A collection of wogian thoughts

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Introduction

0.1 A few words

During the last few years, I was often forced to postpone interesting reflections on a large varatiety of topics. 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 asumptions and previous work. Theses various questions and mysteries form a graph of interconnected topics, which can mean that access to some of the "high level" questions can require quite a lot of answers. Of course, we traditionnaly approach quesstions (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 personnal variation. That is sufficient for many subjects such as "when are we eating ?" and "I wonder how cars work ?" but for more abstract, complexe, or simply uncomon subjects I often found that when I wanted to dig deep into the meat of things I was unadequately 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 infinit, and must still limit myself to arbitrary modelisations when it comes to the fundamental. 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, but summarised 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 futur reader. Others readers can feel free to read it, but they should know there are not the target audience. Said comment is confined to the next paragraph.

Hey handsome, I love you. I used some prepa-like maths 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 nodes and calls to a certain way to think things, from which you might have distanced yourself, especially where it comes to modelisation. 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 and without warning 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 consstructions. Overall, anyone without a mathematical background similar to that of a *good* second year math student should be able to breeze through.

As for the others, I bellieve 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 aforementioned 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 (unless you are a special case for which blame is warranted, naturally).

Lastly, I would like to acknoledge 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 focussing on the writing itself, but rather on the ideas I am researching. Hence, my genral style and approac is experimental and clumsy. I hope to get better with time and that what I wrote is still reasonably pleasant to read.

0.2 Reading help

At the begining of each chapter, the reader may find a rectangular area with information regarding the requirement of the chapter and its reading difficulty. The requirements include the required previous chapters, but do not include chapters required indirectely (chapters that are only required by required chapters).

Despite being presented as a string of chapters, this work is not necessarily meant to be read in a linear fashion. My advice would be to peruse the table of content and see what interest you, and then see if there are requirement for that. Reading either chapter 1 or 2 first is however recomended.

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 expressed through the scale described in figure 1. Of course, the reading help only relates to my estimation. Once you see how wrong my estimations tend to be for your case, don't hesitate to adjust accordingly.

In any case, these reading help may refer to the following scales.

Grade	Description
$\star$	Relax.
$\star\star$	A contious effort to make sure you always understand might be useful. Reread if needed.
$\star\star\star$	Frequent thinking along the line of what I describe is probably required at frequent intervals.
$\star\star\star\star$	I think you need to maintain your own reflexion on the topic, updated as you read.
$\star\star\star\star\star$	Same, but I also think I was hard to understand for some reason (possibly bad writing).

Figure 1: Scales for need of active reading

Chapter 1

A summary of my views on truth and meaning

This chapter exists as an easy entry point that allows the reader to skip chapter 2 and read onward.
It has no requirements.

Estimated need for active reading : ⋆⋆⋆

1.1 Foreword

I wrote this chapter because chapter 2 -the initial entry point- can be hard to read and was needed to read almost any futur chapter. Hence, this chapter was added as a summary of chapter 2. Whenever a futur chapter has 2 as a listed requirement, the present chapter can serve as a replacement.

1.2 Kirkins

The theory of meaning I adopted is based on the central notion of kirkin. Kirkins roughly correspond to what we often call "ideas" or "concepts"; but I wanted to keep the word "idea" ffor the correspondent of kirkins within human minds, and "concepts" are a subpart of kirkins. All concepts are kirkins but not all kirkins are concept.

Some kirkins are meaningful in themselves, they are called "evaluable". Some kirkins are statements, those are the kirkins that are affirmations, the only ones that can be truth.

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

Example 1. *One can think of the famous question "what is a heap ?", 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 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 wether the notion of heap is better defined than that of apple for example. **Working Note:** *Not entirely satisfied by the final line of the example.*

Likewise, statements also admit degrees of truth.

The theory also introduce "the basis" as "what primarily exists". One could perhaps also call it "reality". More often than not, statements are about the basis, directly or indirectly.

1.3 Kirnkinplexes

A kirkinplex, which is a kind of kirkin, is roughly equivalent to the notion of model. It provide 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 strucure underlined by 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 "through" the kirkinplex.

1.4 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 hass 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 use in its input only kirkins that were "allowed" at the begining or that were the output of a previous step.

