. This one change in

how we relate to other people in the values of the self structure has an immediate impact on action. If we were to revisit the baseline and the NDE after a few months, it's easy to understand that were their goals were previously similar, now the goals are different. When the values structure has an effect on the goals, the change in action, and in the entire rationality system will begin to shift in a novel direction.

What can be very easily understood is that the parameters which the value structure is holding has a foundational effect on the rationality system. Once this is understood, the practical question is "how can we improve the rationality system via the values structure"? The value structure is so foundational, that it's purpose and scope of responsibility reaches beyond the rationality system. This paper has strong doubts about abilities to have an effect on the values structure by trying to have an effect on the values structure. It is beyond this paper to provide blanket advice regarding the values structure, except for suggesting to be the best version of yourself, and to be kind to others. If you choose to be the best version of yourself, it will open the doors to all of the things that give us meaning and pleasure such as meaningful work, and meaningful connections to others. Being kind to others will allow you to not have regrets when your values mature.

2.5 Suboptimal use of the Rationality System

So far Part 2 has focused on the characteristics of the rationality system and considerations that contribute to the improvement to the rationality system. Next, this paper would like to explore the downside of rationality. Everything with an upside has a downside, and the rationality system is not immune. Let's explore the downside of the Rationality System.

The easiest to identify suboptimal use of the rationality system would be anything that undermines or corrupts it's sub-components. The easiest and most direct component that can be affected is the model of the world. Corruption of the model is essentially populating the model with information that doesn't correlate to the physical world. Another way to look at this phenomenon is from the perspective of truth. Populating the model with information that is not aligned with truth will generate bad outcomes by the rationality system. The truth is complicated and sticky concept, and has been explored in a separate essay⁽¹⁾. As far as undermining the model of the world, that would be anything that either doesn't grow or improve the model. Which translates directly into not taking on any new activities or challenges in the physical world. It must be noted how important the words "physical world" are to the previous sentence. The physical world typically has an incredible opportunity for feedback on our action; which has incredible capacity to build our model of the world with first hand observations (and all its imperfections of our senses as covered in the truth essay).

Beyond the model of the world, values of the self are also very important. Yet their shifts are not frequent, and are not easy to achieve. Yet values do shift, and one interesting book that lays out several observed tactics that can shift values is 'Influence: The Psychology of Persuasion'. A strongly recommended book to prevent external entities from shifting your values. The author has personally observed a well united human group leveraging those very same tactics on potential recruits. Having mentioned all this, the values structure typically leads to the topic of morality and ethics. For example, where a degradation of the model of the world is bad for the rationality system, does financial usury as a held value weaken the rationality system? As you can see this opens up a can of worms as the answer is not nearly as apparent as the degradation of the model of the world. Due to the complexity, and the inevitable pull into a tangent on ethics and morality this essay will dive into those topics.

Another rationality system sub-component is goals. A low hanging fruit in terms of goals, and their suboptimal use is if there is an overarching theme of not taking on goals that are novel. A chronic

refusal to take on goals where there is new elements that expose new parts of the world that haven't been explored will degrade the rationality system. Beyond how goals can negatively affect the rationality system, how goals are set, and the setting of goals is not the domain of this paper. Goals which are generated (at the very least) through a partnership or wholly by another brain system is not something this paper knows much about. Since this paper has already taken so much liberty with the rationality system, there is no desire to further push our luck.

One last consideration is the action side of things. Since the output of the rationality system is an understanding that leads to action, it's important to take action. By taking action we are providing information about the domains which the rationality system was utilizing. Action translates into knowledge, and taking action is very important as means of improving the rationality system. Information is not knowledge; and action enables the output of the rationality system to become valid knowledge.

2.6 The Humanities & the Rationality System

The job of the rationality system is to put forward an understanding that is the precursor to action. Of course it can have exceptions like changing the goal, or modifying the model of the world. Yet, the bulk of it's work is solving a puzzle to generate an understanding that gives rise to good action.

As argued several times already, the rationality system benefits from accurate and correct information being populated into the model of the world; and degrades when the model of the world is filled with incorrect or permanently unverifiable information. Having the rationality system consider questions and topics that cannot provide feedback through the senses introduces ambiguity, and ultimately error into the model of the world. The problem becomes greater when the process is iterative; meaning that the ambiguous and unverifiable information is considered correct and is part of the input parameters into what the rationality structure produces. These types of iterations spread errors through the model. One deep error can create an incredible amount of errors in an iterative system that is unverifiable. Shoving information into the model of the world that cannot be verified as correct or false degrades the quality of the model.

How we conduct ourselves in the world is the domain of the humanities. The domain of the humanities is religion, ethics, history, art, and so on. Those domains are extremely important and are tremendously useful for people in terms of high level guidance. This paper does not attempt to diminish the importance of ethics, religion, and other humanities. Through lived experience, the humanities find a way to distill the content of value structures that have given rise to greatness. It is the calling to a mode of being that has proven time and time again to be superior. Viewed another way, the humanities are the externalized values structure that has given rise to greatness. We populate our own values structure through experience, and we can allow ourselves to be guided by the humanities. Both approaches are leveraged for every individual; what varies is the ratio of how much is discovered through experience, and how much is allowed by each individual to be guided by the humanities. The humanities that are presented to us, are part of the model of the world. The contents of each individual's value structure is their incorporated lived experience. It's very likely that for the vast majority of people the humanities information in the model of the world is rife with errors of various types (misunderstanding the original meaning, holding false information, and so on).

The humanities cannot be verified as correct or not, in the way that the physical world can be verified. In the physical world "correct" and "incorrect" maps onto "works" and "doesn't work", but in the humanities, those same words map onto "good" and "bad". The physical world is not biased towards any perspectives, and produces with high fidelity, repeatable and reliable feedback

on natural phenomena. If you are on earth and drop a ball, it will always fall down, regardless of religion, race, ideological perspectives, or the millennia of your birth. The rules of physics can't be fudged, only understood and harnessed. The physical world is the gold standard of verification. The humanities are bodies of knowledge that do not correspond directly to the physical world. Meaning we can't overlay the concepts within them to construct a model that works or doesn't work. For example, mathematics as a concept can be overlaid on the physical world and have the physical world either validate the math or refute it. Such a model cannot be created using the humanities. In the humanities, the model is either too specific to be useful or doesn't capture enough specificity and is overly ambiguous. When it comes to the humanities, there is just too many variables in the mix, and their interplay is dynamic, unique, complicated and unverifiable in the way that the physical world is verifiable.

