A collection of wogian thoughts

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Chapter 1

Introduction

1.1 A few words

During the last few years, I was often forced to postpone interesting reflections on a large variety of subjects. Most of the time, I would think a little bit about these subjects, but I would end up frustrated by a lack of depth. Indeed, many topics of reflection require assumptions and previous work. Theses various questions and mysteries form a graph of interconnected subjects, which can mean that access to some of the "high level" questions can require quite a lot of preliminary answers. Of course, we traditionally approach questions (and situations even) from the paradigm of our basic stance on reality. It is, I would say, a mix of instinct, cultural standards of varying degrees of universality, and a pinch of personal variation. That is sufficient for many subjects such as "when are we eating ?" and "I wonder how cars work" but for more abstract, complex, or simply uncommon subjects I often found that when I wanted to dig deep into the meat of things I was inadequately prepared. In fact, even for questions such as the ones quoted above, I would wager that a better foundation of the paradigm used when thinking of an answer can be beneficial.

I have now managed to set some time aside to remedy to that lack of intellectual foundation. Sadly, my time isn't infinite, and must still limit myself to arbitrary modelization when it comes to the fundamentals. My goal is to reach a better global state of understanding regarding what I consider important and the way I approach life and things in general. Hence, any hypothetical survey of all human thoughts on the topic of the nature of truth will have to wait. Some time was spent on the likes of that question, but I then had to move on. My goals are multiple and can, in broad lines, be summarized as follows :

- Provide intellectual foundation to my understanding of my own intellectual paradigm
- Partially rework said paradigm as needed
- Rethink many of my protocols and ways to approach things
- Observe how I tend to react to things, especially when it comes to my flaws
- Gain a broader understanding of the way important things work

- Give special attention that what others are and how to interact with them
- Rethink my lifeplan
- Spend some time on a few secondary subjects
- Develop intellectual tools, especially vocabulary

That is already a long list, and I do not have that much time. Less than a year in total. **Working Note:** Go back to commenting on that once the work is done

I have now a comment to myself as a future reader. Others readers can feel free to read it, but they should know they are not the target audience. Said comment is confined to the next paragraph.

Hey handsome, I love you. I used some prepa-like math to express ideas in some parts. At the time of writing, these are mostly the fundamental ones (I mean, the existing ones). Provided that you remember your training, you should understand. But I also used it to make nods and calls to a certain way to think things, from which you might have distanced yourself, especially where it comes to modelization. You hopefully know what I am talking (well writing (well typing)) about. I will let you handle those differences with your fancy future thinking, that was just a reminder. By the way, if you are wearing a hat now and it suit you : good for you, I never found one that was good to me. Doff it for a second will you, as a gesture to me. If you did : appreciated. If not : that's fine too. Have a fantastic unit of time of your choosing (you can pick the empty one).

To some readers, I regret to say that some non-standard knowledge might be required to read parts of this work. Mostly, I will sometimes use some vocabulary and concepts derived from mathematics, and maybe a little bit from physics. This will range from simply wording things in ways that are intuitive to the mathematician to actually using mathematical concepts and constructions. Overall, anyone without a mathematical background similar to that of a second year math student should be able to breeze through.

As for the others, rest assured that most of the work can still be read without knowledge of mathematics. This might however require the ability to think abstractly around areas of lacking knowledge and to spot when it is an appropriate time to do so. I regret to inform the reader that he might have to *think*.

Those who do not wish to undertake the effort might choose to confine themselves to a different kind of reading. Of course, that is far from the only acceptable reason to skip reading what I wrote here. No blame from me, I promise [1] .

Lastly, I would like to acknowledge that much of what I wrote could be improved in clarity, precision, and understandability at the same time. This is my first time undertaking any kind of writing on that scope and I am not even focusing on the writing itself, but rather on the ideas I am researching. Hence, my general style and approach is experimental and clumsy. I hope to get better with time and that what I wrote is still reasonably pleasant to read.

[1] Unless you are a special case for which blame is warranted, naturally.

1.2 Reading help

At the beginning of each chapter, the reader may find a rectangular area with information regarding the prerequisites of the chapter and its reading difficulty. The prerequisites include the required previous chapters, but do not include chapters required indirectly (chapters that are only required by required chapters). They can also describe a need for outside information.

Some chapters are meant to be read easily and quickly while others were written under the assumption that the reader would make frequent pauses to think. This assumption is called the "estimated need for active reading" (hurray for long names). It is graded on a scale going from one to five stars. A high grade can equally mean that I believe I said complex things or that I am dissatisfied with my own writing.

Of course, the reading help only relates to my estimation. Chapters with a large number of stars are chapters that feel confusing to me. But you probably don't think like me (unless of course you are me). Once you see how wrong my estimations tend to be for your case, don't hesitate to adjust accordingly.

1.3 Choosing what to read

Despite being presented as a string of chapters, this work is not necessarily meant to be read in a linear fashion, as books are usually read. Instead, many different entries can be read independently and I believe the best way to approach this document is to just see if anything sparks your curiosity. To that end, thematic lists of chapters are presented bellow. They are sadly not entirely independent and in some circumstances the reader might have to jump from list to list. That is, however, rare.

Some entries might appear in more than one list. This is warranted when an entry cover a topic that strongly belong to both lists. I however have tried to avoid listing the same entry twice as much as possible.

You can also find a table of content at the end of this document, if that is what you prefer.

It is recommended to read either chapter **??** or 2 first.

1.3.1 Understanding the fundamentals

- chapter **??** : **??**
- chapter 2 : Truth : overview and introduction
- chapter 10 : Interlude : isn't there something wrong with my models ?
- chapter 12 : The brickwall of the basic model for reality
- chapter 16 : The boat of Theseus

1.3.2 Understanding how we think

- chapter 9 : Human Mind
- chapter 11 : The human mind's relationship with ideas
- chapter 13 : Human thought is just humans thinking
- chapter 14 : Rigor and cogitation
- chapter 15 : General study of the concept of rigor
- chapter 17 : Communicating with alien thinkers
- chapter 20 : Idea propinquity
- chapter 22 : Morality : A first look
- chapter 23 : Morality : relativity and argumentation
- chapter 24 : Morality : categories

1.3.3 Avoiding mistakes

- chapter 20 : Idea propinquity
- chapter 21 : INT vs WIS
- chapter 26 : Flaws : introduction and divers
- chapter 27 : Flaws : cogitation
- chapter 28 : Flaws : behavior

1.3.4 Special

- chapter 29 : Vocabulary
- chapter 30 : Journal

Chapter 2

Truth : overview and introduction

This chapter has no requirements.

Estimated need for active reading : ⋆⋆

2.1 What is this ?

This is the first chapter in a series of chapter that attempt to describe my model (my way to view) the notions of truth and meaning. In other words, this is a presentation of a view on the very notion of meaning. The next section gives an introduction and an overview on the topic. If you don't want to have to deal with a lot of pseudo-mathematical definitions then reading it should be enough to give you a general sense of the theory. But if you do want to delve deeper, section 2.3 will give you the additional information you need before you approach the following chapters in the series.

Because this chapter contains the aforementioned summary and because it helps simplifying references in the rest of this document, this chapter will often be cited as a reference as a way to point to the entire series of chapters.

Working Note: The series of chapters as a whole is currently still under construction.

2.2 Kirkin theory : an overview

2.2.1 Kirkins

I avoid using the word "idea" or "concept" for the most fundamental bearers of meaning and rather offer my own word, "kirkin". As will become apparent later in this document, I use the word "idea" to speak of the correspondents to kirkins within humans minds. So you might think of kirkins as human independent, purer ideas. Also, all concepts are kirkins but not all kirkins are concept.

Kirkins give their name to the entire construction I present in this series of chapter, "kirkin theory".

Some kirkins can have meaning, but not all. Those that do are called "evaluable". Some kirkins are statements, those are the kirkins that are affirmations, the only ones that can be true.

Kirkins that are evaluable can be more or less meaningful. This is a central idea. There are degrees of meaningfulness and they can not all be compared.

Example 1. *One can think of the famous question "how many stones do you need before you have a heap of stones ?", which shows that the notion of "heap" is not perfectly defined. That is an example of a lack of meaning.*

Another form of lack of meaning can be shown with the concept of "duty". Often, some who speak of it have no clear idea of what it is. It is not, like with the "heap", that they do not know the exact limits, but rather that they have no clear idea of what kind of object "duty" is supposed to be.

Of course, not all meaninglessness can be compared. It seems absurd to discuss whether the notion of heap is better defined than that of duty.

Likewise, statements also admit degrees of truth.

The theory also introduce two "basis" respectively called "the basis of dirt" and "the basis of truth". The former represents "reality" or "the material universe", whatever that means. The later represents the fundamental nature of truth.

2.2.2 Kirkinplexes

A kirkinplex, which is a kind of kirkin, is roughly equivalent to the notion of model. It provides context for other kirkins to be meaningful.

Example 2. *For the statement "1+1=2" to be meaningful, you can either see it as a perfectly defined kirkin in itself, or you can see it as using the previously defined notions of "number" and "addition". In the second case, the pre-defined mathematical theories you use are a kirkinplex.*

The point of kirkinplexes is to give a representation to the structure present in situations such as the one shown in example 2.

When we use a kirkinplex to give meaning to a kirkin, we say that we "bind" the kirkin to the kirkinplex.

2.2.3 Kirkin Bishing

Kirkin Bishing is a representation of some kinds of thought processes. Mostly, it is a representation of inferences and definition.

The core idea is that a bishing is a string of steps. Each step has some input kirkins (its "entries") and a single output kirkin (its "product"). Each step must

also use a rule, which comes from a given set of rules, and uses in its input only kirkins that were "allowed" at the beginning (they are hypothesis) or that were the output of a previous step.

In other words, we take a basic set of kirkins, some rules, and we use the rules to produce more kirkins. This represents some kinds of inference or definition processes.

2.2.4 A few bullet points

Overall, the model follows the following ideas :

1. The kirkins are very divers and represent a lot of different kinds of concepts/ideas. They can be combined in different fashions.
2. Certain kirkins are evaluated to give a degree of truth/meaning.
3. kirkinplexes are a representation of contexts that give meaning to kirkins.
4. The main way to get an evaluable kirkin is to take a normal kirkin and bind it to a kirkinplex.

Point 1 is a given considering that I want to offer some degree of structure. Point 2 is the solution found to the need to express partial truth and meaning, which is important to a large portion of human thoughts. Point 3 and 4 corresponds to the idea that we often create "semantic contexts" for our ideas, outside of which they would lose all meaning. Point 3 in particular underlines the notion of models.

2.3 Reading what comes after

Reading above this point is enough to get "the gist" of my kirkin theory. If you read further, I assume it means you want to go deeper and encounter some pseudo-mathematical definitions. This means I will also assume a degree of ease with basic mathematical notions. But I will not use anything too complex or exotic and I believe that if you are used to mathematics you will be able to handle any lacking knowledge quickly through a quick look at online resources.

So what is the ratio between the "pseudo" and the "mathematical" ? Well the goal is not to produce a completely satisfying model. I will use notations that correspond to the usual ZFC set theory but all of this is still always intuition based. I am not describing a ZFC object describing my theory of truth. Hence, I am not trying to adhere to the limitations and guarantees of ZFC. In particular, my use of set theoristic notions does not presupposes the axiom of foundation.

Because of the limitations inherent to the topic of meaning itself, most of the "definitions" do not show proper constructivist rigor and are actually far from proper definitions. I describe a model by giving characteristics for elements and general ideas on how these elements are supposed to interact within the model.

The chapters in this series are meant to be read linearly. The titles are supposed to be helpful if you want to peruse and choose what you like, but you should consider

yourself warned. You skip chapters in this series at your own risks. There are deadly dangers. Like crocodiles and booby traps.

Chapter 3

Truth : mathematical objects

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
This chapter admits the following requirements :

- A general notion of the use of set theory based notations, including the use of functions and Cartesian products.
- The notion of poset (partially ordered set), a quick google search should suffice.
- The notion of lattice, skimming the wikipedia page should be enough.

Estimated need for active reading: ⋆⋆⋆⋆⋆

In this chapter I list the base objects that are used in the theory of kirkins. When appropriate, mathematical notations are introduced by borrowing from the standard ZFC set theory.

3.1 A first list of objects

We define a number of objects.

Definition 1 (The basis)**.** *There are two basis in the model.*
The basis of dirt *is the object that represents (or indeed, "is") reality. No matter what can be said to exist outside of concepts/ideas, this is it.*
The basis of truth *represents the fundamental nature of truth. It is, to a rather large extent, what the theory of kirkins tries to describe.*
They are respectively noted $\square_{dirt}$ *and* $\square_{truth}$*.*

Definition 2 (kirkin)**.** *A* ***kirkin*** *is a base object, intuitively it is close to the notion of "concept" or "idea".* [1] *The set of all kirkins is noted* Ω*.*

[1] The word idea is used to shape intuition here, but it will get a different meaning later in this document.

In much of what follows in this section, we will introduce various subsets of Ω, around which we will build our description of truth and meaning.

Definition 3 (evaluable kirkins)**.** ***The set of evaluable kirkins*** *is a subset of the set of kirkins. It is noted* $\dot{E}$*.*

Definition 4 (statements)**.** ***The set of statements*** *is a subset of the set of kirkins. It is noted* $\dot{S}$*. This is the set that contains "affirmations".*

As we will soon see, elements of $\dot{E} \cap \dot{S}$ are the only elements for which the concept of "true" is applicable.

To measure degrees of truth and meaningfulness, we introduce a lattice.

Definition 5. $(\dot{L}, <)$ *is an infinite bounded lattice (in the sens of posets). Its two extremal elements are noted* $\bot$ *and* $\top$*, as is usual. Additionally, we require the existence of an infinite strictly increasing series of elements between any pair of comparable elements of* $\dot{L}$*. The min-max and max-min operators are respectively noted* $\wedge$ *and* $\vee$*.*

It might be worthwhile to define $\dot{L}$ more precisely in terms of usual mathematical objects. I have however to this point found no specification that seemed a fundamentally better fit than any other. Hence, I leave the choice open for now.

We can now define the two functions that effectively define truth and meaningfulness.

Definition 6. $\tilde{M}$ *is a function from* $\dot{E}$ *to* $\dot{L}$*. It indicates how meaningful an evaluable kirkin is.*

Definition 7. $\tilde{T}$ *is a function from* $\dot{E} \cap \dot{S}$ *to* $\dot{L}$*. It indicates how true an evaluable statement is.*

3.2 Kirkinplexes, binding symbols, binding contexts

Kirkinplexes are a special type of kirkin that I introduce to represent the idea that humans often think in a given context which helps give meaning to our ideas.

Let's work on an example. "Bishop to E5". What does that mean ? Well I would say the idea requires its context. Of course most people familiar with it think of the well known game of chess. The game has rules and when you know them they give meaning to notions such as "bishop to E5", which would otherwise be meaningless. In the vocabulary I will introduce in this chapter, one says that the idea "bishop to E5" was bound to the kirkinplex "the rules of chess".

Kirkinplexes are "mental context" representations. [2] Often, we can simply call them models. And when a kirkinplex is a model it can sometimes be a model of another kirkinplex. We might say that the usual notions of "table" and "chair"

[2] Again, this line is only here to shape intuition. Kirkins and kirkinplexes are not dependent on minds in the model.

operate within a general model (one that contains objects everyday furniture) that is a modelization of another model (one with notions such as "atoms" and "photon") which is itself a model of reality.

This process and others create piles of models or even more complex arrangements of models (or more generally kirkinplexes). I represent this using graphs through the notion of binding context. Together with kirkinplexes they help give meaning to kirkins. As for the binding symbols, they are simply a useful part of the construction.

Both the modification of binding contexts and the operation of giving meaning to a particular kirkin are "binding operations". The first is called "context extension" and the second "kirkin realization".

Definition 8 (kirkinplex)**.** *A **kirkinplex** is a special kind of kirkin. It defines a set of accepted kirkins, which can each be evaluable or not, and a way to bind those kirkins. The set of kirkinplexes is noted $\dot{\kappa}$.*
To simplify the future formalism, the basis are considered as elements of $\dot{\kappa}$.

Definition 9 (Binding symbol)**.** *A binding symbol represents a way to link a kirkinplex in a binding context. This is easier to understand in the case of models, for which the biding symbol is a representation of how the model is supposed to describe another kirkinplex. However, a binding symbol can perfectly well indicate that a kirkinplex is an arbitrary addition.*
The set of all binding symbols is written $\dot{B}$.

Definition 10 (Binding context)**.** *A binding context is a 2 coloriable DAG [3] in which the nodes of the first color of nodes are either kirkinplexes or one of the basis and those of the second color are binding symbols. Each root of the context is a kirkinplex or a basis (basis of truth or basis of dirt).*
The set of all binding contexts is written $\dot{C}$. The empty binding context is written C_0.

3.3 Binding functions

The binding operations are performed through two functions, of which I now give the signatures along with some explanations.

Definition 11 (Context extension $\tilde{\upsilon}$)**.** *The function $\tilde{\upsilon}$ is a restriction of a function from $\dot{\kappa} \times \dot{\kappa}[X] \times \dot{C} \times \dot{B}$ to $(\dot{E} \cap \dot{S})^2 \times \dot{C}$. [4]*
It is called the "context extension function" and serves to add a kirkinplex to a binding context. Read bellow for more information.

The function $\tilde{\upsilon}$ takes multiple elements as its input. Let's go over them in order.

1. A kirkinplex which we will add to the binding context

[3] Directed Acyclic Graph

[4] Here the notation $\dot{\kappa}[X]$ uses the definition of polynomes as stationary series to consider the set of polynomes in $\dot{\kappa}$ equivalent to that of tuples of elements of $\dot{\kappa}$. This is a bit abusive as $\dot{\kappa}$ is not a body. Anyway, simply remember that the notation means "the tuples of elements of $\dot{\kappa}$."

2. A tuple of kirkinplexes to which the previous items will be connected in the binding context we will produce. These must belong to the binding context we use in the input.

3. A binding context containing all elements of the previous item.

4. A binding symbol.

This function performs the first kind of binding : binding a kirkinplex to a binding context to extend it.

The function outputs a tuple containing three elements. The first two are evaluations of "how good the binding is" whereas the third is the actual product of the binding, the extended binding context.

1. The first output is a statement that represents the notion that the new kirkinplex (the first input) added can indeed be bound as described to the other kirkinplexes listed as input.

2. The second is a statement that represents the notion that the new kirkinplex (the first input) added can indeed be bound as described to the binding context as a whole. So contrary to the first item, this is about how well the new kirkinplex merges with the whole context.

3. The third element is a new binding context corresponding to the old one (third input) with the following additions :

   - There are two new nodes. One is the input binding symbol and the other is the input kirkinplex (first input).
   - All the kirkinplexes from the second input are linked by an edge to the binding symbol.
   - The binding symbol is linked by an edge to the new kirkinplex.

To facilitate writing we introduce the functions $\tilde{v}_1$, $\tilde{v}_2$, and $\tilde{v}_3$ such that $\tilde{v}(a,b,c,d) = (\tilde{v}_1(a,b,c,d),\ \tilde{v}_2(a,b,c,d),\ \tilde{v}_3(a,b,c,d))$.

Also, the last input is ignored if the second input is the empty tuple. In that case, we simply do not add a binding symbol to the graph (the kirkinplex is correctly added though).

Definition 12 (Realization function $\tilde{\Delta}$)**.** *The function $\tilde{\Delta}$ is a restriction of a function from $\Omega \times \dot{\kappa} \times \dot{C}$ to $\dot{E}$. This produces an interpretation of the given kirkin "in absolute" through the kirkinplex and the binding context.*
Whenever the first argument is in $\dot{S}$, so is the result.

This function performs the second kind of binding : binding a kirkin to a kirkinplex in a given context to produce an evaluable kirkin.

Because the signature of this function is much simpler than the previous one there is no need to go over each argument as before. However, I do want to point out that the input kirkinplex should be contained within the input binding context. There is a singular exception, we can bind using the empty context as if it contained only the input kirkinplex.

I realize that at this point the use of all these pseudo-mathematical notions might not be very clear. Chapter 5 should help understand how binding works and the point of all this. In the mean time, I recommend to simply try to get a good idea of the core notions presented above.

Chapter 4

Truth : categories of objects

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
Estimated need for active reading: ⋆⋆

In the previous chapter I have given in broad lines the main elements of the model of truth I present. Now, I will offer some precision on the nature of some elements through the listing of sub-types of certain kinds of kirkins. None of the following lists are meant to be complete and in most cases the sub-types are not mutually exhaustive. As in the previous (and following) chapters, I mostly wish to give a general description of the ideas behind the model.

4.1 Binding symbols

Let's start with binding symbols. Binding symbols are used to extend a binding context with an additional kirkinplex. A category of binding symbols will tend to correspond to a category of kirkinplexes, as different kirkinplexes can be bound to others in different ways. Overall, I distinguish three main categories. But sometimes a kirkinplex can be bound to multiple's kirkinplexes in different ways (one for each). In such a case, a binding symbol is used that belongs to multiple categories.

1. "modelization", also know as "abstraction" [1] . This is the category of binding symbols used to introduce a model that is supposed to serve as a representation of another kirkinplex or of a basis. As such, these are mostly used when binding to a single other item.

2. "Instantiating". These are used when a kirkinplex can have instances and we wish to bind another one as a particular instance.

3. "Addition". These are used to add a kirkinplex as a complement to another. For example, we might use that kind of symbol to add a secondary point

[1] See chapter 11 for the concept of α abstraction

system to a first kirkinplex representing the rules of a game.

4. "Union". These symbols simply turn multiples items into a single equivalent kirkinplex.

4.2 Useful kirkins

We will now list the main types of "useful" kirkins. In other words, those are the kirkins that correspond to reasonably frequently used elements of language.

1. Objects
2. Statements
3. Characteristics (mostly of objects)
4. Desires or requests
5. "Craft" or "process" : A way to do a thing
6. actions
7. kirkinplex application in reality
8. Estimations
9. Classes of elements of this list
10. The reified idea of any element of this list

4.3 Internal kirkins

Thirdly, we list the main types of "internal" kirkins. Those are kirkins that are mostly used in the description of the internal structure of objects.