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

Chapter 2

Truth and Meaning

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 (partialy ordered set), a quick google search shoudl suffice.
- The notion of lattice, skimming the wikipedia page should be enough, provided that you understand what you read.

Baring the aforementionned knowledge, a partial reading of this chapter should still be somewhat possible.

Estimated need for active reading : ⋆⋆⋆⋆⋆

2.1 Foreword

2.1.1 Context and aims

The present chapter features a description of a model of truth. The goal is not to produce a completely satisfying model. Rather, this is a proposition of semi-mathematic model of truth based on a correspondence approach. However, that model has to go deeper than simply the concept of truth. It is a model of "meaning", the objects of which are correspondents to ideas. Some of these objects are statements, which can be true or false.

An important feature of the model is the ability to express the idea that ideas can be more or less well defined and statement can be more or less true. This will be represented through the use of a lattice.

Because of the limitations inherent to the topic of meaning itself, most of the following "definitions" do not show proper constructivist rigor. I describe a model by giving caracteristics for elements and general ideas on how these elements are supposed to interact within the model. The following redaction is therefore meant to help the reader understand the model as a whole but does not profess to be a

good mental construction of it.

I will use notations that correspond to usual set theory. I am used to the ZFC set theory but, as I wrote above, this work is not rigorously constructivist. I am not describing a ZFC object describing my theory of truth. Rather, I am describing a model in intuitive terms. Hence, I am not trying to adhere to the limitations and guarantees of ZFC. In perticular, my use of set theoristic notions does not presuppose the axiom of foundation.

2.1.2 General idea

The model I will now intend to describe is based on a duality between two disctinct "entities". The "basis" describes the univers, whatever can be said to be real and primordial. No structural description is attempted and indeed the basis could be excluded from the model from a mathematical standpoint. However, stating its place in the model ought to give us confort in our right to produce affirmations pertaining to "reality". The set of all kirkins is the second element of our model. In a way, it could be described as the world of "ideas". The word "kirkin" is introduced for this theory, it is the unitary concept of the model. The closest english word I can think of would be "concept", but as will shortly become apparent, this is an imperfect translation.

The basis and the set of kirkins are considered as fixed and "reliable" entities. This does not mean that they both "exist" in the same fashion, but merely that we consider them as nameable and stable.

Some kirkins can have meaning, but not all. Some of those can be true. We evaluate truth and meaningfullnes through two functions that evaluate the degree of truth and meaningfullness of the kirkin by use of a lattice. We use a poset because not all pairs of degree of meaning/truth are comparable. The lattice structure will be usefull for the descriptions of models and abstract systems of ideas.

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. Certains kirkins are evaluated to give a degree of truth/meaning.

3. kirkinplexes, which are a representation of the idea of "logical system" can be linked to the basis as models of it, or can describe separate things.

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 strucutre. 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 perticular underlines the notion of models.

2.2 A model of truth

2.2.1 First presentation of objects

We define a number of objects.

Definition 1 (The basis)**.** ***The basis*** *is the object that represents (or indeed, "is") reality. No matter what can be said to exist outside of concepts/ideas, this is it.*

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

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* $\dot{E}$*. It is defined now only to serve in the definitions of functions* $\tilde{T}$ *and* $\tilde{M}$ *(see definitions 6 and 7).*

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 mesure degrees of truth and meaningfullness, 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 increassing serie of elements between any pair of comparable elements of* $\dot{L}$*. The minmax and maxmin 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 fundamentaly 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 meaningfullness.

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.*

2.2.2 kirkinplexes and biding

We have now defined the overaching structure of our notion of truth. This subsection and the next will focus on the presentation of subparts of Ω.

We start with the notion of kirkinplex. Intuitively, a kirkinplex creates a context in which we can "evaluate" kirkins (we will say that we bind the kirkin to the kirkinplex). Because most ideas humans have only pertain to reality through a

certain set of assumptions and semantical modelisations, biding a kirkin through a kirkinplex is the main way to obtain an evaluable kirkin. If the target kirkin pertains to reality, then the kirkinplex we use must itself be bound to the basis. If not, the kirkinplex can still be "bound", but it is not bound to anything. The binding process is then simply a description of how the kirkinplex is supposed to operate. We now detail our modelisation of that process.