Since the rationality system has to generate a functional precursor to action in the real world, it has to contend with the full complexity of the physical world as well as the world of right and wrong. People can argue for and against using humanities (ex: morality) within the rationality system for decision making; however, such a debate is the result of how each person constructs their understanding of rationality. This paper chose to look at rationality from the perspective of rationality and all the main partners that enable it to work. The rationality system incorporated the model of the world and values structure as both of those structures have information that serves as input parameters that are needed to arrive at the optimal output from the rationality system. It seems logical to make sure that all the inputs to some system are present to enable the system to achieve its work. Looking at rationality as a system without considering the information that is needed by rationality to do its work seemed unnecessarily complicated. In the first few iterations of this essay, it was arguing that the rationality system is exclusively for achievement for the physical world (only for science, or physics or construction). However, on deeper reflection, such a statement is unwise. I mean, yes, using the rationality system for science, or construction, or something exclusively in the physical world is the most fruitful, and the most verifiable as correct or incorrect. Yet we have to operate in a messier environment than simply the physical world. We operate in a human environment which is much more complicated. An argument can be made that people can navigate social challenges using past experience that might be contained within the model of the world. This is definitely true sometimes. However, there are going to be novel circumstances, and twists on known circumstances that are going to require the individual to make a decision based on what is right and wrong, good or bad. They are going to have to take a moment to leverage the rationality system, and lean heavily on the values structure to hopefully do what is morally right; which of course varies among people due to the variety between every individual's value structure. This paper does not, and cannot possibly know how the rationality structure balances the multitude of incoming parameters, and the request for more. Everything this essay examines regarding the rationality system is an abstraction. The view of this essay is that for the rationality system to work, it has to access existing knowledge, values, and goals. Which means that when the rationality circuit has several options that are close across the board in quality, values can server as a tie braker. Also, values can have veto power. There have been times when the output from the rationality system seemed like a good idea; then on closer consideration as action was coming nearer, the output from the rationality system all of a sudden was "I'm not doing that!". All this in aggregate tells us that not only does the rationality system consider the world as we represent it in the model of the world structure, but the values, which is largely how each individual understands the humanities, is taken into considerable account. Otherwise, if values are not taken into account, what is the point of generating a solution that the individual will not perform due to a conflict in the values structure?!

One important question is, how do values form in a complex environment? This is likely where feelings come into the picture. Beyond the function of feelings to provide encouragement and

feedback to move to the right direction, it seems that feelings allow us to develop our values system to deal with a messy model of the world. Likely this is where intuition comes in, as some sort of interplay between the rationality system and feelings. Also, rewards that manifest themselves through embracing of specific values likely plays a role as well. Having spent months on this essay, I am not going to pull the thread of the relationship between feelings and reward with the rationality system. Other projects require attention.

2.7 Limitations on the Rationality System

The physical world is fundamentally different than the humanities. This paper does not diminish the importance of investing time into developing fundamental knowledge. For example, George Boole created Boolean Algebra in the middle of the 19th century that was totally useless. until the 20th century where it became the foundation of computing. This paper argues that it is important to uncover truth, as did George Boole, as his math work turned out to be in alignment with the truth. Math has a unique characteristic in that it can be overlaid on the physical world, and verified as correct or not. Boolean Algebra is one such example; string together a bunch of integrated circuits with logical gates (AND, OR, XOR, NAND) on a printed circuit board and you get computing (which "works"). Religion and ethics, as important as they are, cannot be overlaid on top of the physical world and validated as correct or not. Once those fields are applied to reality, there are significant differences outcomes, but those outcomes cannot be defined as correct or not in the absolute sense. They are correct or not as per our human value judgment, which is synonymous with "good" and "bad", where computing is synonymous with "works" and "doesn't work". It is important to understand the difference between the physical world and the humanities.

Once the distinction between the physical world and the humanities is well understood, we have to embrace that fact that rationality isn't going to solve unsolvable things. It seems that regardless of how powerful the rationality system is, it can't solve problems for which there are no solutions. So far this essay has argued that the rationality system has to contend with the domain of the humanities via the values structure. However, that reality doesn't mean that the rationality system can at some point solve humanities challenges that haven't been solved in the last 2000 years. Since the domain of humanities is not one that is verifiable as "works" and "doesn't work", there is no final solution, or a finish line that the rationality system can reach. There is no simple jingle, or a short pamphlet that can solve the challenges in the domain of the humanities. The challenges of sacrifice, faith, struggle, peace, justice, love and more, do not have a simple universal prescription. Well, they kind of do, but even when guided by the best of resources available within the humanities, each person has to discover and build the content of their own values structure. Through experience each individual has to discover what works for them, and hope that they don't break themselves in the process of tuning up their values structure.

With the limitation of the rationality system explicitly outlined, perhaps we can touch on the topic of experts. Experts is a concept that can exist in the domain of the physical world; however, experts as a concept is not something that extends into the humanities. There is a qualitative difference between the output of the rationality system regarding the physical world, and how we should conduct ourselves. This is where having "experts" goes wrong. A nuclear physicist is an expert in how to make energy; not in how the energy should be applied. In the hands on an expert, action regarding the making of energy itself can be correct 100% of the time. By correct I mean "working" or "not working". However, in the domain of how to use the energy, there is no "correct" or "incorrect" because those the decision on how to use the energy comes down to a value judgment of "good" and "bad" uses of energy. For this reason, an individual (or an entity such as AI) is merely an adjudicator on the variety of view points or a promoter of a single view point. There can not be

an "expert" on how to use energy, in the same way as there is an "expert" on how to make energy. Using the word "expert" in relation to the domain of the humanities seems inappropriate.

2.8 Packaged Rationality

One of the many wonderful aspects of humans is our ability to communicate with one another. Something that we can communicate to other people is a snapshot of our rationality system. We can pass along information from the model of the world, the goal, relevant values, the understanding generated by the rationality structure, and the prescribed action to achieve the goal. This would likely be in the form of a story that encapsulates everything within it. Of course it's not the same as the actual rationality system, it is the processed results that we know would be accepted by others. We'll ignore motivation, social status, communication type, characteristics of the audience, and practically everything outside of the communication itself to keep things simple. Let's call this concept "packaged rationality". This is simply a means to pass along information. It seems likely to me that this happens when someone or a group are trying to achieve action by some other person or group. By sharing the logic, the information, the goal, the values that are important, and the action, we allow the other person or group to follow along and to achieve a mutual understanding. This is a great tool for synchronizing people for a united action.

Let's have a walk through the following packaged rationality laid out with premises:

- 1. I love children, and I want them to be safe.
- 2. Chairs and kids are both very common across our society.
- 3. Very frequently children sit on chairs. During transport, schooling, eating, studying, waiting, and more.
- 4. It is possible to fall off a chair and get hurt
- 5. Children fall off chairs on a regular basis. This is very common. This happens with clockwork frequency.
- 6. Some of the children who fall off the chairs get very injured.
- 7. Standing is better than sitting for alertness, burning calories, and not shortening hip flexors and hamstrings.
- 8. If standing is superior to sitting, then what is the benefit of sitting? The only thing that's better about chairs is that you get to be "lazy".
- 9. Being lazy is bad.
- 10. Action that improves the world is a good action.
- 11. Action that reduces injuries and pain is a good action.
- 12. One way to improve the world is eliminate avoidable pain and injury.
- 13. We can make the world better by eliminating chairs.
- 14. If we ban chairs, we can use the wood to build homeless shelters, or some other public utility that's kind.
- 15. Let's ban chairs!
- 16. We are not against chairs, it's just that some subset of them do injure people, and by eliminating all chairs we eliminate the injuries they cause. Another benefit is that the resources used by chairs can be leveraged to achieve better outcomes for all of us.
- 17. This plan is a low-cost safety initiative to prevent avoidable pain, one that creates benefits, and has no downsides.