1. Variables
2. Relations
3. Functions
4. Quantifiers
5. The reification operators
6. Other internal operators

Chapter 5

Truth : let's talk about binding

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
Estimated need for active reading: ⋆⋆

In this chapter, I will attempt to clarify the notion of binding and the use of kirkinplexes and binding contexts. After a brief general explanation, this will be done by a mix of explanations and illustrations in the following sections.

Keep in mind that kirkins are fundamental bearers of meaning and roughly correspond to the general idea of "idea". In fact (and this is a spoiler for chapter 9), ideas are the correspondents of kirkins within human minds.

The idea behind the presentations of kirkinplexes and binding contexts is to have a way to represent the structure behind the interpretation of ideas. Some ideas require a context or implicitly refer to one, and so kirkins have kirkinplexes that give them meaning. Likewise, the context for an idea is often itself a complex mental construct [1] , which motivates the introduction of binding contexts. Producing contexts through incremental binding of kirkinplexes and realizing kirkins using these contexts is done with functions. In a way, you reduce the final evaluable kirkin to a series of applications of functions. But these are still just functions. They output a result but the result does no bear the mark of the construction. Notably, there can perfectly well exist several constructions for a single final evaluable kirkin.

5.1 Adding kirkinplexes

The simplest use of kirkinplexes to understand is certainly the use of a kirkinplex to "model reality". We first consider a graph that only contains a single element, the basis of dirt. This is done by adding the basis of dirt to the empty binding context C_0.

[1] Again, I am spoiling future ideas. Remember that officially I never spoke of ideas to this point. Idea is simply a more intuition friendly term than kirkin to get started.

Figure 5.1: The most complicated graph you ever saw

We then add a kirkinplex k_1 to our binding context to describe "reality". This require a binding symbol b_1, which is a "modelization" symbol.

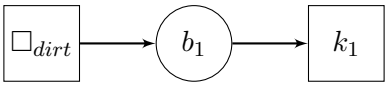

Figure 5.2: k_1 modelizes reality

Let's say k_1 gave us a complete model of reality reaching human concepts in one fell swoop. Notably, let's say we have access within k_1 to concepts such as "building" and "size". We might add a kirkinplex k_2 to the previous context that simply gives meaning to kirkins such as "a building over 100m is a skyscraper". We also add another kirkinplex k_3 as an union of $k1$ and k_2.

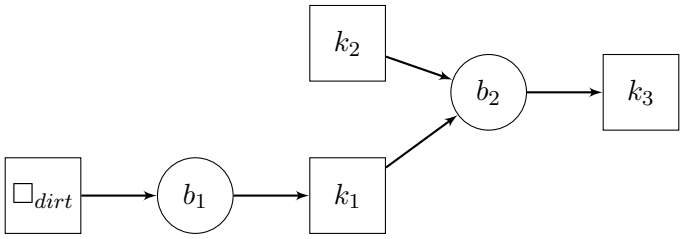

Figure 5.3: k_1 modelizes reality and make arbitrary definitions

Please note that if we were to look at the construction of k_2 it would certainly itself require a context containing k_1 or another similar kirkinplex. This is not apparent in the graph, because the objects do not reflect their construction. Also, notice that k_2 is not linked with $\square_{dirt}$. It is not a description of reality.

This last point becomes important when we notice that if we have kirkins that only require k_2 to be bound, we can remove the basis of dirt. of course, this implies to also remove everything that is linked with it. This simply gives the following perfectly correct graph.

Figure 5.4: The second most complicated graph you ever saw

5.2 Information location

Some ideas humans have are self centered or ore generally context centered. For example, let's say I have the idea the idea 'I am alive' uses the notion "I" to refer to

the one that has it. We might say this is simply a little trick of language and thus unfit to be represented in the "purer counterparts of ideas" that are kirkins. But I do not believe so. Instead, this is in my eyes the occasion to discuss how kirkinplexes can be more or less specific. Indeed, the reference to "I" is in my eyes a property of the kirkinplex used to bind the kirkin. If someone else was to bind the same kirkin in a different kirkinplex this time centered on themselves, they would get a different evaluable kirkin.

The graph below summarizes the process for me. k_1 is a representation of reality and k_2 is an instantiation of that representation that centers the description on me.

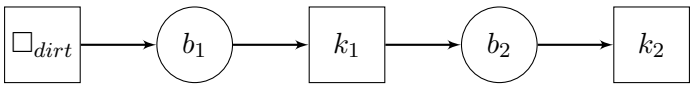

Figure 5.5: k_1 modelizes reality, k_2 centers it on me

And the following graph shows what changes if someone else does everything in the same way but centered on himself.

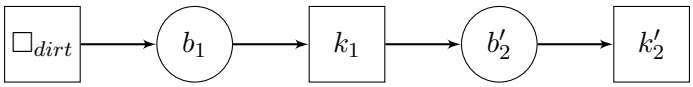

Figure 5.6: k_1 modelizes reality, k_2 centers it on me

Another point of interest is the fact that a kirkinplex can give meaning (accept) different kirkins depending on the binding context it is in. Let's focus on statements. A gain, we take a kirkinplex k_1 that is a representation of the basis of dirt. We also consider a statement s. So we have a binding context similar to figure 5.2 and a statement. We intend to bind s through k_1 using this context. We might be in a situation in which s would bind in a simpler context only containing k_1 or we might not. Does that change anything ?

Well if s turns out to be wrong it might change "how" it is wrong. We might be in the case in which s is right "for k_1" (it would bind with only k_1 and be true) but it is the binding of k_1 as a model of the basis that is wrong.
We might be in the case in which s is wrong "for k_1".
And we might be in the case in which s can not be realized with only k_1 and we need the context containing the basis to give it meaning.

The result is the same in all cases but this tells us that kirkinplexes can attempt to contain information themselves or simply be an interface between different layers of the binding context.

Chapter 6

Truth : relationship between statements and reality

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
Estimated need for active reading: ⋆⋆

This chapter describes two things, both amounting to a part of

6.1 Arbitrary and about reality

A statement can be about reality, about truth, and it can be arbitrary. Even though these possibilities "feel" like an enumeration of distinct possibilities, these categories are not mutually exclusive. We first define what it means for a statement to be about reality.

Definition 13 (About reality)**.** *A statement s is about reality when all construction for it use the basis of dirt as a root in their binding context.*

i.e. $\forall(k, k', C)$, $\tilde{\Delta}(k, k', C) = s \implies C$ *contains* $\square_{dirt}$ *as a root.*

Definition 14 (Only about reality)**.** *A statement s that is about reality is only about reality when it admits a construction that uses the basis of dirt as the only root in its binding context and does not contain any addition binding symbol.*

i.e. $\exists(k, k', C)$ *such that* $\tilde{\Delta}(k, k', C) = s$, C *admits* $\square_{dirt}$ *as its only root, and* C *contains no addition bindings.*

The definitions of a statement "about truth" and "only about truth" can be obtained by replacing the basis of dirt with the basis of truth in the above definitions. More generally, for a given kirkinplex k, the definitions of a statement "about k" and "only about k" can be obtained in accordance with the same logic.

All of this also extends naturally to being "about"/"only about" "x_1 and x_2" (two given elements of $\dot{\kappa}$) and "about"/"only about" a list of elements of $\dot{\kappa}$. Notably, we can be interested by the notion of being about the basis.

On the topic of the arbitrary, our vocabulary changes slightly. But that's mostly surface level, the core ideas remains the same.

Definition 15 (Partially arbitrary)**.** *A statement s is partially about reality when all construction for it use either at least one root that is not a basis or an addition binding symbol in their binding context.*

Definition 16 (Purely arbitrary)**.** *A statement s that is partially arbitrary is purely arbitrary when there is a construction for it that uses neither basis.*

Finally, we introduce another notion related to being arbitrary.

Definition 17 (Relative arbitrary)**.** *A statement s is arbitrary relative to statements set S if and only if we have $s = s_1 \wedge s_2$ such that $s_1 \in S$ and s_2 is purely arbitrary.*

Working Note: I am not entirely satisfied by that last notion. I fear my inability to produce something satisfying on that point proves that I still have not fully grasped the distinction between "the link between the truth of some statements and the meaning of others" and "truth evaluation". Initially, the idea is that s_2 is what remains once we got rid of the former. But I can't find a good way to say it.

6.2 Structural properties

The function $\tilde{T}$ and $\tilde{M}$ have many structural properties. These are (more or less) implicitly used when we produce demonstrations or simply attempt to deduce things. It also seems that what is true is linked in some fashion with our human experiences, so that when I see something with my eyes it is not entirely disconnected with what is true. In will not even attempt to classify these properties here, but it is important to notice that these are properties.

Here are a few interesting properties showing the importance of the lattice in the theory of kirkins. They are true whenever applicable, replacing the variables with corresponding concrete value of the right type :

1. $\tilde{T}(\tilde{\Delta}(s, k', C)) \leq \tilde{T}(\tilde{\upsilon_2}(k', t, C, b)) \wedge \tilde{T}(\tilde{\Delta}(s, k', C_0))$
2. $\tilde{T}(\tilde{\Delta}(s, k', C)) \geq \tilde{T}(\tilde{\upsilon_2}(k', t, C, b)) \vee \tilde{T}(\tilde{\Delta}(s, k', C_0))$
3. $\tilde{M}(\tilde{\Delta}(s, k', C)) \leq \tilde{M}(\tilde{\upsilon_2}(k', t, C, b)) \wedge \tilde{M}(\tilde{\Delta}(s, k', C_0))$
4. $\tilde{M}(\tilde{\Delta}(s, k', C)) \geq \tilde{M}(\tilde{\upsilon_2}(k', t, C, b)) \vee \tilde{M}(\tilde{\Delta}(s, k', C_0))$
5. $\tilde{T}(s) \leq \tilde{M}(s)$

The last property is different to the others. It express the idea that "a statement is never more true than it is meaningful".

Chapter 7

Truth : kirkin bishing

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
Estimated need for active reading: ⋆⋆⋆⋆

7.1 General idea

Kirkin "bishing" is a representation of the process of producing new kirkin through a string of steps, all of which produce a new kirkin. It is a representation of certain thought processes, and a preliminary work on discussions about the notion of "rigorous thought". I have previously [1] produced the notion of inference systems to discuss epistemic logic. Inference systems were a formalization of some of the ideas behind "proof systems" as they are often used in the mathematical field of logic. I will reuse some of the ideas from the notion of "inference systems" to describe kirkin bishing. The main differences are thus :

- Inference systems were described in ZFC, which is well ordered. This required some workarounds and is not an issue here.
- We use kirkins as objects instead of formulae.

7.2 Description

Because I am currently discussing kirkins and have not introduced anything human or even time related, bishings are described as static objects.

Definition 18 (bishing)**.** *A bishing is a string of steps. Each step has multiple entries, a rule, and a product. The entries are kirkins which the rule accept, producing the product.*

We introduce well formed bishings as bishings that are well structured with regard to the idea that they aim to produce new kirkins from a basic set of kirkins.

[1] In my life, not in this document.

Definition 19 (well formed bishing)**.** *Every rule can, for each of its entry, require it to be pre-bished or not. A bishing is said to be well formed with regard to hypothesis set H if and only if at each step every entry kirkin that is required to be pre-bished is either in H or is in the product of a previous step.*

Most of the time when we speak of kirkin bishing, we implicitly assume they are well formed.

7.3 Reasoning and definition

The point of describing bishing as using rules is that it allows us to state that there exist some specific characteristics of the functions $\tilde{T}$ and $\tilde{M}$ such that bishing kirkins using only some specific rules gives some guarantees.

A good example, that I consider fitting to make everything clearer, is that of logical reasoning. Let's say we do some kirkin bishing using only the basic rule of logical inference. If we produce a well formed bishing with regard to a set of hypothesis that contain only perfectly true statements, then all of our products are true as well. Of course, this assumes that truth is indeed structured as we assume it is when we discuss the basic rules of logic.

All of this is mostly preparatory work that will become useful in chapters 9 and 14.

Chapter 8

Truth : discussion and conclusion

This chapter is a part of the string of chapters describing the theory of truth based on kirkins. They are meant to be read linearly. If you have not already, read chapter 2 first.
Estimated need for active reading: ⋆⋆

Some of the choices made in the above presented model require a degree of justification. The presentation of the model was not made jointly with an explanation of the ideas behind its construction. However, I believe some specific points are worth explaining separately, both to raise attention to the fact that a choice had to be made and to explain the final decision.

8.1 Existence of non-absolute truth

The first such choice is the choice to use a correspondence model with varying degrees of definition and truth. At first, I was presented with two conflicting intuitions. It seemed to me that absolute truth had to be constructed in an human independent fashion because there are facts that seem to be independent of the existence of humans. However, it also seemed to me that partial truth was best considered a human notion. After all, some truth are only comparable within the context of an ill defined human intuition. How then could it be considered as having a separate existence ?

I chose to consider everything as having the same degree of existence, presented as human independent in the model. However, I am conscious that in doing so the notion of truth presented has to be at least somewhat relative. I consider the model to be presenting itself as absolute. In other words, the model simply "is" and does not offer ways to discuss its change. I simply consider that the model describes a notion of truth, and that the notion of truth used by a specific human can be different to that of an other human. However, I also consider that most "right" notions of truth fit the presented model at least somewhat.

8.2 Additional properties

Provided that truth fits the model presented, the details of how the function T works are still vague. One might notice that as is, it is perfectly possible to choose $T(x) = \top$ for all x without encountering any issue with the presentation of the model. My current answer is that many properties seem implicit regarding T. My reason not to list them in the model description is that even though many things feel obvious in general, I struggle to give them a satisfying formulation to express as a characteristic of T. Hence, I will simply say that T mostly behaves "at least as is obvious, when it has an obvious behavior".

8.3 Lattice

One might wish to question my choice to use a bounded lattice to rate the degrees of truth and meaningfulness. Well, sometimes the degree of truth of two elements are incomparable. Therefore, I needed a poset and not simply a totally ordered set such as $[0; 1]$. To represent absolute truth and falsehood the poset had to be bounded. Beyond that, choosing a lattice rather than just any poset was a choice I made to have access to the properties of section **??**. These property appear desirable, but I am not certain that a better structure can not be found. Notably, using a structure that allows to define the complement of any element might prove useful. I however leave such modifications to future developments. It seemed obvious that there should be any number of intermediary levels between any two levels, and so I simply added that property as a supplement property of the lattice.

8.4 Inelegance

I have developed a feeling that a better formalism exists that would make much of the elements I introduce pointless, expressing the different characteristics I evaluate precisely in a single mathematical construction. I did not find it, if it does exist.

8.5 Ideas

Ideas are not present in this model. They are seen as the correspondents in human minds of kirkins, but ideas and kirkins are still different entities. However, the beginning of the informal presentation of the model allows itself to use the word "idea" instead of "kirkin", in order to convey the general idea in advance. Overall, we deem it an acceptable form of language abuse in most situations to speak of an "idea" instead of a "kirkin".

8.6 Probability

The notion of probability (or indeed even randomness) is not part of the model as the model does not feature evolution of its prime components. Instead, any given model of probability has to be presented as a kirkinplex. It bears reminding here that the model is a model of truth and meaning, not of language or thoughts.

8.7 A small comment

It is worth noting that the model of truth presented here is itself a kirkinplex withing itself.

8.8 Overall quality of the model

The question is worth asking : what is the point of such a model as it stands ? Even though the model is lacking in precision and completeness on different points, I believe it can be somewhat useful. I see that model as a way to clarify the fundamental for other future reflections of higher levels. A goal of the model is to give an end to the process of recursive deconstruction when trying to be rigorous.

Chapter 9

Human Mind

This chapter admits the following requirements.

- Surface understanding of chapter 2 regarding the notions of kirkin and kirkinplex.
- Basic understanding of the notion of "modelization".

Estimated need for active reading : ⋆⋆⋆

9.1 Foreword

In this chapter, I will introduce a description of the working of human minds and of the human paradigm regarding its own thoughts. That description was mostly obtained through introspection and thought experiments. Hence, it will be biased toward my personality and how I assume others to think. It is also of course perfectly imperfect.

What is a human in that context ? How narrow is my definition ? How similar to me do individuals have to be to be taken into account ? Not that much, but I do not ambition to produce a description that could fit every single possible states of mind for a human. A good first limit is insanity. I assume and accept that there are states of insanity that are not well represented by my descriptions.

Beyond that, the answer will depend on the section of the chapter you are in. The first section will describe a very generic model for the working of the human mind, that part should very broadly cover humans. Then, difference sections will use this model to describe how human think. This will include cultural specificities and I do not profess to be able to pinpoint them all accurately.

Another point of interest is that this the model and following discussion presented here should be seen as a foundation layer for discussions on the human mind and the human perspective. And give a model and a description of the mind but said model contains vast parts that are not completely detailed. This leave room to discuss the human perspective and the working of the human mind withing the terms of the models. I give the knobs, it is left to the future to understand how they are set up.

9.2 General model

This section will describe the basic general model of the human mind upon which much of what follows will be based. I believe it will help if I now give an intuitive answer to the question "what is a mind, anyway ?". From an intuitive standpoint, we can say that the mind of a human is a mathematical abstraction of the process that governs the human's behavior and decision taking abilities. The abstraction is considered at a scale compatible with the notion of "human entity" (no discussing atoms) and allowing to quickly represent the ideas a human has about how it works (the human).

This section takes a place in this document at a point at which I am still laying the contextual groundwork in which future reflection will (mostly) take place. In that regard, I am mostly offering arbitrary and imprecise models that are supposed to reflect a certain understanding of the fundamental topics at hand. This is fantastic and very enjoyable to do and -I am sure- to read, but might get a wee bit tedious if I do not help the reader understand, at least to some extent, why I make the choices I do. Hence, the model and my description of its parts will borrow vocabulary from the usual set of words used to speak about human mind. That is simply a way to help build intuition, and in now way a commitment to use these words in whatever fashion old fools and geniuses saw fit to define them.

I do not wish to enter the question of the definition of a specific mind and the difference between minds, a mind, and a mind-state (this is similar to the problem expressed in the story of the boat of Theseus). That is a different topic for another time. For now, I will simply describe a mathematical model for a specific kind of system and say that the mind of a human can be described through this model as one such system. The model of minds is the general descriptions which can accept instances. A mind is one such instance, and that concept isn't perfectly clear. A mind-state is the state of a mind at a specific point in time.

The model considers the human mind as an interconnected system evolving through time. Time is considered to be isomorphic to $\mathbb{R}$, in the obvious way. We consider a mind to be comprised of several parts with inputs and outputs. At any time, the parts have a state which can evolve both by itself and under the influence of the inputs. Parts have no memory. Their variation is entirely defined by their current state and their inputs. The output is, in turn, a direct function of the state of the part. I have chosen not to give a precise mathematical description of that process. As will soon become apparent, the states and the inputs/output need to be rather complex objects, and I do not intend to tackle the work of representing the corresponding sets of possibilities right now. Besides, insofar as I lack a perfect definition of the human mind, such an effort would probably amount to very little gain in understanding. Just think of something similar to how mechanical systems are often described used partial time derivative equations.

Figure 9.1 gives a summary of the various parts used to represent the human mind and their connections. The "change" part can have an effect on many other parts which is no represented in the figure (see parts description bellow). Save for that exception, every effect is represented on the figure by an arrow. Hence, a part is determined by everything that is connected to it by an arrow (again, save for

the "change" effect). On this figure, boxes represent a normal part. Circles are a representation of external inputs, and diamonds are parts that have no inertia (the state is a direct function of the inputs).

I will now devote most of the rest of this section to a part by part description of the diagram from figure 9.1.

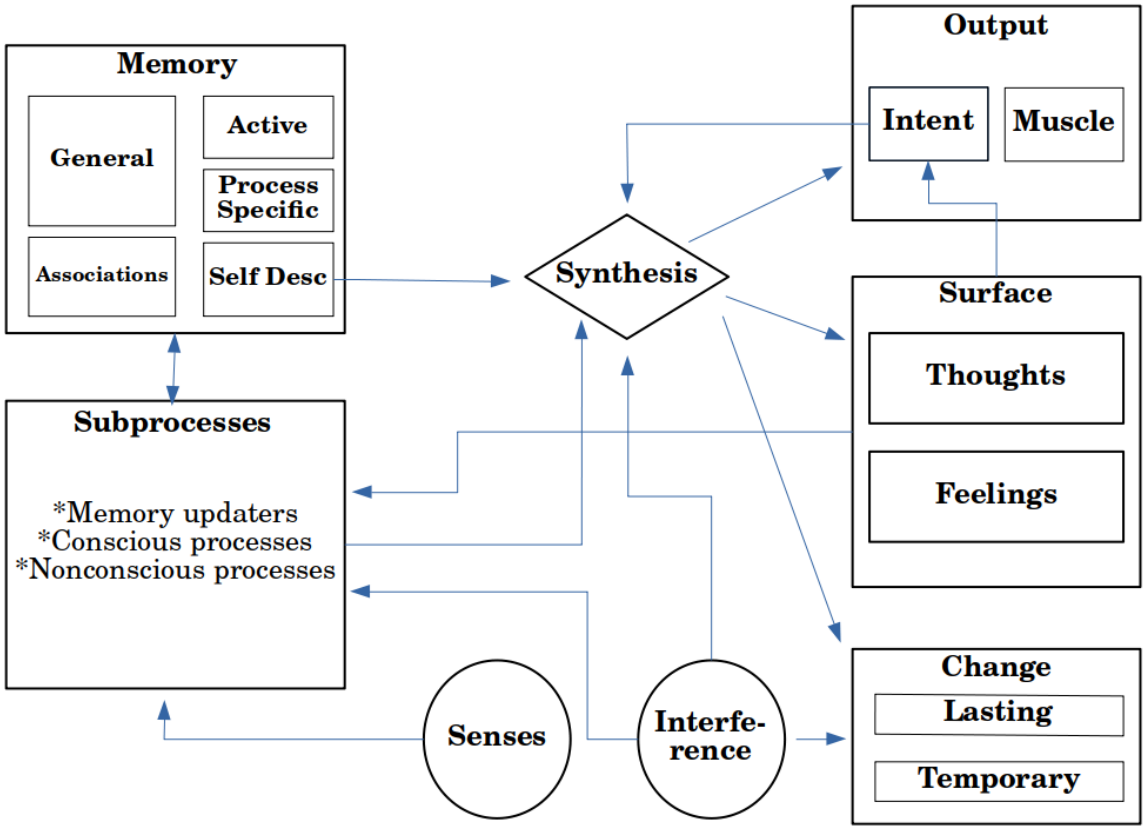

Figure 9.1: General model representation

Senses represent all normal inputs for the mind. Mostly this simply mean what we perceive through our senses, even though I do not exclude the possibility for another kind of input to fall into that category.