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* $\dot{\kappa}$

The above definition is very vague, perhaprs downright nebulous. To help understand the idea behind kirkinplexes, I will repeat that they are a representation of the idea of logical system. The point is to consider some non-evaluable kirkins as "free" (in the sens of first order logic) and to give them meaning. In that regard, a kirkinplex is similar to a model of first order logic. It is used to give a context to meaningless variables, relations, etc which can then be evaluated. However, because I will not provide an exhaustive list of possible relevant types of kirkins, I cannot explain structurally "how" the kirkinplex gives meaning.

Therefore, I define a kirkinplex as a monolithic object, only saying that it somehow tells what to do when biding kirkins to it. A kirkinplex can accept evaluable kirkins to represent the possibility to "re-precise" or indeed change an idea.

We now define three biding operators to perform the following kinds of biding :

1. bind a non-evaluable kirkinplex (to the basis or not, the distinction will be covered by the description of the binding operation).
2. bind a kirkin to a kirkinplex
3. bind a kirkin through a kirkinplex, producing an evaluable kirkin

Definition 9 (Binding symbol)**.** *The set of all binding symbols is noted* $\dot{B}$*. A binding symbol represents a way to link a kirkinplex with the basis. 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 reality. However, a binding symbol can perfectely well indicate that a kirkinplex is abstract and used to evaluate ideas separated from reality.*

Definition 10 (Basis-kirkinplex binding function)**.** *The function* $\tilde{\upsilon}$ *is defined on a subpart of* $\dot{\kappa} \times \dot{B}$ *and produces results in* $\dot{E} \cap \dot{S}$*. Using a binding symbol, this produces a statement that says "this kirkinplex correctely binds in this way".*

Definition 11 (kirkinplex-kirkin binding function)**.** *The function* $\tilde{\Upsilon}$ *is defined on a subpart of* $\dot{\kappa} \times \Omega$ *and produces results in* $\dot{E}$*. This produces an interpretation of the second argument in the context of the first argument. Whenever the second argument is in* $\dot{S}$*, so is the result.*

Definition 12 (Basis-kirkin binding function)**.** *The function* $\tilde{\Delta}$ *is defined on a subpart of* $\dot{\kappa} \times \Omega \times \dot{B} \times \dot{B}$ *and produces results in* $\dot{E}$*. Using a binding symbol for the kirkinplex and one for the normal kirkin, this produces an interpretation of the given kirkin "in absolute" through the context of the kirkinplex. Whenever the second argument is in* $\dot{S}$*, so is the result.*

Let us make a quick summary of these four definitions.
The binding symbol tell us how to bind a kirkinplexand kirkins can be bound to or "evaluated in the context of" a kirkinplex. Those two binding operations are respectively done through the functions $\tilde{\upsilon}$ and $\tilde{\Upsilon}$. To give meaning to a non evaluable kirkin, we use a kirkinplex. The process gives us a new kirkin that is "meaningful" in itself (that is to say, it is evaluable). The process requires four elements : a base kirkin, a kirkinplex, and two binding symbols. It is done through function $\tilde{\Delta}$.

A small remark : nothing here says that the result of an application of $\tilde{\Delta}$ cannot itself be a kirkinplex. indeed, if the entry kirkin is a kirkinplex, the result also tends to be one. When that is the case, it is perfectly possible to produce a chain of bindings to produce a larger global kirkinplex in which to bind basic kirkins.

2.2.3 types of kirkins

Now that I have given in broad lines the main elements of the model of truth I present, I will offer some precision on the nature of some elements through the listing of subtypes of certains kinds of kirkins. None of the following lists are meant to be complete and in most cases the subtypes are not mutualy exhaustives. As in most of this hellish to write chapter, I mostly wish to give a general description of the ideas behind the model.

Let's start with binding symbols and kirkinplexes. We describe four main types of binding symbols, corresponding to four types of kirkinplexes.