This is a simple example of packaged rationality, where there is a rational argument being made to get rid of chairs. Packaged rationality is a tool for human alignment. Just like the actual rationality system which can be applied to any domain, so can packaged rationality. A wonderful example of packaged rationality is an uncomfortable technical question that is asked of an Apple CEO. The

answer comes in the form of packaged rationality⁽⁴⁾. Please do take a pause and use the barcode on the last page of the essay and watch this short video:



The packaged rationality response contains the goal (10B annual sales), the rationality (customer experience & move backwards), the values (highest customer benefit, affecting change), the model of the world ("valley is hot"), and the understanding that gives rise to the action required (support the teams). It should be noted that one of the talents Steve Jobs had was to get the entire team pulling in the same direction. Packaged rationality was likely a core tool for that skill.

As we just saw, there are times when packaged rationality is important to align a group towards a brilliant future. However, there is one case of packaged rationality that ought to make every intelligent person worry tremendously. Anytime packaged rationality is used to lay out an understanding that "we are all suffering because of those people over there" anyone who is concerned with morality, ought to take notice. Big time. Anyone who finds themselves in the "bad" group will quickly receive incredible clarity regarding past historical atrocities. This is the poster child for rationality without regard for human life, and with enough time and effort, it always gets murderous at scale. We will leave it here for now as a plug for a future essay.

2.9 Rationality System as a Foundation for the Socratic Method

Recall how this essay came to be. Two friends were debating trying to outwit the other with their brilliance. Both were speaking elegantly, and politely. Each would put more emphasis on the benefits afforded by their position and would downplay, minimize, or address the problems and costs. Looking back at this situation, it is disappointing how often this situation plays out. This situation is so common, that anyone who broke the mold got their own system name after them! Have you ever heard of the Socratic Method? Socrates, instead of arguing, or debating, would start to ask questions regarding the position being presented. Through the method of questioning, he would find a way to prod and investigate and shed light on unstable elements as a means of bringing down the position being presented. This approach is a gift for those who want to battle harden their own understanding. Unfortunately, history has shown us that in Athens in 399bce there were few of those types of people. Something even more unfortunate, is that the same is true today.

Something that has to be considered, is that applying the Socratic Method is surprisingly hard. A clever person with a thesis that has a fatal flaw can field hundreds of questions all of which can receive smooth answer that does nothing to cast light on the fatal flaw. The challenge is to ask precisely the right questions that bring to light the embedded error that the presenter of the idea cannot justify. To be able to systematically dismantle flawed ideas can be done in one of several ways. One way is to be aware of all the arguments out there, and to know their weaknesses. Another way is to be so tremendously experienced that you can pick out the impossibility of the matter at hand as you hear it being presented. I hope you can see that the Socratic Method is quite complicated. It didn't endure roughly 2424 years because it was easy. This is where the practical application of the rationality system comes into use.

The rationality system is precisely how your intellectual opponent generated their thesis. They have a model of the world, a goal, specific values, and an understanding was generated by their rationality structure. By understanding how concepts come into existence, it makes breaking them down much easier. To utilize the Socratic Method, leverage the rationality system as follows:

- 1. Goal ask yourself, what is their goal? What action is their idea proposing? The goal should be reasonably easy to determine based on what the desired action is.
- 2. Model of the world what is the sum of facts that came from the model? Can you articulate all the facts? Are all the facts correct? Do all the facts build on one another into the narrative? I mean, do the facts support the narrative fully, or are there assumptions? Can any of the facts that support the narrative be invalidated? Can all the facts be assessed as true or false, or are there "facts" that are not facts that fall into good and bad category?
- 3. Values What values give rise to the proposed action, and ultimately the proposed goal? Is it high ground values, or something uglier? Is the proposal a Trojan horse? Meaning it is presented as something, but once accepted is it easily converted into something else. Historically speaking, everything ugly is always painted in the best of intentions. Always hunt for the most uncharitable view of the idea to distill the values.

If you understand the goal, the facts from the model fo the world, and the narrative (the generated understanding), you now can see the construction materials. At this time through prodding of the building blocks you can now find the flaw, or decide that idea is reasonable. If the idea is well constructed, the next consideration is values. At this point you are now using subjective positions to decide if the action that is brought about from the idea is good or bad. If you find yourself in this position, where there is a debate or line of questioning is about what is right and what is wrong, it is key to find the critical value difference where you differ. It makes no sense to debate over values. Each will believe they are correct and will never change their value structure. Since it is totally unfruitful to debate values, a better approach is to try to diagnose where your values diverge. It is precisely this divergence that gives Nth order conclusions. In the introduction the divergence was

identified as the gap in values between an atheist and a non-atheist. This fundamental difference in values gave rise to the debate, and once explicitly articulated the debate is over in good faith. It is a gift to understand that something cannot be resolved, and what that something is. Once the parties can understand the main difference in values, there is typically smiles as the work is done.

Hopefully this approach is something useful as a tool to unpack other people's ideas, and challenge them when needed.

<u> Part 3 – Wikipedia as Fuel</u>

3.0 Introduction

Matters that are not contentious are typically well articulated on Wikipedia. Since there is no controversy in the world of philosophy, it is likely that Wikipedia is a good source for reading up on rationality. Once this paper constructed the initial revision of the rationality system, and reflected on it's practical applications, Wikipedia was consulted⁽⁵⁾. Consulting a well articulated summary of how rationality is viewed by the world of academia and philosophy seemed like a good idea. After consulting Wikipedia this paper hit a snag. It turned out that the rationality model was unable to address certain issues, such as the resolution of the Kant vs. Hume disagreement. The problems exposed within the previous version of the rationality system allowed for further reflection and a general improvement of the rationality system. Thank you Wikipedia. Beyond strengthening the rationality model, Wikipedia contained some ideas that this paper felt the need to comment on. This section is dedicated to this commentary, which further increases the capacity to comprehend the topic of rationality. Since Wikipedia does frequently change, this paper contains all the text on which it comments for ease of reference.

3.1 Definitions

In order to prevent confusion, and to better align all the parties, this section defines the meaning of words that are relevant to rationality. These definitions are the viewpoint of this paper.