The interference is a representation of the ability for changes in the physical world to influence how we think outside of the effects of senses. The best example is certainly that of alcohol, but I also include the effect of sports and similar processes.

The surface represents what we "feel" as our thoughts, emotions, and everything else. The description of the train of thoughts of a specific human amounts to the string of states through which the surface of his mind goes. One could say that the surface is a representation of our awareness. The surface can be said to "contain" or to "realize" various "perceptions". I identify two main classes of per-

ceptions : thoughts and feelings. The surface is entirely determined by the synthesis.

The output represents what our mind "concludes to". This includes the decision to move in certain ways (indeed, the decision to move the various muscles required to breath is a part of the output). However, I include a second part, "the intent". While the rest of the output is determined by the synthesis, the intent is directly determined by the surface. It is an expression of our resolve and of the decisions we take, especially concerning ourselves. The intent influences the synthesis. That process is largely what we call "the application of our will".

The memory is, to everyone's surprise, a representation of the human memory. It contains different kinds of "memory units" and I do not profess to have an exhaustive list. Let's list what I did include.

- General memory : long term non specific memory
- Associations : a part of memory dedicated to linking memories and ideas with one another, and to giving ratings on relevant scales to some specific concepts. Example : we store how likely we consider some statements to be true, and how much we like certain things.
- Active memory : short term low capacity memory. The whole system is set up so that whenever something is loaded into this memory unit, a corresponding thought forms on the surface. In other words, we are aware of what goes into this memory.
- Process specific memory : a catchall term for all memory that is dedicated for use only by a handful of subprocesses (see the relevant entry on subprocesses).
- Self description : stored information on the way we are. Directly influences the synthesis.

The only think that can update the memory is a subprocesses (yet again, save for the change effect).

The subprocesses are where most of the actual work occurs. The idea behind them is that the human mind makes use of many processes to handle specific intellectual tasks. Processes exhibit a lot of variety, ranging from those which handle unconscious breathing to those we use for complex logical reasoning. Subprocesses have different inputs. They can have access to the memory and are influenced by the mind's inputs and by the current state of the surface. Of course, not all subprocesses need to use all those inputs.

The synthesis is simply the process that takes the set of the effects of all subprocesses and determines what we end up thinking and what we output. It is mostly a summary of the subprocesses, but the way that summary is made is influenced by several parts. This decides which subprocesses "win" when they are opposed, which are deemed important and which are ignored, and so on. The synthesis is impacted by what we are, by our current intent, and by external interferences. It

also determines the change.

The change is the representation of the way the mind can change. If we think that every part is a function that is influenced by the inputs and the state of the part, then the state of the change can be seen as an implicit secondary argument used everywhere and which correspond to the ability of the parts to evolve. Changes are divided into two main kinds : temporary and lasting. As a rule of thumb, lasting changes tend to be the result of repeated synthesis effects (we might develop a new subprocesse to handle a specific frequent situation) whereas temporary changes are mostly an effect of immediate outside interference (i.e. booze). However, this rule accepts some exceptions. For example, sudden brain damage.

Most of the work for this section is done. This paragraph provides a few additions, one per indentation, which should prove to be lighter reading than what came before. At least, I hope so. What I wrote above does not exactly fit my own definition of "well worded and enjoyable to read".

Now that all the parts of the model I intend to use have been described, it is my hope that a reasonable dose of reasoning will lead the reader to an understanding of said model.

The language abuse in which we speak of someone's mind to speak of the instance of the model representing that person's mind is to be tolerated and even encouraged.

Finally, I would like to point out that the model makes no mention of the practical physical parts of the brain that are supposed to implement the features represented. Nothing says that every part of the brain belongs to at most one part of the model and, even if that were the case, nothing says brain portions that belong to the same model part have to be physically next to eachothers.

9.3 Processing and functioning

9.3.1 Thoughts, ideas, and kirkins

The time has come to go through a few points of vocabulary and to connect what I described as a modelization of the human mind with was I presented earlier as a definition of truth and meaning (see chapter 2). As the title of this subsection might have lead the most astute of readers to guess, I will talk about thoughts, ideas, and kirkins.

Let's begin with thoughts. They are the basic elements that can be present in the "thoughts" part of the surface and of course, they give it its name. The notion of thoughts I intend to use isn't very different to what most people who delve on the subject would offer (as of the time of writing). Raw feelings do not count as thoughts, but most other things that can be "in" the surface are. Notably, anything we might envision was said by our "inner voice" counts as a thought. When a thought is present in the surface, we say it "occurs".

A mind is said to be "thinking" when thoughts are the main elements present in the surface. This is mainly opposed to situations where the surface is mostly occupied by feelings.

Ideas are closely linked with thoughts. They are an abstraction for a part of the

way the mind works and are to be considered as "objects". They can correspond to a string (or sometimes simply set) of thoughts, be stored in memory, or be implicitly used by some subprocesses. Ideas can correspond to a single thought, but some ideas are never expressed with a single thought. There is no inherent limitation on the complexity of an idea, given an arbitrarily large number of thoughts. As an abuse of language, it is perfectly fine to consider that some ideas "are" thoughts, insofar as they always correspond to the same thought.

Ideas correspond to kirkins. Not all kirkins correspond to an idea but all ideas correspond to a kirkin. That correspondence isn't capable of reaching kirkinplexes. What might come closest is "the idea of a model". We discuss that point in subsection 9.3.2. For the purpose of what follows, I even assume that all ideas perfectly correspond to a single kirkin. In that respect, I tolerate yet one more abuse of language, confusing ideas with the related kirkins. Notably, we may speak of binding context for ideas, still drawing on the same correspondence.

9.3.2 Models

Many human ideas take place in a "model of something". When you discuss a car and you say "the engine", you are already referring to a set of connected assumptions about how cars are made. That is what I call a model as used by a human mind. It bears noticing that a model isn't necessarily a model of *something*. A good example would be mathematical theories, which give meaning to some statements and ideas, but are not a model of anything inside reality. It is reasonable to consider that models correspond to kirkinplexes. However, models are not ideas, whereas kirkinplexes are themselves kirkins. It is still perfectly possible to reify models as ideas through "the idea of", as can be done for kirkinplexes. I see no need to develop further on what models are for now, the intuition is very similar to that behind kirkinplexes.

Models can be created by the mind, they can be stored in memory, and they can be updated (and often are when they are used). When the mind handles ideas that require a model, subprocesses can create and use parts of the corresponding model. The important notion here is "parts of" : there is often no need to recall the entirety of the model. In fact, even when updating the model, there is no need to consider it in its entirety, and various parts of the model can be forgotten at different rates. Indeed, there is often no need for a whole model to exist when we act as if it did, and sometimes it does not. A part of that effect is that we often handle our ideas in light of a bundle of model parts that do not really work together, frequently because they use varying degrees of precision.

Last addition to this subsection, I will say that when creating or updating a model, we often copy the structure of pre-existing models.

9.3.3 The base model and the base process

We, humans, have a base model of reality and broad lines for the way we function. The model itself includes many assumptions about the way things are, which are difficult to pinpoint and challenge (though not impossible). A good example would be our base perception of time. However, beyond the base model we find the base

process. It is constructed through the general structure of the mind, and through the way base ideas and subprocesses are set up. Mostly, I am getting at the fact that a large part of our way to act and think seems natural to us.

One part of this process upon which I would like to elaborate a little bit is our use of probabilities and estimations. Overall, I would say that bayesian probabilities are a good representation of the model we wish we used for our estimations of likelihood. I consider our use of such estimations to be based on bits and pieces of models locally arranged to satisfy the description given by probability theory. However, even locally, the system struggles with very low or high probability.

I will also add that we probably (*eh, funny*) maintain several probability models at the same time, interconnected with each others. To illustrate this last point, one can think of the fear of the dark in situations in which one is certain that there is nothing to fear.

Of course, our estimations are mostly stored in the "association" part of the memory.

9.4 Tunality and cogitation

To wrap this up, this section will introduce a few words and notion to describe how humans think when they try to produce and extract meaning and truth. I am saddened to say that this will mostly mean more arbitrary definitions to be used at a later time. Very annoying, I am sure.

9.4.1 Tunality

Let's start with tunality. "Tunal" is a catchall adjective for thought processes that require a degree of awareness of the working of the subprocesses involved in the process. One could say that tunality is the quality of the mind that is aware of its own thinking. Awareness of a thing is the presence of a corresponding idea in one's surface part of the mind. Ideas can be more or less complete and provide imperfect descriptions of things. As such, tunality is not a perfectly binary quality. One can be more or less tunal.

The awareness doesn't have to be perfectly concomitant with the thinking. For example, someone who simply does calculations by pure trained instinct is, by default, not acting tunaly. However, if that same person purposely trained that same instinct and thought before doing the calculations "I will now use my trained instinct which often works well", then the whole process can be considered more tunal.

Now seems like a good time to mention the "Dual Process Theory", which I found described on the LessWrong forum [5]. Said theory posits the existence of two types of processes within the human mind : type 1 and type 2. The following sentence is taken from the description found on the LessWrong wiki. "Type 2 (also known as System 2) processes are those which require working memory, and Type 1 (also known as System 1) are those which not." What they call working memory is roughly what I called active memory. It would be false to say that type 2 systems

are those used in a tunal reflection, but I still believe that the ideas can be linked. However, pure uncontrolled instinct based on the current state of mind would, in my understanding, still count as type 2. It is not in my eyes tunal. **Working Note:** Still not sure I perfectly understand their idea.

As mentioned before, one can be more or less tunal during a certain process.

9.4.2 Cogitation

We also introduce cogitation, which should strike no reader as a new concept, even though the word itself is nonstandard. Cogitation is simply the action undertaken by a mind which is thinking on purpose with the stated goal of extracting truth or producing ideas. Because cogitation happens "on purpose", it seems that it should incur at least a modicum of tunality. During cogitation, the mind is say to "cogitate".

9.4.3 Idea bishing

When we think, the process of chaining thoughts one after another is called a thought process.

We now introduce the concept of idea bishing. An idea bishing only considers a chain of ideas and the way they are linked by rules (which one my intuitively consider as operations). Because that linking process can sometime aim to abstract in detail operations that do not strictly rely on ideas [1] , we allow the use of "token" alongside ideas. Tokens are simply objects of the bishing that are not ideas but can be used for structural reasons. The goal of the concept of bishing is to abstract all considerations regarding the detailed working of the mind to keep only the structure of the chain of thoughts

In that regard, some thought process can be said to have a corresponding idea bishing. That is not the case of all thought processes, as the idea of "idea bishing" is intended to represent structured thought and therefore requires a degree of tunality. A non tunal and pseudo-random chain of thoughts would not count as having a corresponding idea bishing, even thought from a mathematical standpoint we might still suggest one.

As a quick note, the idea pendant to a kirkinplex is called an ideoplex, and I will say nothing more of this for now.

[1] Such is often the case when we aim to "think as if we were in someone else's head". The "ideas" we use are not directly our own

Chapter 10

Interlude : isn't there something wrong with my models ?

This chapter is a discussion on the paradigm of chapters 2 and 9.
The point is however more general and reading chapters 2 and 9 is not required. Still, they will be mentioned.

Estimated need for active reading: ⋆⋆

In this short(ish) chapter, I will discuss an issue that one might see with the models offered in chapters 2 and 9. The issue is that the models don't seem to match the criteria for a testable scientific theory. If what I affirm can't be tested, then how do I know it's not just nonsense ? How do I know I am not making the same mistakes as past philosophers whose theories now seem stupid, absurd, or ill thought [1] ? I have some reasons to believe my approach justified and good, but first I must talk about what makes me think there might be a problem.

The first thing to note is that the models presented in chapters 2 and 9 are not meant to be instantiated. What do I mean by that ? I mean that normally a model offers a description of the properties the objects at hand can have and of the rules they obey. Instances can then be created by deciding on certain specific objects and parameter values.

Think for example of Newtonian mechanic. It is a model of the way solid objects move under certain circumstances. The model describes its objects (solids), the parameters that can fluctuate for each object (size, shape, mass, ...) and the rules describing the system's evolution. You can then consider an instance of the model by listing objects and parameter values. [2]

[1] Let's give three examples. The four elements theory, the theory of phlogistons, the theory of humors.

[2] In the case of Newtonian physics you mostly do so by describing an "initial state", but that isn't the case for all kinds of models. Notably, the notion of "initial state" doesn't play nice with all conceptions of time.

The models I presented earlier aren't like that. How so ?
Well first they are very complicated. If you wanted to give a mathematical description of a proper instance you would need a very long description, more than is practical [3] . But even beyond the size issue, there is a vagueness issue. The model is not mathematically complete. One could say it is intuition based or simply meaningless to some extend. In any case, any instance of either of these models would have to be an instance of another given model that matches the vague description of the model given in this document. I suppose you could say that my models are in fact meta-models, but let's no go down that path right now.

So because of the vagueness you can't really test my models, the models don't lend themselves to concrete prediction, and because of the complexity I don't expect anyone to ever turn them into something more suited to predictions (math).

Is that a problem ? It sounds like a problem. The topics at hand lend themselves to making vacuous statements and pointless-but-witty-sounding broad claims. What is the point of my models if they don't make predictions ? Aren't they just meaningless statements with no link with reality, easily replaced with another variant ?

And how do I know they are "right" if I can't test them ? What reasons to favor them do I have except that I like them ?

We will get to these questions in a bit. But before I have something else to point out in my defense: you need to something in your mind that plays the role of my models. Or at least you probably do. If you think in a way that is at least somewhat compatible with contemporary western culture then you need to have an idea of how people think. You might not use a very clear or precise description of what a mind is. You might not think it in great abstraction. But if people stop in the middle of a normal sentence to scream gibberish at the top of their lungs you are surprised. [4] Similarly you can speak of "parts" of a mind, or a similar notion. Perhaps you use words such as "the subconscious" or "emotion". You have models.

Similarly, you certainly use ideas. [5] You make statements and are capable of recognizing that "cat" means something but some strings of characters do not. You have at least to some extent a model of truth and of ideas/concepts in your mind.

Well I just tried to clarify and improve these models. I wanted to understand mines and I wanted to have access to them in greater abstraction. A part of the goal is simply to understand my way to think better, even if that means modifying a part of it in the process. Beyond the gain I believe can be achieved by improving on our base models for these things, I see virtue in having access to clearer abstract versions of them. Indeed, this should help discussions that come near these topics stay meaningful. Stating clearly the ground level models and considerations is sup-

[3] In the case of the model of truth and meaning, you would encounter problems with infinity and recursivity. For the mathematically inclined: it's not well founded and requires a set bigger than $\mathbb{R}$

[4] I know I am using predictions to justify the presence of models after I sort of implied that my models aren't predictive. Please be patient, the question should feel resolved a few paragraphs bellow.

[5] If not then please contact me as I always wanted to make the acquaintance of an elder god. Other gods may still apply.

posed to help in discussing higher level topics.

Also I wanted to replace and clarify the models I use within my mind, not to obtain perfect mathematical models. There are two great advantages to this approach: the goal is feasible and the result is of direct use in my other reflections. It also gives some limitations, notably with respect to complexity. Hence why my model of the mind doesn't simply point at the best current theories of neuroscience. The goal is to give a framework for the expression of other considerations [6] as well as to give shape to basic intuition.

Another defense [7] -more suited to my model of the human mind than the one of truth- is linked with the notion of Turing completeness. If you don't know what Turing completeness is then kindly skip this paragraph. The point isn't important enough to warrant an explanation. And the point is simple too. My model is Turing complete (when assuming infinite memory), just like every model of the human mind operating at the same level as mine has to be. Hence a reduced ability to make prediction regarding the possible outside behaviors, the models are all equivalents !

Ok so you have to do what I did to some extent, or at least you use by default something that is similar in nature to my results. And I have great excuses to justify my approach. But still the point remains, a model that doesn't tell us what or how to think at least in some situations is pointless. So what is happening ? And also, why do I favor my models, what reasons do I have to think them good ?

A great part of the answer is this: these models are frameworks for intuition and other statements and are incomplete if you restrain yourself to the abstractions given. Instead, a part of of how things work remain in the user's intuition. You can't always replace all the names given for parts of the models with placeholders and expect everything to keep working.

When used as intended, they are supposed to help produce sub-theories and guide intuition. Through these means, they actually help produce statements about what to expect in reality and how to think.

Ok. What about the reasons to like these models ?

In a way, I would say my approach is meant to be judged in a similar way to the way you would judge a classification of living beings. Such classifications can be wrong in the purest sense of "false" (for example you might classify according to the number of bones and not provide a category for things that have none). But sometimes you can eliminate the possibility to be wrong (just create a "others" category at each step and be done with it). An yet the classification can still be rejected. It can still be bad. It's about being a good guide to intuition. Being a satisfying

[6] Perhaps I should clarify that point. The idea is that the models serve as a base and a context in which to produce statements on the systems at hand. For example, the rules of logic are statements within the framework that is my theory of kirkins.

[7] Because yes, I am aware I sound like I am trying to defend myself. Rest assured that I am aware of the tendency to defend one's mistake and have tried to actually question my approach.

framework within which other considerations are easily and conveniently expressed.

So here is how I stick my neck out when I offer my models. [8] Here is the test against which I tried my other ideas until I found the ones I presented, the ones I didn't managed to get to fail. Here is my prediction: these models are good frameworks to think in about the matters considered.

Annoyingly, it is not enough to find some cases in which my models misguide intuition. It's about being good in most situations, not about being beyond failure. It's like choosing a good coding language or more generally a good tool. Thought it might still be possible to prove with just one example that I am after all simply wrong.

[8] In the sens that I am taking the risk to be shown to be wrong

Chapter 11

The human mind's relationship with ideas

This chapter admits the following requirements.

- chapter 2 or chapter **??**
- chapter 9

Estimated need for active reading : ⋆⋆⋆

11.1 Foreword

11.2 Having ideas and using ideoplexes

Working Note: Much of this section is redundant with chapter 9, downright copy/pasted.

11.2.1 Ideas and ideoplexes are mind objects

A described in chapter 9, the human mind often makes use of ideas and ideoplexes (the later often being models).

They both are a specific kind of mind object, meaning they can be stored in certain parts of the mind. Specifically, they can be stored (or contained) in memory or in the "thoughts" part of the surface (see model of the human mind in chapter 9).

I see no good way to describe in abstract terms what an idea is, but I am relying on the fact that the concept of idea is intuitive and well known. Hence, I only took care of some of the integration into the model of the human mind I use. As for models (or more generally ideoplexes), the best phrasing I found to help convey intuition is the following "ideoplexes are reified contexts within the mind through which some ideas gain their meaning".

I now wish to introduce the concept of "idea construct". They are a relatively simple way to put into words an idea that has been important for me for quite some time. [1] So what are they ? Well even though this will yet again fall short of a proper definition, I think they deserve to have a little description box.

Definition 20 (Idea construct)**.** *An idea construct is a structured set of ideas forming a whole that is equivalent to a single complex idea.*

Having a word for them is important to me because I consider that the goal of many activities is to produce idea construct that have certain properties. Once again, we implicitly [2] introduce the corresponding notion of kirkin construct. Also, the language abuse confusing an idea construct with the corresponding kirkin construct is to be tolerated. [3] Because ideas are "created" whereas kirkins are atemporal, we will also tolerate the confusion on whether idea constructs are created or described/discovered.

11.2.2 Having imperfect ideas and ideoplexes

So, ideas and ideoplexes are present as objects in various parts of our minds. Great. But what about those time we "almost have an idea" ? Or when we have an idea but are still unclear on the details and later on we say we have a clearer view of our own idea ? There are also situations in which we say that we "have an idea" but in truth we mostly have a feeling that we should act in a certain way. The idea is not really conscious in our thoughts.

The first part of my answer is that the idea that are considered to be presently in our mind (so not the ones currently stored in memory) are determined by the state of the "thoughts" part of the surface. In other words, the ideas presently in our mind are within our awareness. There are not ideas that are "partially" or "almost" in our mind. [4]

Everything related to the aforementioned issues is handled through the lack of meaning of ideas. [5] When we almost have an idea but we feel like we are not set on a specific idea, I consider that the idea we have in mind is a very low meaning one corresponding to the idea "idea X, or idea Y, or ...".

It is sometimes the case that an idea we have is obviously a lesser version of an other idea. That is for example the case when an idea is "on the tip of our tongue". In such case, we will tolerate the language abuse that considers two different ideas to be the same provided that they are similar to one another and that one is more meaningful than the other. We say that we clarified an idea were we might more truthfully say that we moved from an idea to a different and clearer one.

[1] By which I only mean around five years. I am after all quite young.

[2] Or is it explicitly now ?

[3] Mostly meaning I am giving myself permission to do it. I extend that permission to you as much as it is within my power, but it's not like you need it.

[4] We will however allow a corresponding abuse of language soon.

[5] Yada yada, corresponding kirkins.

11.3 The abstraction dichotomy

The notion of abstraction is often quite vague [6] , and at the same time important insofar as it seems that abstract thoughts have some interesting qualities. When I chose to dwell on the concept, I noticed that the principal definition found in dictionaries do not really match with a kind of common use of the word encountered when we say "that's abstract" of things that are complicated in a certain fashion. That second use was described in some forms, but never in a way that entirely satisfied me.