1. general model of the basis
2. general models of a part of the basis/another kirkinplex.
3. variable specific models of a part of the basis/another kirkinplex. Example : a physic model that also indicates when is "now." Such kirkinplexes are used to bind ideas such as "It is 3 am".
4. abstract systems

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

1. Objects
2. Statements
3. Caracteristics (mostly of objects)
4. Desirs 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

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

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

2.2.4 Strucutral properties

The following properties are true in the model presented whenever applicable :

1. $\tilde{T}(\tilde{\Delta}(k,x,\mu,\mu_2)) \leq \tilde{T}(\tilde{\Upsilon}(k,x)) \wedge \tilde{T}(\tilde{v}(k,\mu))$
2. $\tilde{T}(\tilde{\Delta}(k,x,\mu,\mu_2)) \geq \tilde{T}(\tilde{\Upsilon}(k,x)) \vee \tilde{T}(\tilde{v}(k,\mu))$
3. $\tilde{M}(\tilde{\Delta}(k,x,\mu,\mu_2)) \leq \tilde{M}(\tilde{\Upsilon}(k,x)) \wedge \tilde{M}(\tilde{v}(k,\mu))$
4. $\tilde{M}(\tilde{\Delta}(k,x,\mu,\mu_2)) \geq \tilde{M}(\tilde{\Upsilon}(k,x)) \vee \tilde{M}(\tilde{v}(k,\mu))$
5. $\tilde{T}(\tilde{\Delta}(k,x,\mu,\mu_2)) \leq \tilde{M}(\tilde{\Delta}(k,x,\mu,\mu_2))$

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

2.3 Kirkin bishing

2.3.1 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 produced the notion of inference systems to discuss epistemic logic. Inference systems were a formalisation 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.

2.3.2 Description

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

Definition 13 (bishing)**.** *A bushing 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. When we speak of kirkin bishing, we assume they are well formed.

Definition 14 (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 E iff at each step every entry kirkin that is required to be pre-bished is either in E or is in the product of a previous step.*

2.3.3 Reasoning and definition

The point of describing bishing as using rules is that it allows us to state that there exist some specific caracteristics 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 reassoning. 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 3 and 5.

2.4 Discussion

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 bellieve some specific points are worth explaning separately, both to raise attention to the fact that a choice had to be made and to explain the final decision.

2.4.1 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 constrcuted 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 cosnidered 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.

2.4.2 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 perfectely 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 descriptino is that even though many things feel obvious in general, I struggle to give them a satisfying formulation to express as a caracteristic of T. Hence, I will simply say that T mostly behaves "at least as is obvious, when it has an obvious behavior".

2.4.3 Lattice

One might wish to question my choice to use a bounded lattice to rate the degrees of truth and meaningfullness. 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 2.2.4. These property appear desirable, but I am not certain that a better structure can not be found. Notably, using a strucure that allows to define the complement of any element might prove usefull. I however leave such modifications to future developements. 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.

2.4.4 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 begining 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".

2.4.5 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.

2.4.6 A small comment

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

2.4.7 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 bellieve it can be somewhat usefull. I see that model as a way to clarify the fundamental for other future reflexions 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 3

Human Mind

This chapter admits the following requirements.

- Surface understanding of chapter 2 regarding the notions of kirkin and kirkinplex.
- The ability to read a chart.
- Basic understanding of the notion of "modelisation".

Estimated need for active reading : ⋆⋆⋆

3.1 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 personnality 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 similare 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 limite 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 genric 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 futur to understand how they are set up.

3.2 General model

This section will describe the basic general model of the human mind upon which much of what follows will be based. I bellieve 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 futur reflexions 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 definiton of a specific mind and the difference between minds, a mind, and a mindstate (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 parfectly clear. A mindstate 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 3.1 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 3.1.