- Rational A well thought out, or optimal action or belief relative to what that specific individual can generate. When referring to the self, it is an indication that the individual believes that the idea or understanding is the output of the rationality system. When referring to others it is a compliment or a defense regarding the quality of their understanding, which is presumed to be generated by that individual's rationality system. However, to say something is rational means that the speaker is passing judgment over the understanding or action. If we are to be more precise, the adjudicator is merely comparing their own understanding or action to the one being discussed. In the case that the understanding or action are perceived as "good", or, are the same understanding as that of the adjudicator, they are typically deemed as "rational". It should be noted that the output of the rationality system is always rational. There are times when a person does not engage the rationality system before action, yet, an external observer typically cannot know if the action is the result of the understanding generated by the rationality system or not.
- Rationally the action of being rational. An example of describing the self: I behaved rationally when I took that overtime. An example of defending the action of others: Frank behaved rationally when he decided to take the overtime.
- Irrational The value judgment on the quality of the output of the rationality system. For example: "Why would frank take the overtime? He is taxed at a higher rate of pay, that is so irrational to work for reduced pay". The adjudication that something is irrational is usually not a compliment. It could be directed at the self or others. This adjudication is somewhat impractical as the adjudicator cannot know if the action was taken based on the understanding of the rationality system or based on something else. By simply observing action or encountering an idea, there is no way to know if it was the output of the rationality system or not. When applied to a person this word is a pejorative.
- Reason As in, the ability to reason. This is the process of cognition. By cognition it means that the brain is thinking through some information, or an understanding and is generating an output. We can say that the rationality structure withing the rationality system is reasoning. This paper does not contend that the rationality structure is the only one that can

reason. How the brain works is in the domain of science. However, from our perspective reasoning is the process of the brain considering some puzzle and reasoning through the puzzle to generate an understanding that is a solution to the puzzle.

- Debate The process of providing a perspective that emphasizes the pros and downplays the cons. Debate is the process of communicating with others to present a point of view. This process of communication with others cannot be called rationality. Debate, contrary to popular opinion is not the pursuit of truth⁽¹⁾. Debate seems more like a sport between people rather than a cooperation to come closer to the truth.
- Rationalization There is a world of difference between rationality which is used to • generate an understanding that leads to action, and rationalization which is used to justify past action. Rationalization is rational evaluation of past events or justification of past events. Rationality is forward looking in trying to navigate to some desired outcome; rationalization is backward looking trying to provide a value judgment regarding some event. Rationalization is used to alleviate negative feelings about the past when at present it is somehow inadequate. Phrases such as "we didn't know what we didn't know" followed by reasoning of why it was OK in the past is a hallmark of rationalization. Rationalization is good for soothing relationships, but I bet that apologies are better. Also, it's not quite a postmortem where you are extracting lessons because rationalization seems to make the past appear fundamentally different than the present for some key reason. At present I'm not sure when rationalization as a tool is optimal. Since it exists it's good for something, yet the instance when it's a great idea, doesn't come to mind. Maybe as a means of forgiving yourself for something you couldn't have possibly known, but ended up being very costly in terms of pain. Maybe it's a mechanism to forgive yourself.

3.2 Definition Considerations

Wikipedia opens the page with:

Rationality is the quality of being guided by or based on reason. In this regard, a person acts rationally if they have a good reason for what they do, or a belief is rational if it is based on strong evidence.

It seems that reasoning is what rationality is doing when it is being used. So, Wikipedia and this paper are reasonably aligned on the first sentence. From then on, there is some daylight between this paper and Wikipedia. The second sentence has some issues:

- This paper believes that a person is behaving rationally when their action is based on the understanding generated by the rationality system. Not if they have a good reason for what they do. Here are some considerations:
 - From the perspective of this paper a good reason can exist independently of the rationality system. For example, imagine person A can tell person B "Let's throw a stone in the river it will be fun", and person B immediately agrees. When person B is throwing a stone in the river, they have a "good" reason, but the action is not the result of the rationality system.
 - Having a "good reason" for what you do is always true. From the perspective of the individual undertaking the action, there is always a "good reason" for the action. Yet the idea of a "good reason" held by the individual may be refuted by the very same person in the future, and potentially in the present by others.
- Beliefs being rational is simply a compliment about beliefs, not a definition of rationality. The comprehension of what Wikipedia is writing is very challenging because the Wikipedia entry doesn't provide a rationality system. From the perspective of this paper, it is important

to understand if the belief is an understanding in the model of the world, or is it part of the values, or it is the output of the rationality system? There is a distinction between all those structures. However, at the end of the day, any structure which holds a belief, it will always be based on "strong evidence" as perceived by that individual.

From the perspective of this paper, a better opening by Wikipedia for the rationality page could be:

Rationality is a cognitive process which relies on an individual's values, model/understanding of the world, and a goal/need to generate an understanding (or a conclusion) that is typically actionable. Rationality is a conscious effort to reason through information and figure out the best option based on goals, values, and an understanding of the world.

3.3 Uniting a Divided Rationality

Wikipedia then continues to enumerate the essential rationality features as seen by various camps:

There are many discussions about the essential features shared by all forms of rationality. According to reason-responsiveness accounts, to be rational is to be responsive to reasons. For example, dark clouds are a reason for taking an <u>umbrella</u>, which is why it is rational for an agent to do so in response. An important rival to this approach are coherence-based accounts, which define rationality as internal coherence among the agent's mental states. Many rules of coherence have been suggested in this regard, for example, that one should not hold contradictory beliefs or that one should intend to do something if one believes that one should do it. Goalbased accounts characterize rationality in relation to goals, such as acquiring truth in the case of theoretical rationality. Internalists believe that rationality depends only on the person's mind. Externalists contend that external factors may also be relevant. Debates about the normativity of rationality concern the question of whether one should always be rational. A further discussion is whether rationality requires that all beliefs be reviewed from scratch rather than trusting pre-existing beliefs.

This paper understands the camps and their position as follows:

- rationality is a reasonable response to information (Dark clouds, hence rational action is to bring umbrella). This is the "reason-responsiveness" camp.
- Rationality is internal coherence (no contradictory beliefs held by a person). This is the "coherence-based" camp.
- Rationality is the quality of the action (how good is the action relative to other actions). This is the "goal-based" camp.
- Rationality is the state of a person's mind (how knowledgeable and capable a person is). This is the "internalists" camp.
- Rationality is the combination of the state of a person's mind, as well as the external environment (basically the internalists, but more practical as there is a recognition of short-term requirements). This is the "externalists" camp.
- Another point of debate is to decide if rational people should believe preexisting information, or to always start from scratch?

From the perspective of this essay, all these various camps are essentially looking at the rationality system as described in this paper, and are each focusing on a narrow subset of interactions between the components in the model. Have a look:

- The reason responsiveness camp view of rationality is the quality of the relationship between the goal and the model/understanding of the world. When the action dictated by rationality facilitates the goal based on the model/understanding of the world of the external observer (adjudicator), then the reason responsiveness camp deems the action in alignment with a quality output by the rationality system.
- The coherence-based camp is putting all the emphasis on the quality of the model/understanding of the world from a contradiction perspective. When there are no contradictions in the model, then the model is superior. Goals, and values seem to not be considered.
- The goal based camp is looking at the relative quality of the action which is generated by the outcome of rationality (actionable understanding). This is likely the hardest to evaluate because only the end result is considered without any consideration of the individual's goals and model/understanding of the world. This essay believes that evaluating the rationality system by observing action is telling us practically nothing about the rationality system.
- The internalist camp is focusing exclusively on the relative quality of the reasons for the action, from an internal standpoint (mental state, beliefs, desires). From the perspective of the rationality system this translates to the goals, and the value structure. It seems that internalists are uninterested in model of the world, and the rationality structure (which this paper argues is a small range anyway for most people) and the understanding generated by the rationality structure itself which gives rise to the action.
- The externalists camp combines the internalist view with the quality of the action itself. Meaning that the action is "good" and "right" only if internal states are "rational" and the actual outcome of the action is "rational" relative to the world. From the perspective of this paper, the externalists are considering the values, goals, and the understanding which the rationality structure generates. However, they are ignoring the model of the world, and are also considering the action itself, which is not part of the rationality system. Also, they are passing an adjudication over the action. The view of this paper is that any use of the rationality system is simply the best understanding that the individual can generate given the state of their individual rationality system sub-components. There is no judgment of the action from a rational/irrational perspective; which this paper argued in part 2 is impossible.
- The point of debate about accepting preexisting information or to discover everything on our own is really a matter of quality of the model/understanding of the world. If we accept preexisting information, it may shoehorn errors into the model in the name of efficiency to achieve knowledge. Yet if we discover everything on our own with an emphasis for high fidelity of truth, then the cost is efficiency, but the model is not compromised. Both of these items are extreme positions, and are not practically possible. We all stand on the shoulders of giants that paved the road for us, so doing everything on our own is impossible. As far as accepting everything that comes our way is to be naive and gullible and you can't stay that way for long as you encounter problems, and start to reconsider what you know to be correct. There are times to accept knowledge from others, and there are times to discover on your own regardless of what is available in terms of preexisting knowledge. Making these decisions correctly would be handled by the rationality system.

If we look at all these camps, we can see that each camp is emphasizing a few aspects of rationality system, while ignoring others. Trying to understand the rationality system by not considering the full picture is unwisely impractical. If we consider cement, it would be unwise to have academic camps arguing over which component is more important: water, sand, or limestone. The ingredients of cement must all be present in a given ratio; everything else is simply not functional cement.

The unifying definition of rationality is offered by this paper via the rationality system. However, I suspect that the view provided by this paper is potentially inadequate because of a lack of deep

understanding of the various rationality camps. Furthermore, the purpose of this paper is to look inwards and to cultivate an understanding of the self; and from that perspective it has been a resounding success, regardless if it unites any academic camps or not.

<u>3.4 Hume vs. Kant</u>

Wikipedia, had a short snippet on a disagreement between Hume and Kant on rationality. It is reproduced it in the box below:

A different approach characterizes rationality in relation to the goals it aims to achieve.[1][16] In this regard, theoretical rationality aims at epistemic goals, like acquiring <u>truth</u> and avoiding falsehood. Practical rationality, on the other hand, aims at non-epistemic goals, like <u>moral</u>, prudential, political, economic, or <u>aesthetic</u> goals. This is usually understood in the sense that rationality follows these goals but does not set them. So rationality may be understood as a "<u>minister without portfolio</u>" since it serves goals external to itself.[1] This issue has been the source of an important historical discussion between <u>David Hume</u> and <u>Immanuel Kant</u>. The slogan of Hume's position is that "reason is the slave of the passions". This is often understood as the claim that rationality concerns only how to reach a goal but not whether the goal should be pursued at all. So people with perverse or weird goals may still be perfectly rational. This position is opposed by Kant, who argues that rationality requires having the right goals and <u>motives.[7][25]</u>[26][27][1]

The disagreement seemed tremendously interesting. Having spent time understanding the position of Kant and Hume allowed this paper to be significantly better. The ideas put forth by these men were considered, which enabled me to understand that the rationality system of an earlier revision was missing a key component. The rationality system was modified to incorporate the values structure, and the entire paper was rewritten. It is incredible that people who lived so long ago are able to affect modern people. Ideas really are something special.

This essay would like to aggregate and then comment on the differences between Kant & Hume. ChatGPT was asked to generate the differences between the ideas of the two men. The entire output is contained in the box below:

Certainly! Hume and Kant had significant disagreements on the nature and scope of rationality. These differences stem from their broader philosophical frameworks—Hume's empiricism and skepticism versus Kant's transcendental idealism and rationalism. Below is a list of their key disagreements:

1. Source of Knowledge:

- **Hume**: Hume was an empiricist, meaning he believed that all knowledge comes from sensory experience (impressions). He argued that rationality is grounded in experience and that we cannot know anything beyond what we experience through the senses. Reason, according to Hume, is a tool to organize and make sense of these experiences, but it is limited to what can be derived from them.
- **Kant**: Kant, on the other hand, proposed that knowledge comes from a combination of sensory experience and the mind's inherent structures. According to Kant, while experience (the empirical) is necessary, the mind plays an active role in shaping knowledge through categories like time, space, and causality, which are a priori (independent of experience). Rationality, for Kant, involves applying these categories to organize and interpret sensory

data.

2. Nature of Causality:

- **Hume**: Hume was famously skeptical about causality. He argued that we cannot rationally justify the belief in cause and effect because we cannot observe causal connections directly. Instead, we only observe one event following another repeatedly, which leads us to form the habit of expecting the same sequence. For Hume, causality is not something we know through reason, but a psychological habit.
- **Kant**: Kant, in contrast, believed that causality is a necessary condition for human knowledge. He argued that causality is one of the fundamental categories that our minds impose on the raw data of experience. For Kant, causality is not a mere habit but a fundamental structure of rational thought that allows us to make sense of the world.

3. Role of Reason in Action:

- **Hume**: Hume famously stated that "reason is, and ought only to be, the slave of the passions." For Hume, emotions or desires drive action, and reason's role is merely to figure out the best means to achieve these desires. Reason cannot determine what desires or goals one should have; it is subordinate to passion and serves to fulfill them.
- **Kant**: Kant had a very different view of reason in action. For him, practical reason (the reason we use to make moral decisions) is not subordinate to our desires but should guide our actions in accordance with moral law. According to Kant, rationality involves following the categorical imperative—the moral law that applies universally and unconditionally, regardless of personal desires or consequences. For Kant, true rationality requires acting according to duty, not just personal inclinations.

4. Skepticism about the Limits of Reason:

- **Hume**: Hume was deeply skeptical about the limits of human reason. He believed that reason cannot justify our belief in causality, the external world, or even induction. He famously pointed out that inductive reasoning (e.g., expecting the future to resemble the past) is not rationally grounded, even though it is necessary for everyday life. For Hume, reason is inherently limited in its ability to provide certainty or knowledge beyond immediate experience.
- **Kant**: While Kant also recognized limits to human knowledge, he believed that reason has the capacity to structure and organize experience in ways that make knowledge possible. He argued that reason can generate synthetic a priori knowledge (knowledge that is both informative and necessary), such as the principles of geometry or the laws of nature. For Kant, reason's limits are not so much about its inability to know, but about knowing things "as they are in themselves" (noumena) rather than how they appear to us (phenomena).

5. Metaphysics:

• **Hume**: Hume was a skeptic about metaphysics. He argued that we cannot rationally justify metaphysical claims about things like God, the soul, or the ultimate nature of reality. Hume thought that such questions were speculative and beyond the reach of reason, leading him to dismiss much of traditional metaphysical philosophy.

• **Kant**: Kant, by contrast, sought to establish a new kind of metaphysics. He argued that while we cannot know things as they are in themselves (noumena), we can still have knowledge of the way they appear to us (phenomena) through the structures of human cognition. Kant believed that metaphysical questions could be addressed within the limits of human reason, as long as we recognize that our knowledge is constrained by the way our minds shape experience.