I reached the conclusions that there are two main kinds of abstraction (hereafter referred to as α and β abstractions). [7] I would say that the reason for my initial confusion is that the main way for many to encounter β abstraction is through α abstraction. Hence, they can tend to be seen as the same thing.

11.3.1 α abstraction

α abstraction correspond to the prominent definition I found in dictionaries. It defines both a process of abstraction and resulting ideas (which are called "abstract"). α abstraction is the process of extracting structural characteristics present among one or several ideas as a way to produce an idea construct that can be used to understand said ideas.

Often, the ideas with which the process starts, which are said to be abstracted, are the direct correspondent to some particular instances of the general idea we reach. We can then say that the process of abstraction corresponds to the determination of the structural common nature of the instances.

Example 3. *We might look as several different kinds of boat and reach the general idea "boat". In that case, we have abstracted the ideas of the instances in the "abstract" idea of boat.*

Of course, we tolerate in such cases the language abuse that confuses the real life things with the idea of the things. So we can say that we have an abstraction that is the common idea of all boats, rather than of all the ideas of boat. I offer a name for this specific form of α abstraction, albeit not a pretty one :" extraction of shared structural properties".

I would say that the extraction of shared structural properties is central to many ideas which fundamentally exist through it. What I mean by that is that some idea enter our mind as "the property shared by all elements of set X" and that when we wish to define them, the most direct way to do so would simply be to say "the abstraction of the common property of elements of set X" rather than to attempt a description through other means.

This of course begs the question : what does it mean for an idea to be found in various elements of a set. If you show me a pair of boats, the common idea seems

[6] I remember that my physics teacher in CPGE said something to that effect once, pestering against the standard use of the word and calling it meaningless. Maybe that isn't all that relevant, but I am quite fond of the man in some regards including that one.

[7] Or rather, only two kinds for which the confusion exists. I of course found other, more different definitions of the word. But those were simply homonyms.

to be boat. Why isn't it the idea "either being boat 1 or boat 2", since that would be more precise ? Why not, if we are to go the other way, "being made of wood", since that is a valid description ?

The question here seems to be related to the core notion of structure and of the right way to partition a given thing into ideas. For now, I will simply say that the notion is certainly arbitrary and culture dependent. Hence, we cannot say we have a rigorously defined deterministic operation corresponding to the extraction of shared structural properties.

Also please note that this form of α abstraction is not the only one.

11.3.2 β abstraction

β abstraction correspond to the common use of the word "abstract" when reacting to a certain kind of complicated things. It is however not reserved for things that seem complicated and I do not want to give the impression that β abstraction is only used to describe what one does not understand.

Contrary to α abstraction, which is defined by a process, β abstraction is defined by the status of the thoughts considered. One's ideas can be said to be β abstract if they have a high degree of meaning and one's thinking is tunal. In other words, a β abstraction is an idea that is clear in the mind of a thinker that is aware of his own thoughts. The difference between just any idea an a β abstraction, beyond the degree of meaning, is that the thinker is aware of the presence of the idea, rather than only aware of its content.

11.4 The importance of ideas

Now, I would like to ask a question that might seem stupid : how are ideas useful to humans ? I have until now only described how they are present and given some vocabulary to speak about. I think it is worth it to think a bit about our relationship to ideas and what they are to us, even if we only end up with answers we could have easily guessed.

First, I will say that ideas are important to the functionment of many subprocesses and more generally of many patterns of thoughts. I would also say that those tend to be the "best" (read : most trustworthy) patterns of thoughts. As such, ideas are simply useful thought resources (or perhaps tools).

Most importantly, ideas are important both to our identity and our view of the word. We think what is most important and central to our existence with ideas and I would say that a mind that does not use ideas at all wouldn't be human. To some extent, awareness of our ideas is central to our existence. That is very similar to awareness of our own awareness, which itself is similar to self awareness, even thought these notions are all different.

I have in the past been tempted to consider that a human mind in centered on a great idea construct of reality in the context of which its thoughts take place. I would still tend to say that minds require a collection of idea constructs depicting the mind's "vision of reality". However, I do not believe that a mind is necessarily built upon a single unified construct. Notably, I do not believe that minds require their ideas to form a coherent or complete whole.

Ideas and large reality describing constructs are very important to thought and their presence is central to our own existence as minds. But they are still simply things that are needed for the functionment of a system, which operates by using them according to how the system is structured. As such, I should not [8] feel surprise at the existence of contradiction and incompleteness.

[8] As I have in the past.

Chapter 12

The brickwall of the basic model for reality

This chapter loosely assumes that the reader has read chapter 9.
Subsection 12.2.2 requires a few basic notion in the field of bayesian probabilities.

Estimated need for active reading : ⋆⋆⋆

12.1 The main problem

I have spoken of the nature of truth and meaning in chapter 2, and I have spoken of how I consider the mind to work in chapter 9. I will speak of rigor and thoughts and reflection in future chapters, both from a normative and descriptive perspective. And I to what I did and will still do without the belief that my work is final or even fundamentally new or revolutionary, I do it as a way to provide answers that are acceptably complete at every step. The aim, you see, is to provide me with the comfort of a satisfactory construction of my mind, resting upon foundations that are if arbitrary than at least stable.

But I am faced with an issue. Now should be a good time to describe the general basic model used by humans for reality; time, space, the taste of chocolate, the notion of desire and probability, and so on and forth. But I find myself in front of a wall. It is a predictable wall, of the kind I could see coming and that shouldn't surprise those who have already thought on these matters. But it is a wall nonetheless (metaphorically speaking of course).

The wall is simply that I cannot provide a model for my vision of things (of reality), for my own thought paradigm, that both satisfies me and doesn't crumble in abnormal situations. I suspect that the reason for this is simple. The base model used by humans does not account for how incoherent humans thoughts tend to be. In other words, I cannot exhibit the coherent model of reality used by most human thoughts for the simple reason that it doesn't exist.

A good exhibit to support that theory might be the notion of desires. As I feel

the experiments of section 12.4 tend to show, the human process for deciding what we want is much further removed from being based on a simple and foolproof system than we tend to think. By foolproof I of course mean a system that does not "fail", drawing a blank or an hesitation, and not a system that always gives the "right" result.

I will now give the outline of a base model for reality (section 12.2). It is called "the simplest wogian model for reality". Even though it might seem satisfying at a glance, I strongly advise to be cautious before putting large degrees of trust in it. The following sections 12.3 and 12.4 will attempt to speak of the issues with the model.

12.2 A basic model

12.2.1 The flow of time

I expect the reader to find the formulation "flow of time" somewhat too grandiose. I originally intended to simply call it "the sequence of time", but that isn't much clearer.

Anyway, the idea remain that I have to introduce time at some point and that point is now. Human minds are time centric, based on notions such as "now" or "after", and so I think it is adapted to start my model of reality with its concept of time.

I consider time to be linear [1] , an ordered sequence of instants. The sequence is what I call the flow of time. I exist as a human mind evolving with this flow, at least during a portion of it. This means that the time evolution of the mind I am [2] is synchronized, during this interval, with the flow of time. The instants of the flow are not entirely described by the state of my mind. The flow of time follows the evolution through time of "something" (or a set of things) that evolves through time at each instant. That thing is what I call reality.

12.2.2 Probabilities

Working Note: This subsection to evolve with future considerations on applied Bayesianism.

I consider the existence of a probability function across an universe and a tribe such that the set of its events includes all events I could consider as true for the sequence. Hence when my senses tell me something I consider I have gained knowledge and continue my considerations regarding the sequence using conditional probabilities. This is the standard use of bayesian probabilities.

However, this same probability function gives values to events that are not really about the sequence. For example, I assign a probability to the event "1 + 1 = 2" (and it is not 1 either by the way). The events such "space exists" or "I am not hallucinating anything" have a lower value still than "1 + 1 = 2". The former are "highly probable", the later "almost certain".

[1] And as we will see in section 12.3, that is already a problem.

[2] see description of the mind, chapter 9

12.2.3 Desires and goals

There are things I want about the sequence. I prefer some state of the sequence over others, and I can believe that some actions (outputs) on my part will influence them. My desires are simply expressed as an utility function over all possible sequences of instants, about which information is often expressed in the form of expected value assuming events. The utility function evolves through time, and has one value per instant.

12.2.4 Starting the fill the model

Some of the basic statements I assign a high probability to are considered as "almost a part of the model". I will now list some of these statements, which helps build the few basic steps I assume to be true.

- Space can be approximated as a 3 dimensional $\mathbb{R}$ vector space, at each instant.
- There are objects, which occupy a part of space at any given time.
- The evolution of these objects are subject to laws, which can be approximated by certain laws that are intuitive to me to some degree. [3]
- Things happen in an overall continuous manner.
- The evolution of my mind is correspondent to the evolution of a set of objects.
- There are, or at least there can be, other minds in a similar situation as I.

12.3 What is wrong

There are a number of issues with this model. Of course, it is incomplete and very vague, but I am talking about more damning issues than that one.

First, there is a problem with time. The model considers time as linear, that isn't even subject to probabilities or an estimation but is simply given as a fact. However, not only am I not certain of that fact, I am all but certain of the contrary. Likewise, my own constant synchronization with time would pose a problem in the context of time travel, which I am perfectly capable of imagining, but shouldn't be if the model really described how I envision reality.

Second, the representation of desires and probability is too coherent. More so in the case of desires, this does not account for the fact the human relationship with their goals and desires is often incoherent and downright dishonest.

Also, the notion of causality is touched upon as a part of the rules, but only indirectly. It is my intuition that there should be something more "direct" on that subject in a better model. But that is more intuition than argument, for indeed I present none of the later. The above sentence pleased me and was true so I wrote it as is. Why not ?

[3] I will not detail theme here and now, but I do mean the normal laws of physics.

12.4 Newcomb's boxes

The thought experiment called "the paradox of Newcomb" is summarized as follows. [4]

There is an infallible predictor, a player, and two boxes designated A and B. The player is given a choice between taking only box B, or taking both boxes A and B. The player knows the following:

- Box A is clear, and always contains a visible 1,000 euros.
- Box B is opaque, and its content has already been set by the predictor:
  - If the predictor has predicted the player will take both boxes A and B, then box B contains nothing.
  - If the predictor has predicted that the player will take only box B, then box B contains 1,000,000 euros.
- The player does not know what the predictor predicted or what box B contains while making the choice.

At a glance, the issue arises in the conflict between two intuitive trains of thought.

The first says that the past is now set and the content of the boxes fixed. The decision should then simply be made according to our normal usage, and thus you should open both boxes.

The second says that those who only open box B gain more, hence you should choose to be one of them.

Of course, this experiment tells us that the way we handle interaction with the world somehow considers predictions as a form of causality. This is however not complete either because the "gain more" choice (take only B) seem counter-intuitive.

A stronger version arises when we assume that all boxes are transparent. You can see the million, it is right in front of you ! But those who are the kind of people who take only B even when they already see the million are the kind of people who gain more, not the others. Hence, it sounds like it should somewhat make sense to take only B even when you can see a million euros in it, simply because that is the decision taken by those who will win more.

Of course, the relevance of this section in the context of the current chapter comes from the annoyance at the fact that what I presented in section 12.2 fails to grasp how this works and should be interpreted.

12.5 What's next for models ?

I will study various models presented by people for various things and devise my owns. They will have to be studied and presented separately, and not as a part of a constructivist attempt to build a satisfying complete base model.

[4] Description stolen from wikipedia.

Chapter 13

Human thought is just humans thinking

This chapter has two very minor requirements which can be skipped without hesitation.

- The knowledge that chapter 9 is about the modelization of the human mind. You now have that knowledge.
- The notion of β abstraction from chapter 11. But it's just for a footnote.

Estimated need for active reading : ⋆⋆

I have for a long time operated under some insufficiently abstract [1] intuition regarding the functionment of the human mind. We all need to have at least some model of what minds are and how people think, at least to be able to communicate and think about our own thoughts. This intuition was mine, and I think it's incompleteness was a flaw in my thinking. I now believe I have identified the broad lines of this intuition, which has been -at least in abstraction- with the model of the mind from chapter 9.

I think my understanding of the human mind was based on a dichotomy between an first part one may call "reason", corresponding to an idealized view of a "rational mind", and a disruptive part which we might call "the subconscious" containing what is harder to understand from an user perspective. The idea was that we were mostly the reason part of the brain of which the normal state is to think perfectly (or at least very well) and that we were continuously being interrupted and influenced by the passions, which are important to our identity but not good for thinking.

This insufficiently understood [2] model was a source of confusion for me. Because it seemed to me that we were naturally rational [3] , I could understand being tem-

[1] β abstraction

[2] Or indeed even insufficiently abstracted.

[3] I am not using a specific sens of the word rational here, not beyond the general acception of "thinking well and coolly". I still have to study what rationality is, and I did not possess a satisfying

porarily disrupted by an emotion but I could not understand how a given human could be incapable of rationality even when calm. This had the potential to make me reject people that behaved irrationally even when calm. I could not understand how they existed, it was mind boggling. Of course, this stance also made it more difficult to discover lacks of rationality on my part when I was calm. It however did not prevent me from understanding my own weakness to emotional bias.

I would say that the tendency to reject people whose behavior conflicted with my intuition came from a more general flaw : emotional distress at seeing a model put in question by reality. Because the individual was a source of distress, it was seen as an offender against me, which can in turn generate hostility. Of course, obvious lacks of rationality have a tendency to be displeasant for other reasons. But the behavior seems clearly bad in general. When a part of reality contradicts our predictions we should correct our predictions, not hate the part of reality.

I believe I now know what to say to past me to solve that problem for him. A human is a system that has the ability to produce thoughts and ideas, which are integrals to its functionment. Until more has been said, no string of thoughts can be seen as a contradiction of the "nature of the human minds". In general, such systems should be able to think stupid thoughts without issues. Just like I can write "1+1=2. 1+1=3." in a text document on my computer without violating the "fundamental nature of computers". In pursuit of a better understanding of human minds, we say others things about them. These are estimations or sometimes predictions. When our model contradicts reality, we probably said something wrong. [4] If that is the case we should correct the model or accept that we are using imperfect models that do not work in all cases.

As a quick defense of past me, I would like to point out that his position wasn't all that shameful. The "reason"/"passions" dichotomy is quite common and the issue within his thoughts was mostly allowed by a lack of complete abstract study of his ideas, which takes time. Also, he was aware of flaws and of a need to inquire more deeply, which he resolved he would one day take time to do. That day finally came, and it is in the context of that process that I am currently working. Also, I like to think that I distanced myself from my base model/intuition as it showed itself to be faulty. Admittedly, the part about "irrational people" behaving in a manner "opposed to human nature" should have been easy to identify as problematic and should have been eliminated much sooner.

definition at the time.

[4]The world "probably" was tossed in as a token acceptation of potential issues regarding the nature of the modelization paradigm. The errors might be more fundamental than anything that was said and written down.

Chapter 14

Rigor and cogitation

This chapter requires to have a general understanding of the notions introduced in chapter 9 and a basic understanding of the notions of kirkin, kirkinplex, and degree of meaning (as introduced in chapter 2).

Estimated need for active reading : ⋆⋆⋆

14.1 Foreword

The previous chapter left me in a somewhat comfortable position to talk about the way humans cogitate. In this chapter, I will specifically study the notion of rigor. More than the general notion, I am interested by a specific idea of rigor : it is the one used by the mathematician that claims an argument or a proof "lacks rigor". I however apply that kind of rigor to forms of cogitation that clearly falls outside of the scope of mathematics, such as for example political ones. Thus, the notion of rigor I explore will need to be able to be more relaxed when the situation requires it. I will call it "Wogian Cogitative Rigor".

This notion comes from a personal introspection on the topic of rigor. Rigor has been, in the last few years, an import notion for me when I thought about how one is supposed to "think right". I simply called it rigor while being aware of the fact that more than one idea bears that name in the society I live in. It was to me obvious to some extend that this "rigor" was important and often, but perhaps not always, is required to produce a valid thought process. Indeed, a lack of "rigor" has been for me a valid reason to dismiss some argumentation and mental constructions. At its heart, this chapter is an attempt on my part both at clarifying this notion and at analyzing the reason to use it.

All of my explanations consider the context of cogitation, which I only defined for a single mind. However that notion can be intuitively extended to other situations. Indeed, many situations -such as a group of people thinking cooperatively- can be seen as having a corresponding idea bishing equivalent to that of a single mind's

cogitation. This paves the way to an approximation that considers these situations equivalent to a single mind cogitating. I will not make additional efforts regarding group thinking and other situations similar to cogitation in this chapter, but you can bear in mind that the notion of rigor can be applied to more situations than presented here. Some of them will be explored in later chapters but I will also say a few words here in section 14.5.

As I will state in this chapter, wogian rigor requires an idea of "dosage of a quality". This will require to be explained at the same time as the reasons to use wogian rigor. A good analogy would be that of the use of a water pitcher. Suppose you have to explain at the same time what a water pitcher is, how to use it, and the point of its use. You might describe separately the instruction for use "pour water in the glass until it is full" and the point "to fill the glass", but that feels somewhat absurd. For the pitcher, the explanations are short enough that this is acceptable, but an issue is apparent.

I find myself in a similar bind in section 14.4 and will therefore fuse the explanations regarding goals and dosage.

14.2 Weak Cogitative Rigor

My general considerations on the notion of rigor will be elaborated upon in chapter 15. For now, I will simply say that these consideration lead me to the following definition of "Weak Cogitation Rigor". "Weak Cogitation Rigor" is the property of tunal cogitation that limitates its corresponding bishing to a certain set of rules. To the question "how tunal" I will answer "enough to ensure every other requirement through control".

Stronger kinds of rigor can be introduced by specifying the set of rules used. All in all, secondary kinds of rigor should all imply weak rigor.

14.3 Wogian Cogitative Rigor

What I call Wogian Rigor is centered around two central elements : a list of rules and the idea of sufficient meaning.

Let's start with the list of rules. Wogian Cogitative Rigor is a form of weak rigor and hence limitates its corresponding bishing to a specific set of rules. Even thought they are a part of the definition, the rules listed correspond to my belief that they help to give certain guarantees regarding the validity of the cogitative process. Hence, they are subject to change under examination of new rules and old ones alike. In a way, one could say that such a process can change what wogian rigor is, causing it to evolve.

Also, wogian rigor is the kind of concept that one can be said to be using to different degrees. Limiting the bishing to a subset of the rules (and a list of rules you shall have) can sometimes be said to be "more rigorous". I will not attempt to explain or list now which subsets are the more rigorous ones and how one can quantify how rigorous a cogitation is. The goal is to lay down a reasonably clear view of the nature and purpose of wogian rigor, not to give the kind of precision

required to rebuild it in details exactly as I would use it. The following list of rules is, most certainly, incomplete.

1. The rules of logic
2. Rules derived from probability theory
3. Case disjunction
4. General mathematically valid reasoning
5. Reified use of honed instincts
6. Pre-approved heuristics and estimations
7. Sub-reflection
8. General pre-approved principles (example : induction principle)
9. Acceptable rational processes not based on the "construction of truth"

The second part of wogian rigor, perhaps the one that can best encompass the core idea of this form of rigor, is the requirement for ideas to have enough meaning. This one is much simpler to explain, thanks to the previous work on the notion of kirkin. It is a requirement that all ideas used either as "entries" or "products" in the cogitation's corresponding bishing have a corresponding kirkin with a high enough degree of meaning. Especially, we might consider it a requirement on the lower bound of the degree of meaning of all such kirkins; even though we can look more closely at the general distribution of meaning across all idea's corresponding kirkins. Insofar as we use ideas that are expressed through models, the requirement of meaning is especially strong on the kirkinplexes that correspond to those models. One strong point of importance of that meaning is the completeness of the models corresponding to the kirkinplexes.

This felt really good to write compared to what I said on the limitations on rules. I love having readied vocabulary.

As we have seen, there are two ways in which a cogitative process that attempts wogian rigor can be more or less "rigorous" : the subset of rules used and the degrees of meaning of ideas. The required dosage process is explored along with the point of wogian rigor in section 14.4.

A quick remark. Rule 9 corresponds to the reconstruction under the guise of rules of processes that do not follow the structure of a mathematical proof. A good example might be that of "the examination of all arguments on a specific topic". This can be reconstructed by having rules which produce "token" that express the idea that a point was examined and a conclusion rule that "collects" the tokens and a list of all required tokens to provide the conclusion that all listed points have been examined.

14.4 Dosage and reason to exist

As a way to make this chapter easier to read, I will now attempt to give a clear and brief summary of the core ideas it rests upon.

The point of the rule restrictions is that they are supposed to give us some certainties regarding the validity of our cogitation. The point of the meaning is twofold : it is seen as virtuous in itself and required for the rules to give us their aforementioned guarantees. The variation in the required degree of application of these two pillars of wogian rigor comes both from the nature of the topics, which can require the rules used to be more or less drastic, and from the desired degree of certainty and control over the results. Maximal certainty is not always possible in the context in which we cogitate due to the nature of the questions humans tend to be interested in.

Regarding the rules used, most of what needs to be said was already said in the paragraph above. The choice of the rules comes from a statement (a belief) regarding the structural nature of the truth function $\tilde{T}$. Given a specific desire for knowledge or simply a topic, the choice of the subset of rules at hand is determined by the guarantees desired concerning the validity of the cogitation and by the ideas we intend to handle. A common such desire and indeed guarantee we hope that rules give us is the following "if the premises are true and the rules have been correctly applied, then the conclusions are also true".

Often, the rules will require that the ideas used have minimal degrees of meaning to "work". Notably, rules that touch to the link ideas have with the models they are expressed in might required that these models be meaningful enough.

It is sometimes the case that the rules intuitively present their own limitations, such that they can simply not be misused. However, some other times, the meaning needed for a rule to give us its desired guarantees are not obvious. When that is the case, it is especially important that we be careful to think with ideas meaningful enough for the purpose of our cogitation. In other words : the more we use intuition based rules, the more we are likely to make mistakes through a lack of meaning.