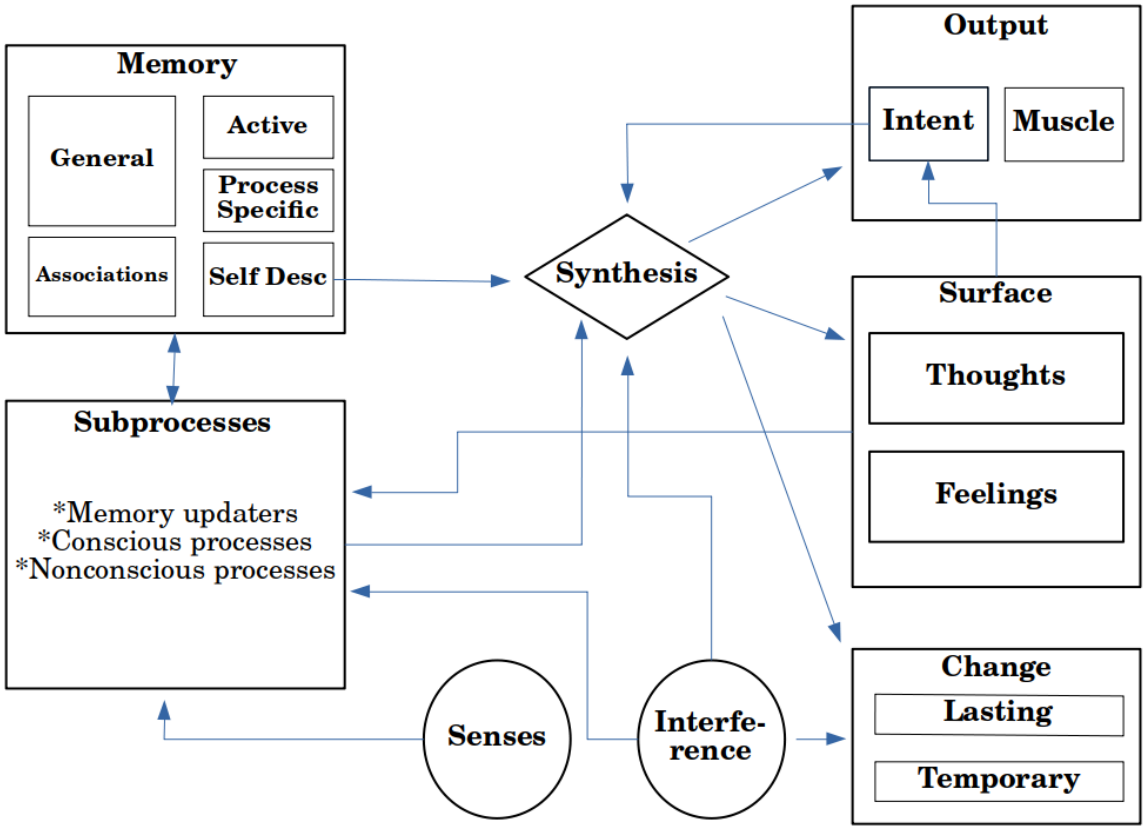

Figure 3.1: General model representation

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 alcool, 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 awarness. The surface can be said to "contain" or to "realize" various "perceptions". I identify two main classes of perceptions : thoughts and feelings. The surface is entirely determined by the synthesis.

The output represents what our mind "concluds to". This includes the decision to move in certains 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 professe to have an exausthive list. Let's list what I did include.

- General memory : longterm 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 handfull 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 inconscious breathing to those we use for complexe 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 suprocesses 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 develope a new subprocesse to handle a specific frequent situation) whereas temporary changes are mostly an effect of immediate outside interference (ie 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 definiton 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 reasonnable 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.

3.3 Processing and functioning

3.3.1 Thoughts, ideas, and kirkins

The time has come to go through a few points of vocabulary and to connect what I described as a modelisation 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 conidered as "objects". They can correspond to a string (or sometimes simply set) of thoughts, be stored in memory, or be implicitely 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 correspondance isn't capable of reaching kirkinplexes. What might come closest is "the idea of a model". We discuss that point in subsection 3.3.2. 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.

3.3.2 Models

Working Note: The use of models by humans will probably warrant a more complete examination later

Working Note: I still hesitate to introduce ideoplexes instead

Many human ideas take place in a "model of something". When you discuss a car and you say "the engine", you are already refering to a set of connected asssumption 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 perfectely possible to reify models as ideas through "the idea of", as can be done for kirkinplexes. I see no need to develope 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 entierty of the model. In fact, even when updating the model, there is no need to conssider it in its enterty, 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.

3.3.3 The base model and the base process

Working Note: Might produce a more in depth examination someday, dunno.

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 strcuture 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 likelyhood. I consider our use of such estimations to be based on bits and pieces of models localy arranged to satisfy the description given by probability theory. However, even localy, the system struggles with very low or high probability.