6. A Priori Knowledge:

- **Hume**: Hume was skeptical about the possibility of a priori knowledge. He believed that all knowledge is either based on direct sensory impressions or is derived from them through the process of reflection. For Hume, even concepts like causality are not a priori but are based on habitual experience.
- **Kant**: Kant, in contrast, believed that there is a realm of knowledge that is both a priori and synthetic, such as knowledge of space, time, and causality. He argued that these categories are not derived from experience, but rather are part of the mind's structure, allowing us to make sense of experience. Thus, for Kant, rationality involves the application of a priori principles that shape how we perceive and understand the world.

7. Ethics:

- **Hume**: Hume believed that ethics is based on sentiment and emotion rather than reason. For him, moral judgments are expressions of our feelings, particularly our feelings of approval or disapproval, and reason helps us reflect on the consequences of actions but cannot determine moral values.
- **Kant**: Kant's view of ethics was radically different. He argued that morality is grounded in rationality and that reason can determine moral duties. The moral law, for Kant, is universal and binding, and rational agents must act according to the categorical imperative, which commands actions that could be willed as a universal law.

Summary of Disagreements:

- **Hume** saw rationality as a tool for organizing experience but believed it was shaped by habit and emotions. He was skeptical about the ability of reason to provide certain knowledge, especially in areas like causality, ethics, and metaphysics.
- **Kant** believed that rationality was central to the structure of knowledge and morality. He argued that reason provides the categories through which we organize experience and that it can provide knowledge beyond what is empirically given, particularly in metaphysical and moral domains.

In essence, Hume viewed reason as limited, subjective, and subordinate to emotions, while Kant saw it as a powerful, structured force that shapes our understanding of the world and moral action.

Before commenting on the position of these gentlemen, it is important to consider the following question. Is it more important to be right, or is it more important to reach across the centuries and build guide rails towards finding truth? I am incredibly grateful to these men for their guide rails. Both are correct in many respects and at this point let's distill as much of what is correct from the perspective of this paper.

3.4.1 Source of knowledge

Hume is right in that knowledge comes from sensory experience. The world "knowledge" is rooted in the word "know". To know something about the world, an action has to happen to confirm that what is in the model of the world can be validated by the senses. Of course, the senses are problematic; yet they are the only tool (even when we use tools) to validate our beliefs about the physical world. Anytime we read a book, or listen to others, what we are getting is information, not knowledge. Once we combine the information with action, and sort out the details of implementations and validate the information to be in alignment with truth, we convert information to knowledge. The difference between information and knowledge is that information is not verified by the self, and the individual does not yet know the limits, uses, characteristics of the domain which the information covers. After taking action, and developing adequate experience, the person then knows something very specific about the physical domain, and can act on it in a superior manner to their earlier self. People who have knowledge in a physical domain, are able to achieve results in that domain in a superior manner. Knowledge is the digestions of information through action and experience, all of which require the senses. Without the senses, there is no ability to eliminate information which contains an error. Once the error is built into the system, it will compound and eventually will limit the capability of the system. Senses are an important part of knowledge, without which information cannot be converted to knowledge.

Unfortunately, at this point we have to touch on a complicated matter. Can knowledge be passed between people? If so, then it affects Hume's position, so we must consider it. Let's imagine person A and person B having a conversation, and person B, all of a sudden exclaims "Oh my goodness, that's absolutely correct! That is brilliant!". Let's say that the mental epiphany indeed can be called knowledge. Can we then say that knowledge flowed from person A to person B? It sure looks that way, but that is not the case. Before we abstract, let's use a specific example. Let's say that both people are seasoned car mechanics, and person B is having issues starting the internal combustion engine. Both mechanics have ample experience with engines, and mechanic B performed several repairs, and still not luck in finding the fault. Let's say that mechanic A has seen the same issue in the past, and mechanic B has tried everything possible except for the actual solution, of which they are unaware. When person A shares their knowledge, what person B is receiving is information. Since person B has extensive knowledge in how engines work through theory in school and action at work, once he receives the information, he already has all the knowledge and sensory experience to be able to digest the information and convert it knowledge. Information always has to be processed to be converted to something else. Information can be processed by coupling it with action to generate knowledge. In this case the information was processed against the backdrop of existing knowledge, which expanded the domain of that knowledge by a very, very small amount. This processing was possible only because of the actual presence of knowledge and ample sensory experience. So was knowledge transferred from person A to person B? No, what was transferred was information, and since it was in the domain of existing knowledge, it was processed/digested into that knowledge structure by person B. Now, let's extrapolate a bit. If the knowledge structure was missing in person B about engines, the no amount of information could increase their knowledge about engines as the knowledge doesn't exist. We can understand that the volume of information and the volume of action plays a role in the volume of knowledge. So when knowledge already exists, adding action OR information in that domain, allows the recipient to process the information or experience into appending the knowledge. So, Hume is correct in saying there is no knowledge without sensory experience, because if there is no sensory experience there is no knowledge. The mere fact that the interconnection between information, action, and knowledge, simply means that one knowledge is present, it can be expanded slightly by action or information.

When it comes to Kant's beliefs that knowledge is a combination of sensory experience and the inherent structures of the mind, this paper agrees. We are born with existing brain circuits and structures. For example, how can a newborn baby breathe and eat? Those circuits are there. Plus, there is a 'developmental trajectory' for all healthy human babies; meaning there is already something there beyond the bare bones cerebellum type circuitry. In a healthy, developed human, the brain circuits and structures all correspond to specific purposes. This means that the specialized brain circuits and structures that organize are all predetermined as long as there is no injury or modification. So, yes, Kant is right in the sense that there are inherent structures, and that the mind plays a role in shaping knowledge. Fully correct. The approach of this essay is to refer to brain structures as abstractions of purpose and utility, regardless of the actual physical reality. We can create a parallel between this essay's view of the rationality system brain structures and computer files. We can discuss the file, its contents, and how it is useful without having to worry about the way it is stored on the persistent memory. If the structures Kant describes are are representing time, causality, and so on are physical structures, which is how sensory experience is processed, then is beyond the ability of this essay to prove or disprove. It seems too specific and technical. If Kant is using those structures as an abstraction of purpose, then this essay has a differing view on how humans process information. It would seem to this paper that rather than time and causality, it is values and goals. Yet if we dwell long enough, we can see that causality somewhat maps onto goals and values, and time is indeed a consideration. The only difference between Kant and this paper, is the concept of a priori categories in terms of processing sensory experience. This paper does not comment on the low level mechanisms of the brain and how it works.

3.4.2 Nature of Causality

The concept of causality is not a singular concept that can be commented in a sweeping statement. The concept of causality as it applies to the physical world, to human beliefs, and to human action is very different from one to the other. Hume is absolutely right in that something that has happened many times is not an indication that will continue to happen (ex: sunrise). Also, this essay has argued that establishing causality of human belief, as well as human action is currently not possible to fully distill due to the sea of hidden parameters.