It is not rare that the rules we use do not allow to gain meaning in the conclusion compared to the entries. Hence, considering the degree of meaning of the final question, it can happen that the need for meaning recursively "chains" through the cogitation steps.

I would also say that using ideas that are meaningful enough and especially models that are complete enough has an other virtue. Part of it comes from the idea that making it a habit to use meaningful ideas can naturally help with future cogitation, granting rigor by reflex. However, I would also say that I have come to see it as having moral value in itself.

We cannot always maximize meaning or use only rules that give us the best of guarantees for the simple reason that, at the time of writing, we cannot turn all the questions we care about to realms of perfect meaning. Hence, we can find ourselves confronted with the converse of the chain effect mentioned above. Because the final question is limited in meaning, it can be hard to have rules that allow to reach a satisfying answer while limitating themselves to high degrees of meaning. This can

sometimes offer an upper bound to the degree of meaning used.

Lastly, please note that this section uses the phrasing "the reasons" and then gives lists of reasons. This does not necessarily mean that I claim these are the only reasons to use wogian rigor. It is more that these are the general reasons that I see as the most universal, and also the ones required I however do believe that there can be other reasons to use rigor. Notably, there are situations in which the processes corresponding to the rules we use through wogian rigor are efficient ways to handle problems. Beyond the simple gain of guarantees, rigor can also produce better results on average [1] .

14.5 Extension beyond single mind cogitation

As I have noted above, the concept of wogian rigor can be extended beyond cogitations that use a single mind. Beyond the requirement for tunality, wogian rigor is defined with regard to the idea bishing corresponding to the cogitation. Hence, we can easily extend it to various processes to which we can assign a form of idea bishing. I would like to point out that the notion of "corresponding idea bishing" was not perfectly defined. This will remain so in the following extensions, even thought the general idea of this correspondence relation will hopefully be obvious.

A first very easily understood extension is the transmission of an argument or, in all generality, of a string of thoughts. This can be a written account, a speech, or any other form of communication chosen. However, many forms of communication do not transmit ideas that are meaningful enough for rigor. A given expressive dance may well pass a great deal of ideas, but I do not know of one that is remotely close to the kind of "meaningful ideas" needed in rigor.

The second extension I think of is the collaboration of multiple minds. Here, the notion of rationality must be extended as an understanding by the member of the structure of the joint effort. However, the main idea remains. As long as an appropriate idea bishing is created consciously [2] , we can use the previous definition of rigor.

When we say that a cogitation "lacks rigor" in the implicit context of wogian rigor, we mean that it is not rigorous enough for its goal. Of course, the goal in question is more often than not implicit. Indeed, the goal is not necessarily fixed at the time the string of ideas was created. We might read an old book and say that it is not rigorous enough to be of use to us because we ourselves require strong guarantees. That is perfectly acceptable, even if the original author only aimed to produce vague intuition [3] .

[1] One may think of the case of complex subjects for which a long cogitation is required. If the model is that of a string of steps that each have the same odd of being correct, then the probability that the whole chain is correct decreases exponentially. Hence, guarantees of correctness can become important in term of average result.

[2] The question of whether one can be rigorous by accident is left to some other time.

[3] Of course, we might think we then have a bad footing to call the book "bad".

Chapter 15

General study of the concept of rigor

This chapter benefits from having read chapter 14, even thought that is not a requirement.

Estimated need for active reading : ⋆⋆

15.1 Rigor

As I have said before in chapter 14, I consider the central idea behind the notion of rigor to be "the act of structuring a process in accordance to rules". Often, we speak of rigor in the context of processes for which the rules are a given implicit. When such is the case, the notion of rigor corresponds to one's following of those rules.

Sometimes, we speak of rigor as of a binary quality. Either the process is rigorous, or it is not. But in my experience, that vocabulary hides a gradual notion of rigor, allowing for processes and individual to be more or less rigorous. Was is "not rigorous" is then often actually "not rigorous enough". There can however be exceptions, such as when we consider the notion of "perfect rigor", forms of rigor that accept only a very strict set of rules.

When I speak of rules, I do not simply mean the rules of an idea bishing process. Instead, the "rules" as speak of here are rules in a broad sense -sometimes even simply principles- that dictate how the process on which the rigor is applied is to go. To reformulate, I suppose I could say that the rules of rigor are instruction regarding how a certain thing is to be done.

Rigor has been an important notion for me for the past few years at the very least. In that time, there is a fact I noticed early on : different people in different contexts use the word rigor with very different ideas of what we are supposed to do to be rigorous. I have heard the very same processes be called rigorous and non-rigorous in front of me; by people in do not consider the be idiots [1] . I have decided to produce

[1] I am reminded, in particular, of the case of my second year math teacher and my roommate of

a list of some of the forms of rigor I have encountered, giving each a name and a short description. This list will occupy most of the rest of this chapter (section 15.2).

I would like to point out that often people will call behavior that do not fall within their idea of how things are supposed to be done "non rigorous". Well, often in some circles I suppose.

Sometimes this should be considered as a form of rigor (they way they think things should be done constitutes a set of rules), and sometimes that is just something people say because they dislike what they see. The distinction isn't perfectly clear between these two cases, but I would still like to offer a bit more on the topic. A relevant criteria seems to me to be that of understanding and motivation. If these people have an idea of what is happening at the time and have a companion idea of why we should be more rigorous, then I tend to be more enclined to speak of a "form of rigor" and less of a "bunch of angry words".

It occurs to me that the paragraph above assumes that rigor is seen as a good thing. I will say it now, rigor is the kind of words used by those who consider it a good thing, at least to some extend and degree.

15.2 Enumeration of various forms of rigor

15.2.1 Calculatory Rigor

This form of rigor is that of the human computer. Showing signs of caluclatory rigor means making calculation [2] while making sure not to make mistakes and that every step can be trivially deduced from the rules allowed by the calculation.

15.2.2 Demonstrative Rigor

This is the main form of rigor of the mathematician. It is the rigor you are supposed to deploy when making demonstrations, ensuring that every step of the deduction process is allowed in the deductive context you use. Contrary to calculatory rigor, this form of rigor consider processes that handle ideas and not symbols. The rules used do not have to be as clear and precise as the ones of calculus.

15.2.3 Constructivist Rigor

This is the rigor we exhibit when we build ideas from other ideas, ensuring to use proper definition processes at each step and trying to understand what our "base ideas" are.

15.2.4 Assiduous Rigor

I use this term for the general idea of "taking great care to do things precisely as instructed and with care". You exhibit this kind of rigor when obeying a protocol in the detail with little to no initiative. But also when you force yourself to stay focused on a task with precise hand movements, such as small scale painting.

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the same year.

[2] I talk here of symbolical calculation, in which one goes from symbolical objects to symbolical objects according to perfectly clear rules.

15.2.5 Life organizational Rigor

This is simply the rigor of someone who handles certain aspects of his life with care and in a very structured way. For example, making sure to eat every day at the same time with a lot of precision.

15.2.6 Rationalist Rigor

This is the rigor of the one who exhibits rationality. **Working Note:** More on that later.

15.2.7 Wogian Rigor

I have written a chapter on this topic, see chapter 14.

15.2.8 Tunal Rigor

I must confess that this kind of rigor comes as an afterthought. It is the rigor you deploy when you use tunal subprocesses to think. You might say that this kind of rigor corresponds to those who keep control of their own mind, insofar as they keep it dependent on their awareness.

15.2.9 Meaning rigor

This is the rigor we exhibit when we make sure that our ideas are sufficiently meaningful. The more meaningful our ideas are, the more we exhibit this kind of rigor. If they are meaningful enough then we can declare ourselves "rigorous" with respect to this kind of rigor.

This kind of rigor is a large part of wogian rigor.

15.2.10 Definition rigor

This is the rigor we exhibit when we make sure our ideas are sufficiently well defined. This is not constructivist rigor because not all definitions are constructivist. This is not meaning rigor because one can have meaningful ideas without using definitions.

Chapter 16

The boat of Theseus

This chapter admits the following requirements.

- General understanding of chapter 2.
- General understanding of the notion of model briefly discussed in chapter 9

Estimated need for active reading : ⋆⋆

In this short chapter, I will try to tackle the problem often presented through the story of the boat of Theseus. If you don't know who Theseus was, simply keep in mind that he lived a long time ago and that his name is somewhat famous.

In his days Theseus had a ship made of wood, which was later brought on land in a museum. As the years went by some of the wooden parts began to rot and were replaced by new ones; then, after a century or so, every part had been replaced. The question then is if the "restored" ship is still the same object as the original.
If it is, then suppose the removed pieces were stored in a warehouse, and after the century, technology was developed that cured their rot and enabled them to be reassembled into a ship? Is this "reconstructed" ship the original ship? If it is, then what about the restored ship in the harbor still being the original ship as well? [1]

This story obviously questions the notion of identity, extended beyond individuals and to objects. I am however interested by a question slightly greater than the one that immediately comes to mind. I am more interested by the study of the identity of an instance of a general idea than the identity of a singular artifact. By that, I mean that I care about the fact that Theseus's boat is a boat, and I wonder what it means to be "a boat" with respect to the general notion of boat. In other words : what does it mean to be an instance of the notion of boat ?

The story of the boat of Theseus asks the question of the identify of a specific construct, but it asks it in the specific context of the evolution of the object through time and a variety of states. I agree that this is the main context in which the question becomes problematic and in which we must look for answers more complex than the ones we naturally form. What is an integer ? Any element of $\mathbb{N}$. If you

[1] This entire paragraph was taken from wikipedia with slight modifications

allow me the context of the ZFC set theory the question poses no problem. But what is a boat ? Contrary to popular intuition, I cannot simply define the boat as a specific arrangement of matter, for the arrangement can change without challenging the idea that it is the same boat. Indeed, our understanding of the identity of the boat should give a clear distinction between the "boat" and the "state of the boat".

I will attempt to give a clearer view of the situation at hand when we consider an instance of a general idea, using the pre-established context of kirkins and kirkinplexes. First, let's do this without time. The "general idea", as I called it above, corresponds to a kirkinplex. It is not exactly the kirkin "boat", but is it very similar and linked with that kirkin. Because I have allowed the language abuse that confuses the terms of kirkin theory and those from the wogian model of the mind, we could also say that the "general idea" is a "model". I will stick with the vocabulary of kirkin theory but I feel it is important to keep that duality in mind.

The "boat" kirkinplex requires the context of a larger kirkinplex, used as a model of a part of the basis, to make sens. For example, we need pre-attributed meanings to the notions of "wood", "position", and "nails". The particular instance that is the "boat of Theseus" is a kirkin, which is evaluated in the context of the "boat" kirkinplex. This evaluation requires a binding, which captures the idea that the "boat of Theseus" is an instance of the "boat" kirkinplex. Of course, the way the kirkin "boat of Theseus" is bound to the kirkinplex "boat" should be compatible with both of these kirkins.

Now if we wish to include time into our description, we do not need to renounce anything that was just said, be we do require a few additional precision. Our larger kirkinplex should now include a description of time as well. To keep everything simple, let's say we use discrete linear time. The "boat" kirkinplex should take into account the notion of time, it gives a description of what a boat is as something that evolves through time. Likewise, the instance "boat of Theseus" has to be "designed" (in a very loose sense) for this "boat" kirkinplex that includes time. Once again, the binding captures the instanciation. We might say that the answer to the question prompted by the story of the boat of Theseus is contained with the final bound kirkin. Because of the nature of time based kirkinplexes, we can state a specific part of the world, at a particular point in time, as a "state" of the "boat of Theseus". This is a statement linked with the basis $\dot{B}$.

To recap, the process we describe when using time has four parts.

1. The model of boat
2. The instance of the model
3. The state of the instance
4. The basis and the larger model (seen as a whole)

You might think that I have avoided the question prompted by the story and, in a way, you are right. But the point of this chapter was more to get a good representation of the use of models, instances, and states within the framework I am producing. Also, I will remind that as I introduced them, evaluated kirkins can

have various degrees of meaning. This lack of meaning can express that the details of the connection between and instance of a model and reality are vague and only stays acceptably meaningful as long as situations do not become too weird. When they do, better more complete kirkins and kirkinplexes must be employed to regain meaning [2] .

[2]In the context of ideas and the model of the human mind, this also means that sometimes situations "break" a model and that in such situations a better model must be put in place. This can sometimes only require to get back to a larger model that uses less approximations, but can also mean that a new "choice" of model must be made.

Chapter 17

Communicating with alien thinkers

This chapter admits the following requirements:

- Chapter 9
- Chapter 14
- Chapter 15

However they are all weak requirements and the chapter can roughly be read without them.

Estimated need for active reading : ⋆⋆⋆

17.1 Foreword

In this chapter, I explore some issue that can arise when trying to value and incorporate the ideas of others into my owns. These are, in a way, theoretical objections to me incorporating their thoughts as a part of a "cooperative thinking effort".

The main goal of this chapter is to identify these issues and seek solutions. I consider two main categories for these issues. Those that pretend to rob the other's ideas of their value, and those that hinder communication and the exchange of ideas.

I have in the past found it difficult to decide how to consider the ideas of others around these issues. In that regard, this chapter can be seen as an attempt to improve in that regard. Notably, I am trying to find ways to be less dismissive about the thought of others when the issues arise (dismissing ideas is simple universal solution).

This chapter will first list possible differences between different mind's thinking process. Then, I will attempt to show the issues and how they can create the

problems they do. Once that is done, I will explain how the two categories of problems can be solved (value and communication). The conclusion section is a little off topic and talks quickly about good way to think.

17.2 The ways human thoughts can vary

It is clear that the way a human think can differ from the way of another in more than a single way. As future sections of this chapter will discuss how human thoughts can have value beyond the difference between them, future me and future you will be glad if I now spend some time on the description of what these differences can be. Because you and I might be one and the same, I am extra motivated by the opportunity to make myself double glad; great motivation.

17.2.1 Concept introduction : thought patterns

First, I need to introduce yet *another* handy concept. If you read the previous chapters in order, then you probably noticed I did that a lot. I am sorry, but this one should be intuitive, and quick to describe, and it is named in normal English.

Definition 21 (Thought pattern)**.** *A thought pattern is a specific pattern of thought that can be adopted by a human and adapted to various situations. Its a structural property of thought. They might also simply be called "a way to think".*

In the model of the human mind from chapter 9, a thought pattern tends to correspond to one or more subprocesses. However, a thought pattern can for example also correspond to how such a bundle of subprocesses operates in a specific context (stressful situations for example). [1]

A thought pattern that was theorized and described and that one uses consciously is called a thought protocol.

17.2.2 The differences

And now, time to make a non-exhaustive-but-hopefully-somewhat-good list of ways for two human's string of thoughts on a given subject to be different. I am only concerned here by difference that seem fit to create a wedge between the humans that prevents the exchange of thoughts. Actually, I am mostly interested by differences that seem fit to dampen or cancel my potential interest in the thoughts of another.

Notably, this means that I am not interest of differences that amount to "we had different sudden ideas". Anyway, here is a list :

1. We can have (or use) different thought patterns.
2. We can have different beliefs.

[1] It can be tempting to consider the idea of thought pattern as being restricted to patterns of thoughts that are at least somewhat ordered and rigorous, as with a clear cut protocol. Such is not the idea. A thought pattern is just a pattern. It can be insane or stupid.

3. We can place our thoughts on the subject in different overarching models.

4. There can be differences in other "mind setup" variables.

Case 1 should be clear if you understood definition 21. Case 2 should be intuitive in general. Case 3 refers to my notion of models and their use by human minds. they are discussed in chapter 9. Alternatively, if you have read chapter 2, you can simply think "a model is to an idea what a kirkinplex is to a kirkin, except models aren't always ideas themselves". **Working Note:** When the chapter on semantic is complete, refer to it instead. As for case 4, it also uses the model from chapter 9 mind but can be explained without it. The idea is that minds can have various parameters, set to some "values" (which are by default not numbers). A good example would be "base emotional position on topic X".

17.3 The expected issues

There are different ways in which I would expect differences between the ways people think to be problematic. Some of them are symmetrical and rely only on the existence of a difference of a certain kind. These should be possible between very large numbers of pairing of people.

Others are more personal. They are about differences between me and many others in my society. They however are not "perfectly" personal. I believe considerations about them can be useful to many people.

17.3.1 Their lack of meaning

I have an intuition that it should be very problematic when exchanging ideas if the other's thoughts fail from a semantical standpoint. In other words, in this intuition, a failure to create sufficient meaning should mean we cannot incorporate the thoughts of the other in our owns.

This mostly comes from a requirement for sufficient wogian rigor imposed on my own thoughts. However this can also pertain to another effect that is the topic of section 17.4.

17.3.2 Incompatibilities

It seems intuitive that the various ways for thoughts to be different listed in section 17.2 can be ground for incompatibilities. Sometimes, a large difference might simply require a lot of time to be bridged, because a lot must be said. The possibility also remains that there be issues that cannot be resolved with "just" enough time, because of other problems and incompatibilities.

Anyway, the idea here is that there can be ideas that cannot be incorporated because they are "too alien".

17.3.3 Their lack of intent

This problem might feel a little off topic. Sometimes, I am confronted that people are invested on a topic, care about the result and decide to make their stance on the topic important to who they are or what they do, and yet are willing to spend very little effort on getting the answer right, compared to me. That effort could notably take the form of time spent on the topic or willingness to go through boring or annoying phase of thought.

When I myself have made such efforts and believe I have found knowledge on the topic that they have not because of their lack of effort, it creates a tendency to dismiss further contributions they can make on the topic.

17.3.4 Their bad protocols

Maybe this should simply count as a form of incompatibility, but I desired to make it stand out. There can be an issue with the thoughts of others being structured with thought patterns I disapprove. In such a case there is yet again a tendency to dismiss the thoughts, for the sequence they form cannot be incorporated as it stands.

17.4 An observed problem with understanding

In this section, I attempt to understand why differences in the way thoughts are formed can cause an inability to understand the thoughts of others. Once again, I am not interested by other ways to lack understanding. I am especially not interested by notions such as "lack of knowledge" or "slower mind". Hence, I assume that these issues are not present in the situations to which these considerations apply.

17.4.1 Context : my personal experience with physics in CPGE

A CPGE, which is a french acronym for "Classe Preparatoire aux Grandes Ecoles", is a formation in two year which prepares for contests used in France to dispatch students into the "great schools" system. I myself spend three years in one of those, retaking the second year, in order to get my contest for the computer science school I am now in. My formation was specialized in math, but also contained a hefty amount of physics (and very little computer science).

I noticed a strange effect : the more I understood math and became rigorous, the less I was able to understand my physics lesson. These lessons, and actually the approach to physics presented, were much less rigorous than my math lessons (in the sense of wogian rigor). And as I myself understood rigor more and more, I started to feel a growing feeling of disconnection with what my physics professor said [2] . I could see the mistakes, untold approximations and sometimes outright lies and misused concepts. And even though these were mostly benign when you looked

[2] I would sometimes be accused of lacking rigor myself. However, that was mostly calculatory rigor and demonstrative rigor, not wogian rigor.

at them, I simply could not look past them. To a lesser extent, that would have felt like trying to look past the fact that a book is written in old Sumerian [3].

You might think I am deluding myself and that my lack of understanding was caused by something else. That is a possibility, and I do not entirely exclude the idea that I actually suffered from a lack of motivation caused by a form of repressed disdain in the face of the mistakes I could spot. But that is not really an issue. If you agree that the situation I described can exist then we have a topic to discuss, regardless of whether or not I was such a case. For the rest of the chapter, I will assume that was so.

The following subsections will consider how different thought constructions can cause a lack of understanding. The case of my physics lessons is used, but the section is not strictly restricted to it.

17.4.2 Different thought patterns

A first idea is that different thought patterns are not compatible with each others. Because sometimes the communication of ideas requires to create a cogitation in the mind of the other that is similar to the one occurring in our own mind, different protocols could cause communication issues. When you do not have the right protocols you might be incapable of following the other's line of thoughts in the same way he does.

Of course, this does not mean that you cannot reify the other's line of thought, understanding how he thinks. But that is a more difficult and costly procedure than simply thinking the thoughts in the order a similar mind presents them.

When I became more rigorous I did not create entirely new protocols, the ancient one progressively evolved. Specifically, they evolved to require more wogian rigor. It might simply be then that I could no longer run the cogitations as they were presented by my teacher because I not longer had protocols to handle that kind of ideas without my new level of wogian rigor.

At the time of writing, this is still my main theory. I think it is an important idea.

17.4.3 Thought patterns no longer working

A variation on the previous idea is that sometimes some thought patterns cease to work in certain contexts, especially depending on beliefs we have. This serves to explain how acquiring knowledge, without fundamentally changing the structure of our minds, can bare us from understanding certain things.

For example, the realization that a concept is absurd can suddenly make us unable to get the same feeling of understanding of the idea we previously had. I would say that happened to me with the popular notion of duty.

[3] In case anyone is wondering, I do not speak Sumerian. If you do then congrats, that's kinda cool.

In that case, I would attempt an explanation by saying that we use protocols that are not meant to explicitly handle absurdities and "fail" [4] when they detect one.

17.4.4 Overarching models

Thirdly, a difference in the models providing context for the thoughts can cause an inability to understand the idea proposed by the other. It is simply that the explanations need to start at a lower level, to rebuild more.

17.4.5 Fake understanding

I take this chance to talk about the notion of "fake understanding". The idea is simple : sometimes, we have ideas that are much more meaningless than we believe. When that is the case, we can get the feeling that normally comes with understanding in an illegitimate fashion.

After all, if that were not possible then the feeling of understanding would be a very good test for quality of meaning.

I am not pretending that was what happened to my physics teacher; or perhaps only to some lesser extent, as I would say it happens quite often to everyone. However, now seemed like a good time to drop this idea.

17.5 Finding value

During my reflection on this chapter, I have found reasons to seek and hope for value in the thoughts of others beyond the issue I have discussed above. Overall, what follows is a list of reasons the thoughts of people can have somewhat direct value even when they are formed in ways I have decided to ban from my own thoughts.