It is interesting to note that Kant is also right regarding causality in terms of the natural world. The natural world has order within it, and the order is dynamic, yet constant. When there is change that is a part of the dynamics of the order. Because the natural world has order which is dynamic, it implies that there are patterns. If there are patterns, then humanity is able to prod and experiment with the natural world using processes for investigating the natural world to generate an understanding about the natural world. The process of investigation of the natural world, along with the body of knowledge is what we refer to as "science". Science is the study of understanding the physical world. When scientists some very, very small aspect of the physical world, scientists pull the threads of that topic until it is fully understood. When something is fully understood, it means that the individual sub-components, what they do, how they behave under various conditions and more are all understood. Causality, in the domain of science is part of the investigation, a part of the set of questions. Causality is merely the firm relationship between two events. In science when some physical domain is being investigated, its relationship to its sub components, and it's relationship outside of itself is going to be a part of the investigation. What the investigation will eventually find is firm causality where it exists and a lack of causality where it doesn't exist. The study of science, which is adding to the body of human knowledge is definitively investigating causality; and causality (where applicable), is part of the body of knowledge that is created. So Kant is totally correct in that if you understand causality you have real knowledge. By the time causality is understood the knowledge is so reliable that technology can manipulate the substance or phenomena in a repeatable manner to do our bidding. However, in terms of causality for human

action, this essay believes is beyond understanding fully. Perhaps the view of this paper regarding the rationality system has some congruence to Kant's causality in terms of the model of the world having causality represented in it. The model of the world houses information about all sorts of causality, it's just that not all of it is pristine and accurate in the way that the body of knowledge of science is pristine and accurate. In short, causality is possible for the physical world through science, but not for constructs of the humanities.

3.4.3 Role of Reason in Action

Where Hume stated that "reason is the slave of passions", that is to a large degree true for many people. However, that is not true for everyone. There are people who would like to take actions, but forbid themselves for it would be inappropriate and would violate their values. For example, having an extramarital affair, or generating a large sum of money immorally to pursue a passion. Both would be fun, and many red-blooded males are ok with both; but not every red blooded male will proceed on these endeavors, and of those who will not proceed, some will not proceed due to a firm moral compass. Hume is correct in his observation for many people, but he is not absolutely correct for all people. It is possible to argue that not having an extramarital affair is itself a passion for some individual, yet, that doesn't hold water. It is simply two passions that are in conflict when the pleasure should be experienced. Should it be the short term pleasure of novel sexual excitement, or pleasure over the long term which is the pursuit of a stable long lasting mutually fulfilling relationship aka marriage (in theory.. lol). It is impossible to argue that one is pleasure or passions and the other is not. There are definitely rare times when passions are a slave of reason.

Kant's view represents the ideal, which in reality would be the byproduct of significant maturity. If conscious thought is called upon to reach an objective, and an emphasis is put on considering morality, that is ideal. How we affect others in our pursuits is very important. By being a mature moral agent, we build bridges to others, we enable new leaders, and we strengthen society across the board; and none of that is easy. Kant's view seems more of an ideal prescription, rather than how people actually work. Even if incredible maturity is reached and an individual makes effort to not adversely affect others, the moment there are financial pressures, screaming kids, frustrated wives, dilapidated housing, and pressure at work, somehow there is little time to sit around and ponder the right move. Sometimes the messiness of life gets in the way of kindness. Sometimes when life gets painful, there is little will to take more of a beating for others. To say nothing of having to meet the basic needs of ourselves and our families during difficult times, when survival is on weak footing. When survival is in question, and shit gets real, the rationality system puts the brakes on values when and goals must be met. Kant is totally right about the ideal. A mature value structure, which subordinates the goals, the model of the world and the rationality structure will achieve the best results over a long duration. However, the ideal is hard to meet on every action; if the person's rationality system is even mature enough to be able to understand the ideal, let alone follow it.

Considering the role of reason from the perspective of this paper, there are many times when reason is called upon prior to action. Assuming that the action the individual is faced with causes the individual to call on the rationality system, then it will generate an understanding that the individual will use as a means towards action. If the action is morally questionable, then the goal will be somewhat constrained by the values structure, as will the rationality structure. However, the values structure for everyone is subjective and will have different views on different aspects of morality. And that is when action is preceded by thought. Many times people are under duress to act (ex: auction), and there is little thought that happens. Humans are a complicated creature, and the correlation between action and the rationality system is not as firm as the ideal suggests. Especially under pressure, genuine physical need, and other states that compromise cognition and kindness; and that's assuming the connection between the rationality system and the ideal value structure (a mature value structure that is actually used well by the rationality system) is there for that individual to begin with...

3.4.4 Skepticism about the Limits of Reason

Hume is very practical. His view that "reason is inherently limited in its ability to provide certainty or knowledge beyond immediate experience" is correct. The rationality system is limited by the knowledge in the model of the world.

Kant's belief that "reason can generate synthetic a priori knowledge (knowledge that is both informative and necessary), such as the principles of geometry or the laws of nature." is something that is possible. With enough experience in a domain rooted in the physical world, we can generate knowledge within the individual and pass that information along to others. Also, Kant's view of the limit of reason (the rationality system from the perspective of this paper) being the able to see the world as it is, rather than how our senses perceive it, is absolutely correct. In the truth essay⁽¹⁾ the limitations of our human sensory are outlined in great detail, and won't be repeated here. The point is that Kant is correct yet again.

The limits of the rationality system are massive. Even if the value structure is mature and is playing a big role, and if the model of the world is very tuned up, and assuming the rationality structure is the better in the tight grouping, where are the limits of the rationality system? If we are tremendously optimistic, then the options are in human organization and achievement such as by Elon Musk, or in discovery about the natural world, as is done by the world's greatest scientists. Philosophers and ethicists don't produce anything measurable, so they (we) don't count. Sorry.

Can the rationality system produce anything beyond an understanding of the physical world (science discovery), or it's organization (shaping the physical world)? This paper believes that those are the limits of rationality of the most progressive rationality systems coupled with other equally impressive systems within the same individual. A best-case scenario.

3.4.5 Metaphysics

The belief of this paper regarding metaphysics is that the rationality system is not the right tool for creating a body of metaphysical knowledge. Some people have a highly tuned rationality system and are also religious in the genuine sense of the world. Somehow people can come to have a very strong understanding and belief in the existence of God. This paper does indeed believe that the rationality system plays a role in this belief. However, this paper does not have a desire to comment on the generation of a body of knowledge in the metaphysical domain for two reasons:

- Unverifiable Since the beliefs are unverifiable, tasking the rationality system to field arguments raised by infidels creates a never-ending conversation that is unproductive. If person A believes something that person B does not believe, and it is unverifiable, trying to convince each other to come over to the other side is unproductive, and impossible. Furthermore, creating work that cannot be tested or verified as correct or not, without utility is not a productive venture.
- 2. Not Creative The highest calling for a human is to be creative; in the sense of creating wonderful, and useful things and systems that are beneficial. Any time spent on a wholly unproductive activity where a person is trying to convince another of something that cannot understood by the other, is time when we are not creative. As in we are not creating anything at that time. Wasting time seems like something that should be reduced.

The rationality system is indeed somehow related to the metaphysical beliefs that people hold. Yet, using rationality for metaphysical arguments or "knowledge" is in the realm of tremendously subjective and unproductive. Somehow these beliefs form, and it is much more productive to use those beliefs as a driver for quality action, than to spend your scarce time in communicating information that generates nothing. It is one thing to explain a concept so that it is well understood so that other people can be in alignment (ex: how does religion and a cult differ?), and it is wonderful to look inwards in search of the buried wisdom that lives in all of us. Writing is also a great tool for developing various ability. However, once you have found something of value within vourself, and decide to prove to an atheist that God does exist, that is a forav into an unproductive investment of time. It is the position of this paper that metaphysical knowledge exists within the individual, but attempting to aggregated it information as a means of convincing another person is unwise.

3.4.6 Hume vs. Kant in Closing

Both men are right in most domains. However, it seems that each person's understandings are applicable for different people at different times. The seemingly opposing views are complimentary as they cover different circumstances. Where Hume is practical and accurate in his observations of the mass of humanity. Kant captures an ideal and reaches high for what might be possible. It is wonderful that after considering their positions the rationality system had to go through a revision to increase its explaining ability. The opportunity to comment how the rationality system overlays on the topics they discussed allowed the rationality system to be stronger, and to better communicate its essence to the reader. Thank you gents.

3.5 The Rationality System & Efficiency

Wikipedia states:

Rationality is central to solving many problems, both on the local and the global scale. This is often based on the idea that rationality is necessary to act efficiently and to reach all kinds of goals.

This paper couldn't agree more. One way to look at efficiency is when a person's model of the world is maximally aligned with the actual world, (likely as a result of an approach towards life), and is coupled with a mature values structure. When an individual in such a state, decides to call on the rationality system in decision making towards the physical world, the results will be good. Such an individual will likely achieve the goals faster and with lower costs.

3.6 The Rationality System as an Adaptive Layer (Comment on Brett's Idea)

Wikipedia states:

Various theorists even see rationality as the essence of being human, often in an attempt to distinguish humans from other animals.

For some reason this statement captured my interest. However, something about it seems overly impractical. How can "rationality" (aka the rationality structure within the rationality model) be the differentiating factor between humans and other animals when so many humans are so irrational (from the perspective of philosophers)? Which does make sense why philosophers have shot down that theory, and it is merely a snippet on Wikipedia. However, if instead of the rationality structure we consider the rationality system, the mere act of living life does allow people to align their model of the world with the physical world, and to have a value structure which facilitates teams. Since all healthy humans have a rationality system, it is inevitable that knowledge will give rise to technology. The ability to manipulate the world via technology, which is rooted in the rationality system (and facilitated by other systems) happens to indeed be differentiating quality from other animals. What makes humans drastically different is that this approach is iterative and leads to using tools to make tools. The biggest factor that makes people different, as in what makes a persoin different than another person, is our approach to life and our environment. So, does the rationality system differentiate humans from other animals? depends on the perspective of the theorists. Yes, humans are unique in their ability to use the rationality system (as well as other systems) to manipulate their environment (aka the physical world) in a manner that no other animal can (as shown through technology), and; No, as a specie we are not rational in our conduct, far from it. It really depends on which side you want to take, because both sides are correct under different perspectives.

To pull on this thread a bit, Brett Weinstein appeared on JRE #2269⁽⁶⁾ and spoke about some very interesting evolutionary concepts at the 1:51:30 mark. He introduced an additional layer to the Darwinist model where there is information within creatures that enables exploration of efficient adaption. It is the idea that there is efficiency to the forces of evolution in the sense that the designs that come about are not total random chance, but are more efficient due to an invisible parameter that encourages optimal changes. It is the ability of evolution to look forward through mechanisms beyond genetic mutation. As an extension of his idea, he described the incredible adaptability of humans on the "software layer" rather than the physical layer via the genome. Culture was another "trick" evolution used beyond random mutation. Defining evolutionary "fitness" as the action that enables the survival of the specie, rather than procreation was super cool.

Brett's ideas overlay onto the rationality system very well. It seems that the rationality system is for the most part a core item of the "software layer" of humans. Which also snaps into context the argument by philosophers as stated by Wikipedia that rationality distinguishes humans from others. When you marry both ideas, those philosophers seen to be supported by Brett's ideas/work.

3.7 Paradoxes of Rationality

Wikipedia mentioned paradoxes of rationality. Having looked through a few of them, this paper does not have a favorable view of these paradoxes as they don't translate well into the real world. The moment the rationality system as a whole is engaged, all these paradoxes vanish.

I looked over the examples linked by the Wikipedia "paradox" section, but those links described the example, but did not frame it, or demonstrate the rationality paradox. So I asked ChatGPT to produce an example of a rationality paradox. It did. It was the "Newcomb's Paradox". From the perspective of the rationality system this paradox is easy to solve. You are either indifferent to the prize and try to aim for the moon (as most people like more money than less); or you really need the cash and settle for the cool guaranteed \$1000. Also, how much did you pay to play the game, and so on. The rationality structure as a subcomponent of the rationality system cannot adjudicate or solve any of these paradoxes because the goals, model of the world, and the values have all been eliminated; yet those are the very components that are required to solve the paradox. This explains why these paradoxes do not exist in the real world. The hungry and thirsty pig at an equidistant location from water and food will first drink, and then eat.

Having said this, let the record show that the author has no philosophy credentials, and am unwise in commenting on things I don't know much about. Perhaps those exercises are meant for a purpose that is lost on this practical technical person who is solving problems in the physical world on a daily basis.

Part 4 – Closing Thoughts

<u>4.0 Conclusion</u> Wow. 4 months to figure out a word.

Thanks for reading.

Resources

Each of these numbered resources allow you to jump to the online resource mentioned by this essay. Use your mobile device camera to jump to the online resource quickly and easily.

(1) Exploring Truth essay from the Stacking Karma website. Barcode is sending you to this page: <u>https://stackingkarma.com/Essays/#Truth-Essay</u>. Click on the link to get the latest version of the essay as a pdf.





(2) On Knowledge essay from the Stacking Karma website. Barcode is sending you to this page: <u>https://stackingkarma.com/Essays/#on-knowledge-essay</u>. Click on the link to get the latest version of the essay as a pdf.

(3) Youtube video titled "Activist Dies from Heart Attack : Discovers We are All One (NDE)". Barcode takes you to this link: <u>https://www.youtube.com/watch?</u> <u>v=V6DKsqTs9M8</u>





(4) Youtube video titled "Steve Jobs Insult Response - Highest Quality". The barcode takes you to this link: <u>https://www.youtube.com/watch?v=oeqPrUmVz-o</u>

(5) Wikipedia article on Rationality. The barcode takes you to this link: <u>https://en.wikipedia.org/wiki/Rationality</u>





(6) Joe Rogan Eperience #2269 – Bret FWeinstein on Youtube. Barcode takes you to this link: <u>https://www.youtube.com/watch?v=7ted-qUqqU4</u>. There are no chapters in this video, please go to the 1:51:30 mark to listen to the ideas shared by Bret Weinstein about evolution and Darwinism.