The moral of this section could be approximated as follows. "The minds of others that operate under the conditions I find unacceptable for myself or without the beliefs I use as foundations can provide intellectual value. Such value goes beyond the possibility to mine others for information and inspiration. It can be value of the kind given to thoughts I produce myself.""

17.5.1 Structural similarities

When I say "others", I am by default talking about other members of my own species. Often, they are members of the same society and have a similar culture, perhaps even a similar social background. It is thus reasonable to say that we are "designed" [5] in a similar fashion. We have adapted for tasks and immediate goals that are at least somewhat similar. This places a shared constraint on how our minds work.

[4] Here, you can see that my computer science training permeated my vocabulary.

[5] In a teleonomic sense, no need for an actual sentient designer

I would say this is likely to produce some structural meta-similarities between our ways of thought. When not, I would in turn say that it is likely that we have different ways to have some common qualities which are more general than the direct abilities we exhibit and are in turn high level structural meta-similarities. Hence even if the mental framework of the other is very different from mind, it is likely to have a measure of value for the considerations that are important to my own framework.

Of course, this effect is reduced when what interests me is far removed from what the other's framework normally handles. Also, this effect is increasingly reduced as my thoughts distance themselves from the common standard normally shared with the other.

17.5.2 Thoughts protocols are chosen for qualities

Thought patterns can be more or less adapted to situations. They have qualities and drawbacks, which can be weighted when choosing between them. A classic example might be "quick thinking or safe thinking?"

The fact that I have decided to use some patterns and not some others, even if we are to assume that I chose well, does not imply that those of others are worthless for what I intend to accomplish. There can be other valid thought patterns to use.

The way I myself think imperfectly is of the same kind as the way others think imperfectly. It is not a matter of making mistake versus having meaningless thoughts. Or at least, not always. Of course, there is still a possibility for a jump between quantitative differences (incremental improvements on thoughts) and qualitative differences (better thought patterns with new exciting qualities).

17.5.3 Beyond meaninglessness

Different thought patterns can have different meaning requirements. Hence, what I see in the other as a problematic lack of meaning might be sufficient for his own thought patterns. This does not automatically imply that the thought patterns used by the others are inferior.

17.5.4 A word of caution

This chapter gives reason to hope for value in the thoughts of others beyond some causes for pessimism I have listed and that caused me to reject [6] the thoughts of some in the past. This does not mean that these are never good reasons to dismiss the thoughts of others. Mostly, there is a question of context and details.

17.6 Making communication work

In situations in which the potential for value (potentially of a a measure and likeness similar to my own or beyond) has been established it can be interesting to find solutions to some issues. These are the issue listed in section 17.3.

[6] disdain

17.6.1 Diversifying my thought patterns

If the thought patterns of others are interesting and have qualities that mine do not have, then it can be of interest to incorporate them in my owns. This can specifically be done through the creation of though protocols.

Of course, many thought patterns open a large breach to mistakes and bad intellectual practices. This implies that the incorporation of the other's thought pattern will often require a degree of containment. Defenses must be lowered to think in a different (and potentially risky) fashion before the main line of thoughts is resumed, hopefully uncorrupted but with additional knowledge and hindsight.

A good metaphor would be the process known as a virtual machine [7] in computer science.

17.6.2 Abandoning perfect collaboration

I can let go of the basic implicit idea that I am talking with the other to produce a collaborative thought construction. Indeed, that assumption makes me judge the thoughts presented as if they were to be my owns. When that idea is abandoned it becomes easier to simply exchange ideas rather than thought processes. That way, small ideas can be given and received independently of the issues that arise at a larger scale.

This also allows to collaboratively build a thought construction that is interesting even if it would be unacceptable for my own private thoughts.

17.6.3 Reification of parts of the other's mind

When possible I can always build an abstraction for myself that considers the other's mind as an object. This is a costly procedure but it allows understanding of the interaction without any sacrifice in term of my own intellectual integrity. Still, an abstraction that contains the other's mind require a modelization. Intensifying the need for modelization of my interlocutor increases the risk for a different kind of failure and mistake.

17.7 A first few words on good thought patterns

A great deal of what is said in this chapter might give the impression that I am exclusively talking of situations in which I am the one with the "best" thought patterns. That is false with a hint of truth.

What I said above applies to situations in which the other is by no mean "obviously inferior" and can indeed apply for cases where I am the one that is "obviously inferior". However, it is truth that my intuition and need to consider the topic largely stem from experiences (frequent over a large period of time) in situations in which I consider I was the one with "largely better" thought patterns.

[7] I am not calling the process "virtualization", because that word is used for too many things.

In this last section, I will say a few words about which kind of thought patterns I consider to be better. Hopefully, I will later write much more on that topic.

As a rule of thumb, I tend to consider that thought patterns are better when they use meaningful ideas, when they use complete models rather than incomplete ones, when they produce coherent ideas, and when they are tunal.

I will attempt to give a few justifications about tunality. Overall, I would say that because tunality gives us control, it gives us the possibility to optimize our own thoughts. In that regard, tunal thought patterns are not intrinsically better, it's just that they have a lot of potential. I would however also say that when we are using tunal approaches we tend to naturally avoid a large number of bad behaviors.

Chapter 18

Map and Territory

This chapter has no real requirement. It is however closely linked with chapter **??**
Estimated need for active reading: ⋆⋆

The "map and territory" metaphor comes from the book "Map and Territory" by Eliezer Yudkowsky [**?**]. Despite being its title, it is not the central idea of the book and I am sure the author is far from the first to mention it. Still, that's where I got it.

But what is the idea ? "Map" is a metaphor for represention, the map and territory distinction is the distinction between a model and what it modelizes. "The map is not the territory". [1]

And here is the important idea here : when humans think, they mostly think in the context of "maps" and refer to elements within those maps. Let's take an example from the context in which the metaphore takes its source, let's look at an actual map and an actual territory.

Imagine we are both in a city you don't know and I tell you (over the phone) "let's meet in Placeholder square". "Placeholder square" isn't an objective property of reality, not even a local one situated at the appropriate location. "Placeholder square" is meaningful in the context of the map of the city [2] and it is because you know of a link between the map and real life that you know what to do in real life (go to the appropriate location).

And sometimes, we use maps of maps. Again, let's stay litteral, just a little longer. I no longer tell you to go to tibidu square. Now I tell you "go to the yellow district and then we will meet". So you look at your map and you find that on the back you have a second map that indeed splits the town in color coded districts. But this second map doesn't show streets, online the outline of districts. So you first look at the second map to get a rough idea of where yellow district is, then you look at your first map to know which street to use, and then you move in the

[1] Stolen from the aforementioned book.

[2] Of course if you ask the locals they are likely to know of it, but let's just look at the map for now.

appropriate direction (which might not be straight ahead toward yellow district). In that example, we might say that the second map is a map of the first.

I think now is an appropriate time to look at a couple other examples, using less litteral "maps". A theory of physics is a map of "the nature of reality" [3] and an organigram is a map of a set of people. That second example is especially interesting because is shows us that maps are not always perfectly descriptive, they can have normative aspects too.

The organigram isn't just a way to represent the people. It is also a way to explain how they *should* interact. We can also have maps that are not "a map of something". For example, I might devise an abstract game in my mind. Let's take chess. It is perfectly possible to play chess only within your mind without using physical representations. When doing so "the king in E1" refers to a part of the map that is the instance of the game of chess in our mind. It is not a modelization of reality.

A specificaly interesting example is the case of fiction. When I say "doctor Mcninja punched a dinosaur" [4] one might be tempted to say "no, there is a a fiction story that depicts a nonreal universe in which a person called Dr Mcninja punched a dinosaur". But then you are tempted to answer "that's obviously what he meant". [5] It is said that confusing map and territory is a fallacy. It is called the reification fallacy [6] and the wikipedia page directly mentions the "map and territory" thing. I would say the answer is that we think in the context of maps all the time and that the reification fallacy occurs when we confuse the maps. So there is nothing wrong with me saying "doctor Mcninja punched a dinosaur", but there is a problem if I think and act as if I had said that in the context of a map of reality.

So we have maps of maps, which can create towers of maps. We can build additional towers and we can split them (looks like a fork) and join them (reverse fork). Towers can take "reality" as their basis, but they can also "just start on nothing". For a more detailed construction, please refer to chapter 2.

An important notion is that within those towers of maps we build, only the top layers really matter to our understanding. Of course it's not like the bottom has no effect. After all, the truth of many statements depends on reality, which sits at the bottom more often than not. But it's more that we can replace a given bottom layer with a different but structuraly equivalent one and still get similar effects near the top. If you suddenly learn that all of the universe is contained inside a simulation, that doesn't affect your ability to discuss your favorite food. In a way we might say that as long as we only think within our mind the "reality" layer of the tower doesn't exit. It's more that there is a tower of maps inside your mind that is connected to reality. But reality is irrelevant to the thinking process in itself.

[3] Whatever that means. Now is not a good time to discusss the topic.
[4] The adventures of Dr Mcninja, Death Volley, p24
[5] Or any less charitable wording.
[6] `https://en.wikipedia.org/wiki/Reification_(fallacy)`

Not only is the idea of maps and people thinking within the context of maps useful to understand how we think and avoid fallacies, I would say it is a useful notion to understand the minds of others. When we disagree with people, we might simply disagree on precise and clear identifiable statements. But we can also be thinking using different maps. One of us might be using "correct" maps and not the other. If that is the case, the former is "right" to some extent. But that doesn't mean we can track the essence of the disagrement and of the error of the later in the surface level statements on which the conflict tends to focus. The differences on the maps we use is but a part of the differences between two people's perspectives, a notion I will introduce shortly in chapter 19. [7]

In this chapter I used the word "map" a lot. But the corresponding general notion I use is called "ideoplex" (first refered to in chapter 9). Ideoplexes are themselves the correspondents within a human mind of the more abstract notion of kirkinplex, which were introduced in chapter 2. Kirkinplexes benefit from being introduced in a more formal context, allowing a better construction of the general notions presented here. Chapter 2 isn't needed here. But to go deeper on the topic than I do in this chapter I use the notions of ideoplex and kirkinplex. Besides, I will use the word "ideoplex" instead of "map" everywhere except in this chapter.

Finaly, a small disclaimer, separated from the rest. The notion of map used here is but a model of how humans think, a description. I think it is a good one, the kind that feels natural and "obvious" once you understand it. But I can be wrong, and even if I am not it is not a perfect model. I would say it is mostly a model of our nominal thinking. In the end, the best description of a human is certainly simply a complexe, mechanical, unsatisfying one.

Also, nothing in this chapter says that we can freely choose our maps. We do, but only to a certain extent. And I am not saying that you can think anything without any link with reality just because you say so. This is a model, not a technical specification for humans. You are a thinking machine that simply behaves as it is poised to behave. I am modelizing a part of that behavior as described above because I find that it is often correct and is compatible with my own internal perception of self as such a thinking machine.

[7] But it's probably not like you cannot guess the broad lines of what a "perspective" is.

Chapter 19

Wogian Perspectives

This chapter assumes that either you have read chapter 18 or are familiar with the notion of kirkinplex/ideoplex. Chapter 9 is also loosely assumed but is not a hard requirement.
Estimated need for active reading: ⋆⋆

Let's talk of perspectives. As always, my way to make sure nobody will bug me about what a word means it to simply invent my own. As before, I have decided that I don't want to invent an arbitrary string of letters each time and so I will simply introduce the notion of "wogian perspective", to be shortened to "perspective" when no confusion is possible.

So what is a perspective ? A given mind can have a perspective on a topic, or simply at a given time. That perspective is simply a list of certain properties of the mind of the person at the time. One might see the list of properties bellow as an attempted to capture a person's mindstate as a list of intuition compatible notions. So. A list of elements.

- The thought patterns used by the person on that topic. An important yet fuzzy distinction can be made between the tunal and atunals thought patterns. [1]
- The ideoplexes used on the topic along with the relevant binding contexts. [2]
- The ideas and concepts used by the person on the topic. This can notably include idea constructs and belliefs.
- Other relevant mind state parameters and memory stored information. I am aware that this is quite vague but you may consider that the previous item refers to what is stored in the mind for tunal thought and this item refers to what is stored for atunal thought.

Yes, the last bit sorts of look like cheating. But I still find the list useful.

[1] The "tunality" vocabulary is introduced in chapter 9. You can think of it as "self aware".

[2] If you have read chapter 18 but don't know what a binding context is, simply think of the ideoplex as the top of the tower of maps and the binding context as a description of the tower itself.

The idea is that when people think, they do so within the context of their perspective. We might consider that missunderstanding between people in general is about an inability to understand the other's perspective.

Also, people evolve their perspective through complicated processes. Different parts might themselves be hard to understand without going through a long series of steps that are themselves hard to understand. Overall, there is no guarantee that we can reach a true understanding of what the other thinks without going through the same steps he did.

The difference betwen different parts of a person's perspective can be hard to pinpoint. When a person bellieve his way to think about a topic is "the right one", should that count as a bellief or a thought pattern ? I would say the answer can quickly change when a conversation starts to account for epistemic considerations. Suddenly, how a person thinks you "must think" is a part of the belliefs.

The model isn't perfect, the categories aren't exclusive, and the modelization of a given person's perspective isn't unique. I bellieve the notion is useful. But it isn't highly rigorous or precise.

Chapter 20

Idea propinquity

This chapter can benefit from having read chapter 9 and having a few notions on the mathematical notion of distance. The "curse of dimensions" [a] is also briefly mentioned. These are however not really needed.
Estimated need for active reading : ⋆⋆⋆

[a] In a few words, this refers to the fact that in high dimension space (think 100 dimensions or more) under classical assumptions, randomly distributed points tend to all be at the same (euclidean) distance from each others.

20.1 Foreword

This chapter is about the notion of links between ideas corresponding to a notion of "distance" on ideas, the notion that ideas can be more or less close to eachothers. The word "propinquity" is not my invention. The Oxford English dictionary gives the following definition "The state of being close to someone or something; proximity.". I simply chose to repurpose the word to my needs. In this chapter, it can loosely be considered to mean "small distance between ideas".

In this chapter, we first discuss the notion of distance on ideas, which corresponds to the theory of propinquity. Then, we consider a few propinquity based effects. First I discuss how propinquity can be used for communication or the transmission of ideas. Then I discuss an effect of thought through which considerations on ideas (like/dislike) can spread through propinquity. This will occupy most of the length of this chapter. The reason the discussion on that point is so long is that it also serves as a first approach to discuss the basic mechanisms to associate a nonconscious estimation to an idea. [1] **Working Note:** Once the topic is further discussed, add a teaser here. The remaining sections handle discussion and conclusion.

[1] I am refering to the human mind's ability to intuitively "like" an idea.

20.2 Idea Propinquity : distance in idea space ?

Human often use a notion of distance on ideas. We consider some ideas to be close and often we do not think much about it before declaring that two ideas are close; it is mostly an intuitive process. However, we can be convinced that ideas are close by arguments. Or at least, how close we perceive two ideas to be can be changed by argumentation. Notably, it seems that our vision of how close two ideas are can be changed by pointing out that they are close in a given way that we didn't think about.

Another interesting property is that ideas that are far away seem to always roughly be at the same distance from each others. Is the idea of "table" more removed from "differential calculus" or from "the roman empire" ? The question feels meaningless. None of them are close and that's it. This is similar [2] to the curse of dimensions. Ideas are all at the same distance "by default" and it is special when ideas are close. Ideas that are close can however be more or less close, which I will represent with numerical values [3] .

So how does this work ? Well, once more I will offer a model to reflect my view of the topic. But first I need a name. This time I chose to go with "idea propinquity", which loosely means "idea proximity". Because I wish to avoid creating homonyms and because I want to give a complete name to the model rather than one of those awkward don't-design-a-specific-thing kind of names, the name will be slightly longer. [4] It's called "wogian theory of idea propinquity". To be said once when needed before simply using the word "propinquity" as applicable.

We use many different distances on ideas, which will be listed in a subsequent section. For now, what matters is that by default all ideas are at the same distance from one another. At any given time, we hold in mind a set of distances to be used. These are the distance we "thought to apply" to the current mental situation. They can also feel more or less important, which is represented by a (positive) coefficient. Given two ideas, the resulting distance between them is given by the following formula, with $Dists$ the set of pairs of a distance and a coefficient (already accounting for the two target ideas), M_{max} the default distance between ideas, and D_{resu} the resulting distance.

$$D_{resu} = 1/[\frac{1}{M_{max}} + \sum_{(d,a)\in Dists} a * (M_{max} - min(d, M_{max}))] \tag{20.1}$$

Working Note: Perhaps the explanation of $Dists$ was unclear.

The goal of the formula is to express the general properties given by intuition in a clear and concise form. I do not profess to have anything you could use for precise calculations. Here are a few of the hallmark of intuition expressed by the formula :

[2] In intuition only, I am not making other claims even though a faint suspicion is aroused.

[3] By which I mean that I will describe a system using the concept of number. Everybody knows mathematicians cannot give actual numbers without risking to look like they are doing *applied work* (the horror).

[4] This sentence might be somewhat obscure to many, as it references a specific nonstandard idea. Thankfuly, it is easily skipped.

- If no distance says the two ideas are closer than M_{max} then the distance is M_{max}
- Considering new distances can only bring the ideas closer. This is because what we intuitively measure is "closeness" rather than "distance".
- The distance between two distinct ideas can be arbitrarily small, but never 0.

The set of distances, the way each individual distance considers the relationship between ideas, and the coefficients can all change depending on variations in the mind. Details are left to future study and intuition, but all these values should be considered as succeptible to change depending on the state of the mind. I would however say that these changes tend to be small within a single mind on a short timescale. They can however be felt heavily when going from one mind to another.

This paragraph is an answer to an objection some ~~pedants~~ inquiring minds could raise. No need to spend time on this if you do not enjoy mathematical scrutiny. One might notice that this formula doesn't output 0 if the two ideas are equal. Well, it might if $Dists$ is infinite but such that the sum is bounded for all pairs of distinct ideas. Good enough for me, it's not even that inelegant.

Also, the "resulting distance" is not a distance. It doesn't satisfy the triangular inequality. This is actually normal, you can notice that the intuitive distances formed by the following idea doesn't either : "piano playing" $\rightarrow$ "piano reparation" $\rightarrow$ "car reparation". To be honest, I don't think the smaller individual distances are real distances either. It's all just functions that tell whether things are similar or not. They do sort of often look like distances on a metric space though.

The model described above does not offer an invariable notion of distance between two ideas. It is vulnerable to changes either in the distances considered and in the values given by the considered distances. Both can be influenced by changes in one's mindstate. So how come we can usually safely use the notion of "close idea" in conversation without giving any additional precision ? Because the distance between two ideas is often similar across minds. When we estimate that others will give a same measurement of the distance between ideas, we simply refer to "the distance" between the ideas and don't offer more precision. This is notably helped by cultural similarities. Of course, one can have a tendency to defend the distance given by his mind (or cultural subgroup) as the "right" one. But this leaves the realm of the present considerations and is to be discussed another time.

20.3 Idea propinquity : a few distances

This section will mostly be devoted to a non-exhaustive list of distances used to measure one way ideas can be close each. This will be done one distance at a time, one subsection each. For the sake of my patience, I will try to be brief in each subsection, simply giving intuition in a few words.

However, before we go into this oh-so-fun enumeration process, a first subsection will be devoted to the description of the general process or "distance rating" used

in the mind [5] to give a value to those distances.

20.3.1 Distance rating

Because I speak so much of distance between ideas in this chapter, it seems appropriate to discuss how those values exist within the mind. So, let's talk about this : how does it work ?

Well, the idea is simple. The value is stored as an idea within the mind. Please note that this doesn't have to be a conscious idea, simply an idea.

So when I say that a mind gives value x to distance d_1 between ideas A and B, I really mean that there is an idea within the mind that corresponds to saying "for distance d_1 the distance between A and B is x".

20.3.2 Similarity of practical use

Ideas can be made closer by being often used in similar concrete situations or for similar uses.

20.3.3 Analogy

Ideas can have a similar form, they can be constructed in similar fashions. This is already called analogy by others.

20.3.4 Similarity of hosting minds

Ideas can be brought closer by the fact that we know them to be often found in the same minds.

20.3.5 Similarity of pushed conclusions

Ideas can be brought closer by the fact that they seem to "imply" similar conclusions. This is especially interesting because the preferred way I identify for ideas to push another idea is the process called propinquity bias, which used the notion of distance on ideas. This process is described later in this chapter.

20.3.6 Admission of a key idea

Some ideas appear as important key ideas that are sometimes said to be "contained" in other ideas. For example, we might say that the idea of "feeding kitten" and the idea of "saving lives" both admit "doing good things" as a key idea. Being a key idea isn't really a stand alone property of ideas. It's more that some ideas are key ideas for other ideas.

Ideas a close to their key ideas, and vice versa.

[5] Or so the model posits. Yada yada not a treaty of cognitive science, yada yada this is not about implementation.

20.3.7 Common admission of a key idea

Ideas can be brought closer by the fact that they share a key idea. Rather than considering the existence of a single distance that "counts" how many key ideas two ideas share, I consider that there is one distance per possible key idea the ideas could share. That choice is, however, purely arbitrary.

20.4 Propinquity in bias and idea passation : general ideas

20.4.1 Propinquity in art and speech

Often when fiction, art, and speeches attempt to pass ideas in an indirect fashion we call the process "symbolic". This has lead me in the past to call different process of idea passation and argumentation that feel similar "symbolic". However, this gave mixed results. People do not always understand what I mean by that, and how could I blame them ? There are, in the general case, no symbols. Hence I am technically wrong. This is not "symbolic" and I need to find another way to call this effect. I have. I call it "idea passation through wogian idea propinquity" [6] or simply "passation by propinquity".

20.4.2 Idea passation by propinquity

Despite using uncommon words, idea passation through propinquity is not at all one of those arcane concepts academics have the privilege of brandishing. It simply refer to the process of introducing a mind to ideas through the presentation of other ideas that are close to the idea we wish to introduce. The idea that is introduced is said to be "passed on" to the mind, hence the words "idea passation" in the title of this section.

And that's it. That's the idea of idea passation through propinquity. You present other ideas, they all feel close to a specific new idea and so the target's mind becomes aware of the new idea. The ideas used for the passation can be specifically presented or be more implicit. They can for example be contained within the context of the situation, or be introduced through propinquity themselves.

20.4.3 Propinquity bias

What's the idea of propinquity bias ? It's that ideas that are close to each others can influence one another. There are ideas we like and we tend to like more the ideas that are close to ideas we like. The closer the ideas are and the more we like the first one, the more this will tend to make us like the second idea.

[6] At this point I am being half serious with the name. Yes this is the correct name, no I do not advise to use that full name. But aren't long names fun and impressive ? I think they are.

20.5 Propinquity bias : let's be more specific

20.5.1 The fundamentals

The core idea of propinquity bias is this : our considerations regarding some ideas can spread to ideas that are close to them in our mind. Specifically, I would say that ideas mostly influence how much we like other ideas, with respect to how much we like the ideas doing the influencing. We like new ideas that are close to ideas we like and dislike those that are close to ideas we dislike.

I would say that I am describing a subprocesse or a collection of subprocesse that give rise to the effect I name. In other words, I am describing a kind of thought pattern that is very common to universal among human minds. Because this effect is not conscious and because there is no reason to believe it is automatically correct (and indeed, I believe it is not), I am calling it a bias. Hence the name : "idea propinquity bias" or "propinquity bias" for short.

When a new idea is introduced to the mind, propinquity bias can appear and influence our perception of the new idea. However, I would also say that propinquity bias can be triggered in other circumstances. For example, we might wonder what happens when our opinion of the influencing ideas changes. Do the ideas they once influenced keep their "rating" or does the change of opinion spread across propinquity links ? I leave these questions for another time. For now, I will simply say that there are times when we can suffer from propinquity bias and that it is at least relatively common.

At the reader will notice, I am describing a notion of "simple estimation of ideas" alongside the notion of propinquity bias. The reason is simple : propinquity bias relies on it. As this chapter posits, humans have a basic system to attribute a "score" to ideas (which is not necessarily a single numerical value). This score, or more generally this stored information, serves as our base notion of whether or not we like the idea. It is currently my belief that the human mind is acceptably modeled by saying that we keep such a tab and use it in various thought patterns.

20.5.2 Hunting for a good representation

So we have ideas in mind, they are in a certain state with respect to our appreciation (mostly we like them or not) and then, sometimes, they can influence how much we like other ideas. But how does this work ? Seems like we need more details.

Contrary to what I have often done in the previous chapters, I believe I should offer the series of thought experiments I went through to fix my ideas. However, I deem this just interesting and not necessary to understand to conclusion I arrive at. If you don't care to read all this, simply skip to the last paragraph in this subsection. As it turns out, I have mostly focused on the representation of the opinion we have of ideas. The starting point is as follows. Sometimes we like or dislike ideas strongly and sometimes we care a lot about ideas (we say they are important to us). Are those two things the same ?

Here is the first idea : use a single value. Let's consider an idea X. We attach to X a single value -which can be positive or negative- that represents how much we like it. If the value is high, we like the idea X (and it is important to us). If it is low (in the negatives), we dislike it (and it is important to us). And if the value is close to 0, then we don't care very much about the idea X. When an idea Y is influenced (typically if Y is a new idea presented to our mind), the value associated with it is influenced by the value associated with X with respect to how close X is to Y. A graphic representation of this arcane idea can be found in figure 20.1.

This representation is countered by the example of slavery in a foreign and distant country. Let's consider an imaginary country called Evilistan, ruled by the dreadlord Zargotrox. In Evilistan, slavery is very common and the slaves are very poorly treated. I estimate that how much we dislike things admits a maximum value, to which I will now give the pet name "MaxHate". Let's say that you dislike slavery to a level close to "MaxHate". [7] But Evilistan is also very far away, and so it doesn't feel very important. Yes, you hate slavery. But slavery existing in Evilistan is not a driving force in your life. However, imagine that suddenly you see slaves in front of you, or you learn that some Evilistan trader brought a little bit of slave misery down the street. Then, the hatred you have for slavery feels more important. You mind is more strongly influenced by it. This is true even though your opinion of slavery hasn't changed.

You might disagree with me that this evolution of state of mind is realistic. It feels possible to me, so for now I will simply admit that much and move on.

Figure 20.1: First case data representation

From the previous thought experiment, we gather that importance and extremeness of appreciation must be two distinct values in our model. Indeed, suppose that your opinion on slavery itself exercises some influence on other ideas. For example, it might reduce your tendency to buy some products which have a chain of production "tainted" by slavery. [8] Hence, the way an X influences Y is dependent on the importance of X in a way that is not proportionate to the extremeness [9] of the mind's appreciation of X. So one value doesn't work. Let's try two.

So second try, we store one value that can go into the negative for how much the mind likes X and a second value that is always positive for how important X is to the mind. The influence of X on how much the mind appreciates Y is a function

[7] If you don't dislike slavery then feel free to imagine something else that you hate instead. Like happiness and shared joy perhaps, you monster.

[8] I really hope the idea that was accept to buy products that can be traced back to slave labor our of convenience will feel abhorrent to people from the future.

[9] Called absolute value for the mathematically inclined.

of both values in X. The influence of X on how important Y is to the mind is a function of how important X is to the mind. Let's visualize in figure 20.2, and then we will discuss what is wrong with that representation.

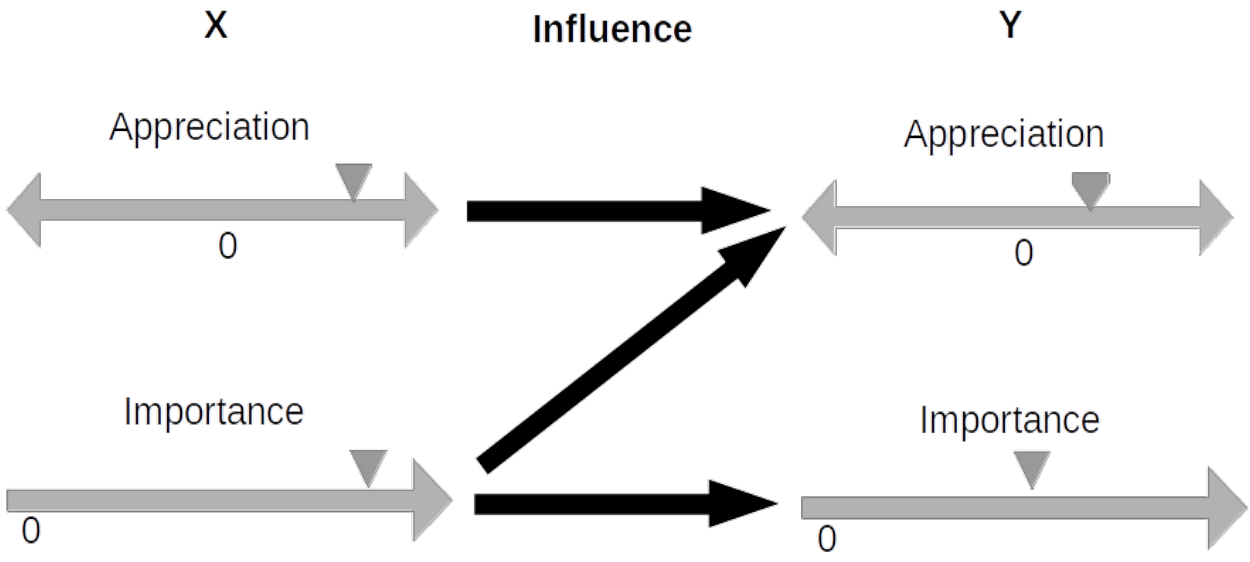

Figure 20.2: Second case data representation

Let's say that once again you are contemplating whether or not to buy products that were produced in Evilistan. Under the direct supervision of dreadlord Zargotrox, no less. This time all the slaves are still in the distant Evilistan and you feel positively unaffected. The matter is not important to you, but you would still rather avoid buying Evilistian products. But now mister Scruffle, your beloved cat, while he was on a vacation alone in Randomcountrystant, got into a mortal danger. Randomcountrystant is a neighboring country to Evilistan, and luckily Zargotrox saw the situation and saved mister Scruffle. The cat was then returned to you safely. How should this make your tendency to buy Evilistian products evolve ?

Well let's assume that your opinion of slavery and of Evilistan remains at Max-Hate (or very close). Saving mister Scruffle should improve the importance of Evilistan, not decrease it. Hence, then the influence of the idea of Evilistan on the idea "buying Evilistian products" should increase but not change in nature (negative). Thus, Zargotrox saving mister Scruffle should increase your hatred of Evilistian products. This is however completely counterintuitive. Saving Scruffle should improve your fondness for Evilistan, which should oppose your other negative considerations. Hence, intuition dictates that your tendency to buy Evilistian products should increase, not decrease.

This tells us that the previous representation is incorrect and guides us toward the next idea I had, separating positive considerations (fondness) and negative considerations (aversion). Notably, we are about to double the number of numerical

values per idea again.

So, we are using four values per idea. We have a value for positive importance, one for positive appreciation, one for negative importance (importance related to negative appreciation), and one for negative appreciation. Influence works as in the previous representation, except it is specialized by "positivity". Values for positive appreciation influence values for positive appreciation and likewise for negativity. Once again, a friendly picture (figure 20.3) will help us visualize before we discuss.

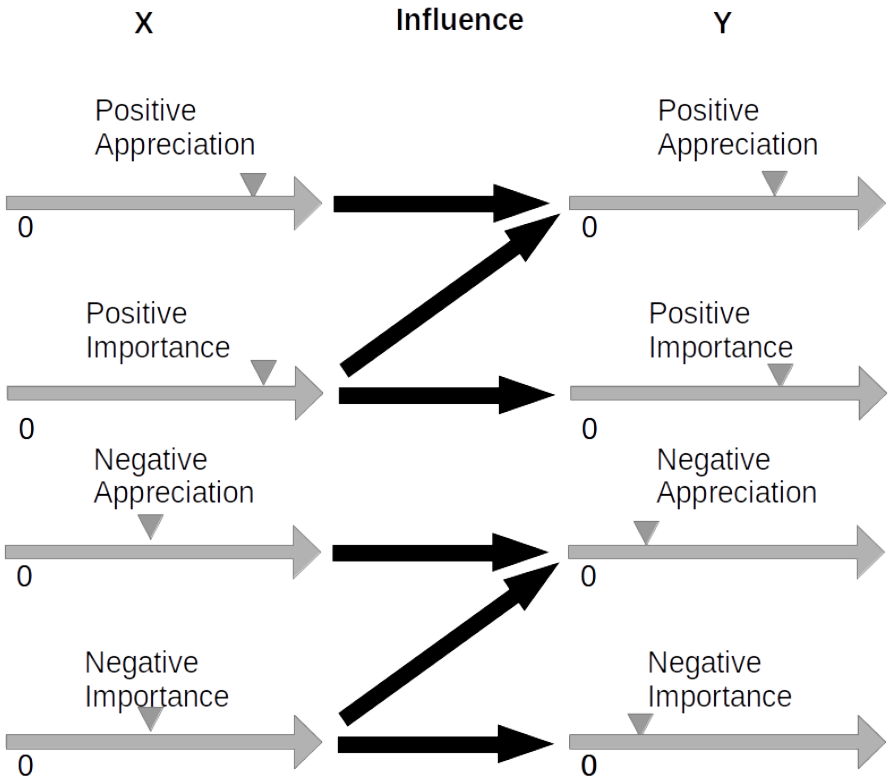

Figure 20.3: Third case data representation

So, what's wrong this time ? Well, what happens if I crank all values to the maximum on idea X ? How does X influences Y, does it always has a neutral outcome ? Always except if one of the value reaches its maximum on Y? Intuitively, getting all settings to the maximal value feels forbidden. We certainly have the possibility to strongly like and dislike something at the same time (we then feel conflicted). But we should still retain the ability to be affected by propinquity then. If influence can only increase value, this no longer works. So perhaps the system should allow cross influence to allow for negativity to influence a reduction of positivity (and vice-versa). But then we need additional information to explain how this solves the last thought experiment.

And anyway this string of refinements feels like adding too much complexity

for the base goal. The model is supposed to help create understanding and give a clearer view of the effect at hand. It is not supposed to be perfect or even accurately predictive.

Thus, I give up on the search of a precis satisfying approximation. We will simply go back to a simpler representation and use a nice "black box" abstraction to handle complexity.

The state associated with ideas in the mind is complex and stores a lot of information. However at any given moment the influence of X on Y depends on only one value on X [10] which behaves as the sole value of the first representation explored in this section. In other words, ideas receive influence in a complex manner and a lot of information is stored to determine how much we like them. But they always influence the rest of our mind as if we only rated them on one scale going from "hate " to "don't care" to love. The way the inside information is converted into this value is context dependent.

20.5.3 Is this about a few main ideas or about nets of ideas ?

A question we might ask is "how is the effect described about most commonly important "? Is it mostly about a few cornerstone ideas, doing most of the influencing on other ideas ? Or is it more about nets of ideas, in which many ideas influence one another to produce a coherent whole ? The second case isn't necessarily weaker. In fact, it seems to be more resilient to change, when it happens.

I would say that both answers can be correct, depending on the topic. We sometimes let a strong idea influence many others (think of fanboyism for example). But it also seems true that we sometimes form nets of ideas that influence one another and such that even if we absolutely have to change our mind on one the others still exerce their influence.

My estimation is that the second one is more frequent than we think. But at this point, this is just intuition.

20.6 Vocabulary

This section will be quick. The last one was long so I believe a short one will be enjoyable. Let's go over the vocabulary introduced in this chapter. We might even introduce a litlle more.

20.6.1 Idea propinquity

I took the already existing but uncommon word "propinquity", which loosely translate to "closeness" or "proximity" and I applied it to my purpose. I use it to talk about ideas being close to one another. Thus, I call my description of the distance

[10] excluding of course all considerations relative to the distance between X and Y.

between ideas a "theory of idea propinquity".

Also, every process that relies on a proximity relation on ideas can be said to work "by propinquity". I expect that this will be useful to me in the future.

20.6.2 Distance on ideas

I spoke about the idea that ideas can be more or less close to one another. I used the notion of "distance" between ideas and I listed some specific types of distances. All of this, I tied to the sometimes used notion of "distance on idea space", even thought what I described does not really match the definition of distance in mathematics.

20.6.3 Idea passation through propinquity

I spoke of the possibility to communicate ideas using propinquity and I called that "idea passation through propinquity".

20.6.4 Propinquity bias

I introduced a kind of thought pattern that I consider potentially negative that relies on propinquity. I called it propinquity bias.

For those who wish to distance themselves from the pejorative word "bias", I now offer an alternative. The thought pattern corresponding to propinquity bias can also be called "idea value influence through propinquity". I suppose you could ditch the "idea" to shorten it a bit. To the countrary, if you think there could be some ambiguity as to what you are talking about, I advise to add "the wogian notion of" in front of the name.

20.6.5 Liking ideas

The same section used to describe propinquity bias also describes how information is stored in nonconscious processes regarding our assessment of ideas. I simply call this "intuitively liking" or "intuitively disliking" an idea.

20.7 Limitations of this model, issues of the effect

Working Note: A discussion for the future : should the existence of propinquity bias make us think that some ideas are "bad to like" ?

The notions presented in this chapter admit a few limitations and raise a few questions. This section is made to discuss them. I will do so one point at a time, one paragraph each.

I used the word bias for the notion I called "Propinquity bias", which is a word we tend to use when we consider a thought pattern to be wrong. In this case, I will say that I do consider this pattern to be untrustworthy and pernicious. Hence, I stand by my decision to use the word "bias". However, that doesn't mean the pattern is always bad and should be avoided at all cost. It seems somewhat efficient

and important to some extent to the construction of our tastes. One of the main issues of propinquity bias is still that liking an idea that is a statement is similar to "tending to consider it true". Hence, propinquity bias allows for estimations on how much we like a thing to be converted to estimations on truth.
Working Note: TODO : Discuss our basic intuitive relationship to truth.

The model of distance presented feels "hackish" and also a little inelegant. To my intuition, it looks like a bad approximation of a "cleaner" truth.

Likewise, the model used for propinquity bias uses a central black box [11] , which gravely limitates our understanding of it. I believe I gave up on increasing complexity at the right time; the thread I was following would probably only have been concluded by a description much above my means in term of precision. However, the black box is still somewhat unsatisfying.

Overall, the system I have described as propinquity bias is probably only an approximation of a part of the effects of a greater system. A more complex one, covering more effects and parts of human behavior as a string of subprocesses working in synergy.

This last point is not so much a limitation as a disclaimer. The goal of the part of the description that concerns propinquity bias is only to describe that specific kind of bias. It is perfectly normal that this chapter does not describe other biases, even if they use the notion of liking ideas I developed in this chapter.

[11] A system description that hides everything it contains, leaving only the description of what happens around it.

Chapter 21

INT vs WIS

This chapter has no requirements.

Estimated need for active reading : ⋆

This short chapter is dedicated to the difference between intelligence and wisdom. The goal is more to speak of wisdom than intelligence though. Both are vague words to which many people have given many different meanings. Wisdom in particular has many different definitions that are different beyond usual differences in formulation and notion framing. Also, these words (intelligence and wisdom) are often used with very little thought as to their meaning.

I however do not believe that they are only ever used in pointless ways. I have thought about the notions and I think I reached ideas that deserve to be thought of. These are the ideas I speak about here under the names wisdom and intelligence. Also, there are ideas I believe the words are at least sometimes used to refer to.

I am not about to give proper definitions. What follows is a clarification of my use of notions but is not at all constructivist. In case of ambiguity, I advise to call them "wogian wisdom" and "wogian intelligence".

Last clarifications. I am speaking of wisdom as "the characteristic of the wise" and not "knowledge". I am speaking of wisdom as a characteristic of the human mind that we can posses to different degree [1] . In particular, this is not a discussion on the nature of cognition. Last of the lasts, I must point out that I will in this chapter speak of "thinking well" without clarification. I am allowing myself to do so in the same fashion I could tell you that my mother knows how to pick good watermelons when shopping. I don't need to that you what I my tastes on watermelons are for you to understand the core of the idea. Clarification of the notion of "good thinking" is left for some other time.

So, let's start with wisdom. The core idea of the notion of wisdom I am interested about [2] is the ability of a mind to choose how to think well. It is about choosing

[1] I am however not pretending that a single numerical scale is appropriate to measure intelligence.

[2] Wisdom has many different definitions pointing at very different notions. I am picking one but then vagueness still remains and so I aim for the "core idea". Homonymy does not preclude vagueness.

the right thought patterns when considering a situation.

Heuristics and knowledge can sometimes be called wisdom even while referring to this notion. In the case of heuristics, I would say we sometimes consider a heuristic to be in itself the right way to think about something. In that regard, "don't think about it and just leave the tiger alone" might be seen as wisdom by those who think it's the right attitude. As for knowledge, I would say it can be a generalization on the idea that those who have an idea tend to be wise. The idea isn't the wisdom, but it can be correlated with or instrumental to the wisdom. Hence a small language abuse.

However, wisdom is about approaching thought. Choosing what to think. Thus general knowledge and heuristics are more appropriate to be considered wisdom. We can call something "specialized wisdom", but that feels different than the pure idea of "wisdom".

Moving on to intelligence, what can we say ? Intelligence is the ability to think well. It is what we use once we start thinking at least a little abstractly.

There is a middle ground, a way for intelligence and wisdom to blur. We can use intelligence to gain wisdom and we can sometimes use intelligence to replace it. Indeed, what if I start thinking and then at some point deduce that I should use different thought patterns and do so consciously ? Then my action is a product of cognition but also within the realm of what I described as wisdom. I would say that when such questions arise the time has generally come to use more precise notions than wisdom. I would also however call this "intelligence that is wisdom" if needed.

Chapter 22

Morality : A first look

This chapter has the following requirements :

- Chapter 9 (soft requirement)

Estimated need for active reading: ⋆⋆⋆

22.1 Foreword

This is the first chapter on morality. The idea here is to speak a little bit about why morality exists and how people think about it normally. Just a quick overview.

With that part out of the way, I will clarify to some small extent what morality is (what kind of thing it is). This will then prove useful for future chapters on morality.

22.2 Morality, where does it starts ?

The point of this section is not to discuss reasons for the existence of morality from a game theories standpoint. Neither is it to speak of how morality first came to be historically.

Instead, I will start with this: humans can experience a host of difference feelings associated with morality. We can feel certain things to be "right" and others to be "wrong". Most importantly, these notions intuitively make sense to us. We also feel drawn to act according to what these feelings describe as "right".

So what what kind of picture do the common considerations on the notion of morality paint ? An ugly and messy one.

Various humans have various considerations regarding notions of "morality", "ethic", or other variations. Even thought these can have very different status, they

mostly correspond to the aforementioned feelings and evolve with them. So it mostly seems to be a lot of rationalization.

The situation can be made more complex ~~if~~ when people reach a single notion of morality then update their feelings without changing their understanding of the word "morality" or "good". We can then reach statements such as "it's good to be bad", which prove frustrating to parse.

Still, almost everyone [1] uses a notion of good and bad and creates an idea construct that describes certain things as "good" and others as "bad". These constructs are mostly what people are referring to when they speak of their morality.

22.3 Getting a context

Let's keep this simple. A part of the behavior of a large number of subsystems within the human mind generally gives rise to a valuation of certain ideas on a specific scale. This correspond to what we speak of when we say something is considered "morally good" or "morally bad". That same process can influence our decision processes in some circumstances.

That process as a whole is what I call morality. I do not posit that morality corresponds to a specific part of the mind with regard to the model of chapter 9 but rather I use the notion as an abstraction modeling some of what happens within a mind. It is not a perfect model of what happens within a human mind and I posit that such a model wouldn't give much room to the notion of human individual as we usually use it. [2] I however estimate that the notion of how morality works described here is mostly correct for most humans in my society.

As noted in the previous section, humans often have models of their own morality, which in turn are used as a part of it (they participate in the working of the morality). Quite often these models are bogus, have meaningfulness issues, and are in my eyes too low quality to be used as is. In such cases it is easy enough to say that the model is a piece of morality but also a mistake. However, humans can also have idea constructs as a part of their morality that are not directly trying to model anything. These also are not necessarily low quality. Hence and with generality, I must simply speak of an idea construct that is a part of morality and can describe both what morality is and how it influences the decision process. See diagram bellow (figure 22.1).

[1] To my knowledge.

[2] A small digression of little value. But it should help clarify the preceding sentences.

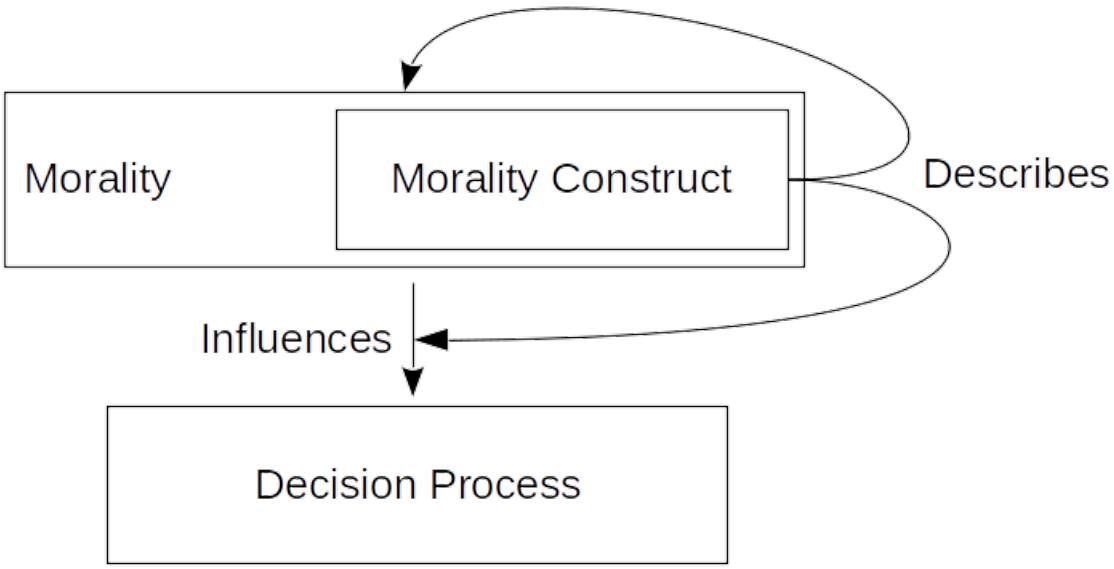

Figure 22.1: Handy diagram, note that we have an arrow pointing at an arrow

22.4 α and β

Because it felt appropriate to me I split the notion of morality in two.

- α morality is the interface between β morality and the rest of the decision processes. By abuse of language we might say it is strong or weak, referring to the importance in our decision process that α morality allows β morality to have.
- β morality is the process within our minds that describes some ideas as a "good" or "bad". Of course, we usually speak of judging a thing rather than the idea of the thing.

As always, feel free to speak of "wogian morality" to refer to these notion if you need to avoid ambiguity.

Sometimes, we let our morality change with time or according to the circumstances. Notably, we might allow our temporary circumstances to temporarily change our opinion on a specific point because it is convenient to us. I speak of "global morality" to refer to the abstract idea of our morality "in general". We might say that something is good according to my normal morality if I almost always say that it is good. I speak of "local morality" to refer to the specific state of one's morality at a given moment.

These notions are intentionally vague and should only be used when the time scales of "global" and "local" are unambiguous.

Chapter 23

Morality : relativity and argumentation

This chapter has the following requirements :

- Chapter 9
- Chapter 2
- Chapter 22

Estimated need for active reading: ⋆⋆⋆

Let's take a step back and ask the question again but with a different perspective : what is morality ? A person's notion of their own morality is an ideoplexe (or simply an idea) that partially serves as an abstraction of their own way to think. If we want to abstract the specific human X away, then a specific morality is simply a kirkinplex, which corresponds to the idea in X's mind that itself corresponds to X's modelization of himself. A subtlety is that the idea is at the same time a modelization and an active tool used for thinking.

But we will simply keep in mind that a morality (a given one) is a kirkinplex. Is it a modelization of reality (the basis) or of a part of it ? No. Cool.

Is it a part of or a modelization of math, or of the model of truth ? No and no. Cool again. Glad that's settled. In that sense (and in that sense only for now), I will say that morality is arbitrary.

But have I not then implied that morality is a lie, absurd, meaningless, ... ? Meh. I have in no way implied that morality is meaningless in the sense of that word in the wogian theory of meaning. For whatever other brand of "meaningless" you are using, please consult with a relevant expert.

But we can take that list of accusations as a whole and answer "sort of but it doesn't matter". I do believe that plenty of theories of morality have been lies, absurd, or meaningless in the past. If you belong to one of the corresponding schools

of thought, than it might also be what I am saying about what you think. I don't know, we would have to talk about your case.

But I am not saying that it is bad or a form of irrationality to use morality, consider it important, or let it influence our lives. That it is arbitrary isn't an issue. But we still should be aware of that fact.

But now if we think a little more we see another issue approaching. Can you guess what it is? you have this sentence to find out! What about all the times we argue about morality? It seems that we shouldn't argue about something arbitrary. At best, we can state our own arbitrary decisions and take those of the others at face value. That is not entirely wrong, we cannot "prove" our morality. It's not a statement to begin with. [1] But morality is special insofar as :

1. It is used to decide what to think.
2. It can judge itself.
3. It is often fragmented.
4. It is often bundled with considerations regarding reality, including about the effects some principles have on the world.

And so it is that we can sometimes discover that some parts of our morality are in favor of the destruction of other parts. And because morality doesn't always disclose the entirety of its conclusions but rather reacts to thoughts, situations and what we believe to be true, these judgments our moralities pass unto themselves can be triggered by situations and argumentations. So no, arguing about morality isn't entirely pointless.

Arguing morally about morality seems like the kind of thing that whispers its own name in our ear. Seriously, how could I not call this metamorality? [2]

[1] Or anything similar, I am aware there are subtleties here. Please ignore.

[2] yada yada wogian metamorality. You can also say metaethic if you wish, I am not touching that word.

Chapter 24

Morality : categories

This chapter has the following requirements :

- Chapter 22

Estimated need for active reading: ⋆⋆⋆

There are many different kinds of moralities and those of two people can easily find themselves at odds with one another. This is especially true for local morality due, for example, to the tendency of enemies to align their moralities with their side of the conflict. My goal here is not to describe which kinds of moralities I favor, or even to discuss my own. Rather, I intend to describe what moralities usually do and to describe certain categories which I feel are important to the understanding of common moralities.

A first important point is that not all moralities judge the same things. As I have said before, morality evaluate some ideas to decide whether they are good or bad, but not all ideas fall within the scope of morality. Murder feels entirely within the purview of morality whereas "the number 2" doesn't. Well that scope (that purview) depends on the morality considered. Some only wish to judge actions, whereas others judge ideas or even objects directly.

I will not introduce any specific vocabulary for these differences. It is easy enough to say "the morality of A does not judge ideas of kind X".

Certain (most) moralities use a notion of moral value for certain things. For example, a person might be considered good or bad but also be given a value, which is used for divers other judgments the morality might deliver. That is sometimes expressed by sentences such as "people are an end in themselves". My representation of that process is that these moralities actually use two ideas for a single entity X. One is the idea of X as an end, and one is the idea of X as an actor. Saying that the first one is good is equivalent to saying that X has a value. [1]

[1] This is but a representation, which can easily be changed without any impact on the description of the rest of the operations of a morality. As such, this isn't really a theory but rather a way to describe things intuitively. Almost a form of information compression. Nevertheless, I suppose

Again I offer no specific vocabulary because I don't believe it is needed.

I will now describe some categories of moralities for future discussion. Of course, more often than not a given person morality doesn't entirely fall within a category. Rather, the most common use should be to say that you have a morality that "mostly behaves like a morality of kind X".

First category, effect based morality, also called "effective morality". The idea here is to restrict judgment to ideas that have an effect on reality, or rather to only judge ideas insofar as they have an effect on reality. [2] Most of the time, this means that an effective morality will not consider it bad of people to be a certain way, only to act a certain way. A person with a twisted mind that only produces good for the world would then be considered a good person. Variations can exist on the notion of effective morality depending on the view on the usually unclear notion of "cause and effect" one has. One might notably decide to judge something based on its past, future, or probable-in-absolute effects.

I leave a more complete study of that point to another time, or perhaps to someone else, if anyone is willing.

Now let's take a look at the difference between deontological and utilitarian moralities. [3] This is mainly a difference between moralities that judge which choices are good and which are bad. Deontological morality uses the concept of action. It judges given actions (or more broadly decisions) and can consider something to be good or bad "in itself". To the contrary, utilitarian morality only consider effects and judges actions with respect to how they affect the world only. [4] The word "utilitarian" refers to the notion of utility. The utility of X is the general notion of "what is good for X". It is a numerical value, the more X has utility, the better off he/she/it is. For a better explanation, refer to the field of game theory in which the word is often used.

This then of course begs the question "what is a good impact on the world" ? Well you can't just judge the resulting state, most utilitarian moralities judge an evolution of the world, not a state. Otherwise you have to consider not creating life as equivalent to murder, which seems silly. Hence, utilitarian moralities are about valuing sequences of evolution for the world. [5]

Notably, I list the following cases of utilitarian morality.

1. Focused only on creating utility for the individuals currently alive.

---

some discoveries regarding the way the human mind works could "prove me wrong".

[2] Again, I would like to remind the reader that when I speak of judging an idea here, I speak of the process that is commonly referred to as judging the thing which the idea depicts. So when you judge the idea of murder, one might say that you are just judging murder.

[3] yada yada, call it wogian deontology and wogian utilitarianism if needed.

[4] I am aware that nothing in that couple sentences prevents from considering utilitarian morality as a kind of deontological morality. I will thus clarify that a deontological morality assigns a value to the ideas of actions even without considering a context and the effects they will have.

[5] "The world" is used in this chapter as a general word for "reality", " the universe", or whichever similar notion you see fit to use. I am not particularly focused on the planet.

2. Focused only on creating utility for the individuals that will end up existing.

3. Focused on the sum of total utility across time.

4. Considering an utility for the evolution of the world that isn't only dependent on the utilities of the creatures within it.

The notion of actions impacting the world can cause annoying issues regarding the complexity linked with the representation of the perspective of the human mind as an actor in the world. This is tied to what some call "decision theory" and on which I have not yet chosen a stance. Please note that everything above should be considered within the usual naive framework used for these things (see chapter 12).

Chapter 25

Morality : universality principle

This chapter has the following requirements :

- Chapter 22
- Chapter 25

Estimated need for active reading: ⋆⋆⋆

I have not read much by Immanuel Kant, and neither am I convinced that I should (I have been told he was a terrible writer). But the principle this chapter will discuss is, in my understanding, similar to some of the core tenets of his deontological morality. Anyway, I name the principle this chapter discusses the "universability principle" [1] .

So what is this universability principle ? It is the principle that says that you should act in a certain way if it is desirable that everyone acts the same way (for whichever notion of "desirable" you are using, this is assumed to be fixed). As we will see bellow, this can (easily) be ambiguous and requires clarification. But before we move to the issue, I want to clarify that this is a deontological principle. You might argue that it is rational to act according to this principle from an utilitarian perspective. But that is a matter for decision theory and I will not discuss it further in this chapter. Instead, I will for now limit myself to the corresponding deontological principle.

The issue is that the notion of "what would be good if everyone did it" can be quite vague, even once you have fixed your evaluation of how good it is for a given thing to be done by many people. Often when we wish to discuss the universability principle we use thought experiments with only two distinct possible actions. For example, we might consider the choice to be a liar or not and say "it is good if everyone decides not to be a liar". But in most situations in life there is a very large number of possible actions and many of them would be good if everyone chose them. Indeed, it can be the case that what matters is coordination more than the

[1] Once again, yada wogian

specificities of the common strategy chosen.

I will use a thought experiment, but I will use one with more than a couple options. Indeed, mine has three. A large number of subjects taken at random in the population -let's say 10 000 in France- are all faced simultaneously and independently with the same choice. Option A, B, or C. In all cases, their goal is to gain units of reward (RU). These can take the form of money or anything else you might find desirable instead.

- If they choose option A they immediately gain 10 RU
- If they choose option B they gain 9 RU, but if more than 50% of subjects choose B, everyone will gain an extra 20 RU.
- If they choose option C they gain nothing, but if every subject chooses option C they all gain an extra 10^{30} RU.

It seems that the universability principle is pushing us toward option B rather than A. But I am less sure about option C. Surely at least one of the others will fail to take it. [2] So even though it is the best option when everyone takes it, I should probably avoid C.

What is it within the principle that allows to skip C ? What extra quality does B has over C that is salient to the principle ? And while we are on the topic, what happens if the number of possibilities grows above the limits of our imagination ?

Well obviously the difference between B and C is that B can succeed while C cannot (or rather has negligible odds of success). The simple answer is thus that the principle takes into account the odds of success of a given strategy.

Similarly, we might look at different policies at different scales of universality. You might decide that it is good if everyone decides not to be a liar, but at the same time decide that it is also good if people instead decide that the should never lie, except to member of group X (because the members of group X can do terrible things). That is after all also a universal policy in the sense that you are thinking about what would happen if everyone chose it, but it feels less legitimate because of its special consideration for a specific case. Indeed, if you allow that sort of things, then you might recreate a form of utilitarism by always adding an exception for any situation you encounter for which violating the general principle will create overall good.

In practice many strategies are mingled with one another and a given moves is almost always done for several reasons. When we take a decision, the same option can simultaneously entice us by a small probability of large gains and a larger probability of reasonable gains. I will speak no further on these matters [3] but

[2] This may depend on the population. If you live in a society in which you feel confident everyone would pick C then you are probably much better off than I am.

[3] I have other things to do, sorry.

I can say something that is sure to surprise almost everyone : "it's complicated". The universability principle accounts for the effects of a large number of people choosing a strategy, for the probability of getting a form of return on investment, and for the simplicity of the strategy. In a way, I would say the principle makes us take our decisions as if we were to campaign for our strategies, rather than just enact them.

Chapter 26

Flaws : introduction and divers

This chapter has no requirements.
Estimated need for active reading: ⋆⋆

26.1 Explanations

This chapter serves as the entry point to the "flaws" series of chapters. The idea is to list different mental flaws a human can exhibit. What is a flaws and how do I choose the ones I talk about ?

A mental flaw is a bad pattern of thought, with regard to a standard I have on how one should think in the circumstances in which the pattern is deployed. To qualify, the flaw must mostly be "self contained" and explainable. One should be able to react to the flaw and think about it as a single "thing".

So a flaw is a flaw with regard to my estimation of how what is a good way to think and what isn't. This notion of flaw is vague and the limit is quite blurry. What some might see as a flaww to be listed in theses chapters I might decide to examine separtely as its own topic.

I do not intent to list all possible flaws within the human mind. That would be both extremely time consuming and doomed to fail. So how will I choose which ones to write about ? Mostly I care about the flaws I can spot within my own mind. I care about my flaws because I want to correct them. More precisely, I will write about the flaws within me that I judge problematic enough. I might still decide to discuss and other possible flaw I think I managed to avoid or do not care about enough to correct.

If I do so then it probably means I decided it was interesting for a specific reason that I will include in te relevant entry.

Entries ? Chapters ? How does this works ? A string of chapters grouping flaws by category then a section per flaw, called an entry. Beyond this introductory section, the following sections in this chapter act as the entries for the "others"

category. Now that you have read this, you can consider the reading order among the "flaws" chapters as completely random.

Working Note:

26.2 TODO

- tendency want a perfect model and correct/dislike reality
- lack acceptance ppl have different goals
- perseverance turning into obstination
- obsessiveness over my ideas of the time
- Letting the fact that someone is supposed to do something act as moral reassurance that it is done, even if know isn't
- Being proud of having beautiful ideas makes it harder to discard them
- I approach problem as if they were structuraly meant to be solved "using what was given"
- Reject humanity of those who do not respect models
- tendency to let rejection of ideas harden the feeling of certainty granted by eventual acceptation
- Feel the need to be blameless to have the right to blame others
- Tendency to aspire to greatness for self justification
- Increased leniency for the enemy of the enemy
- tendency tolerate what I enjoy, even in societal views

Chapter 27

Flaws : cogitation

This chapter assumes that you have read the first section of chapter 26.
Estimated need for active reading: ⋆⋆

Chapter 28

Flaws : behavior

This chapter assumes that you have read the first section of chapter 26.
Estimated need for active reading: ⋆⋆

Chapter 29

Vocabulary

This chapter has no particular requirements

This chapter is not intended for linear reading and should be considered as a reference and quick access to vocabulary produced in the rest of the document.

29.1 Foreword

This chapter takes care of the vocabulary considered by the present document. Some vocabulary will be introduced and other will be specified or simply accept as is for my personal use. All of such vocabulary will be given an entry in section 29.2. Said entry will attempt to describe the recommended use of the word in a few words, which do not count as my definition of the word, and pinpoint where the word is discussed in the document.

Section is a string of subsection in no particular order that contain the consideration given to points of vocabulary that have not been discussed in another section.

29.2 Wogian glossary

kirkin (kire-keen) *Noun* • A base element in the theory of meaning. • **see** 2

Wog (Vog) *Noun* • A designation for the present document. By extension, what is introduced in this document can be called "Wogian" (Vog-ian).

29.3 Word consideration

29.3.1 "morally" as used by JC Fauveau

Swap with "as a draft". Idea that we produced an inelegant draft of our thoughts which allows some mistakes to help understand.

29.4 words TODO

- Arrogance
- exist
- people
- rigor
- semantic
- good/wrong
- culture
- memetic
- sentient
- "morally" as used by fovo
- abstraction

Chapter 30

Journal

This is a special chapter containing a log, the entries of which have been written during the composition of the present document.

30.1 2020-12-28

The relevance of the fundamental models I offer

At the time of writing this entry, I have written many of the fundamental chapter on the nature of truth and thought. This include chapters 2, 9, and 16.

One might be tempted to ask : what is the point of me thinking and writing about these ? My study does not take after the current academical state of the art, nor do I think it is better than it. I do not believe I am the world's best thinker for these subjects or the best who studied them. I also spend little time on each topic, much less than serious scholars. So what is the point ? Why would I devote time to make a worse representation of something than the ones already available ?

A first answer is that I do not aim to give the most "exact" or "precise" description of what I think and write about. My models are meant to serve as a basis for my other thoughts, applied and theoretical. Hence, they do not position themselves like the current state of the art. The goal is to refine, abstract, and perhaps correct my own intuition. I do not believe the effort worthless simply because better predictive models exist. Many human thought endeavors require to some extend to use models of those things I describe. I simply want mines to be better than what my own unsupervised intuition offer, with respect to certain criteria. These criteria include accuracy, but also other notions such as completeness of meaning and usability.

30.2 2020-12-28

Wog cannot be constructivist

I approached this work with the intent to rebuild my own thoughts with some form of constructivist rigor. In a way there is success. I am building and describing things with much more constructivism than they previously showed. But I must accept that I will not get a complete constructivist description of my own thoughts in a year's work. I don't think I believed I would, but it does feel like I was secretly hoping for more.

There are many concepts that are known to the human mind because they are present within it, with some non perfect degree of meaning. They cannot be build rigorously from first principles (at least I cannot). This is at least due to a lack of information on my part.

30.3 2020-12-28

An excess of starting optimism

When I started my work on the wogian thoughts I drew a dependency graph to see in which order the different topics would have to be dealt with. This graph offered two sections "semantic" and "rigor" that were likely to be treated first. The idea being that I would start with the general notion of truth and meaning and then move on the "how to think well", which would then be used on the other topics. I don't disagree with the general idea, but presenting that part as "the first two sections" seems simplistic and too optimist. Especially, it seems to be an excess of optimism regarding what could be done with constructivist rigor.

30.4 2021-01-25

Morality determination

Perhaps, when my thoughts on the topic have matured, this entry will become a chapter. I am writing this a few days after chapters **??**, **??**, **??**, and **??**. I have described morality as both a modelization of how we think and an idea construct used for that same thinking. It is, in my description, profoundly arbitrary from a semantical standpoint.

It is intuitive to me that I should want my morality to be fixed, to have my local morality correspond to my global morality, at least on big issue. Why ? Why would that be a good thing ? Here are a few ideas on the topic.

- It feels desirable in itself in a way that probably comes from a cultural background pushing the idea of "objective morality", which tends to imply a fix morality (sometimes even a written one) to which one must adhere.
- I am very conflicted on certain moral issues, and it is desriable to me to solve these conflicts because I want to act (or at least to take decisions) on these issues.

- On the short term, moral dilemas are time wasting when they occure in situation.
- Humans seem built to act "as if" they had a fixed morality, which I suspect to be used in our ability to feel outrage.
- It fits with the view of self as an agent in game theory, which I would posit to be roughly our base view of self.
- It is certainly profitable to society if people try to have stable moralities that can evolve to be compatible, rather than fickle situation-dependent ones.

Contents

Bibliography

[1] "Tractatus logico philosophicus" Wittgenstein

[2] "An enquiry concerning human understanding" Hume

[3] "The problem of philosophy" Russel.

[4] "La logique" Gilles Dowek

[5] "Dual Process Theory (System 1 & System 2)"
Wiki section on the LessWrong forum
URL = `https://www.lesswrong.com/tag/dual-process-theory-system-1-and-system-2?showPostCount=true&useTagName=false`

[6] LessWrong wiki section on nutrition
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[7] The french public health website `mangerbouger.com`

[8] "Map and Territory" by Eliezer Yudkowsky
The first book in the paper publication of "the sequences" of LessWrong as a six part book "Rationnality : from AI to Zombies"