I will also add that we probably (*eh, funny*) maintain sevral probability models at the same time, interctonnecte 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.

3.4 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.

3.4.1 Tunality

Let's start with tunality. "Tunal" is a catchall adjective for thought processes that require a degree of awarness 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. Awarness 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 perfectely binary quality. One can be more or less tunal.

The awarness doesn't have to be perfectly concomitent with the thinking. For exemple, someone who simply does calculations by pure trained instinct is, by default, not acting tunaly. However, if that same preson purposedly trained that same instinct and thought before doing the calculations "I will now use my trained instinct which often works well", then the whole proccess 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 [**?**]. 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 reflexions, but I still bellieve that the ideas can be linked. However, pure uncotrolled 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. I will use the following scale. It is not itself very rigorous, well defined, or detailed, and is mostly designed as a quick tool.

- A : very good understanding and awarness. Example : constraining oneself to following the use of a mathematicaly rigorous proof systems.
- B : overall understanding of one's mental process and of the strucure followed by one's thoughts. Example : most scientific work. Most proofreading.
- C : decent understanding corresponding to a calm and self aware individual. Example : most people's daily life thinking when focussing on the thinking.
- D : everything bellow stage C, overall lack of understanding over one's thoughts. Often correspond to a lack of control.

Working Note: This scale will probably go to waste once I start working on mind tools.

3.4.2 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 incure at least a modicum of tunality. During cogitation, the mind is say to "cogitate".

3.4.3 Idea bishing

Working Note: Perhaps I should mathematize all this.

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"

[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

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.

Chapter 4

The brickwall of the basic model for reality

This chapter loosely asssumes that the reader has read chapter 3.
Subsection 4.2.2 requires a few basic notion in the field of bayesian probabilities.

Estimated need for active reading : ⋆⋆⋆

4.1 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 3. I will speak of rigor and thoughts and reflexion in futur chapters, both from a normative and descriptive perspective. And I to what I did and will still do without the bellief that my work is final or even fundamentaly 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 confort 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 (metaphoricaly 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 4.4 tend to show, the human process for deciding what

we want is much further removed from being based on a simple and failproof system than we tend to think. By failproof I of course mean a system that does not "fail", drawing a blank or an hesitation, and not a system that alwayss gives the "right" result.

I will now give the outline of a base model for reality (section 4.2). It is called "the simpliest wogian model for reality". Even though it might seem satisfying at a glance, I strongly advise to be causcious before putting large degrees of trust in it. The following sections 4.3 and 4.4 will attempt to speak of the issues with the model.

4.2 A basic model

4.2.1 The flow of time

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

Anyway, the idea reamin that I have to introduce time at somepoint 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 sset of things) that evolves through time at each instant. That thing is what I call reality.

4.2.2 Probabilities

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

I consider the existence of a probability function accross an univers 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 knowledged and continue my considerations regarding the sequence using conditional probabilities. This is thestandard use of bayesian proabiblities.

However, this same probability function gives values to events that are not really about the sequence. For exemple, 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 proable", the later "almost certain".

[1] And as we will see in section 4.3, that is already a problem.

[2] see description of the mind, chapter 3

4.2.3 Desirs and goals

There are things I want about the sequence. I prefer some state of the sequence over others, and I can bellieve that some actions (outputs) on my part will influence them. My desirs 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.

4.2.4 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 objets.
- There are, or at least there can be, other minds in a similar situation as I.

4.3 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 desirs and probability is too coherent. Moreso in the case of desirs, this does not account for the fact the human relationship with their goals and desirs is often incoherent and downright dishonnest.

Also, the notion of causality is touched uppon as a part of the rules, but only indirectely. 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.

4.4 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 counterintuitive.

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 relvance of this section in the context of the current chapter comes from the annoyance at the fact that what I presented in section 4.2 fails to grasp how this works and should be interpreted.

4.5 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 5

Rigor and cogitation

This chapter requires to have a general understanding of the notions introduced in chapter 3 and a basic understanding of the notions of kirkin, kirkinplex, and degreee of meaning (as introduced in chapter 2).

Estimated need for active reading : ⋆⋆⋆

5.1 Foreword

The previous chapter left me in a somewhat comfortable position to talk about the way humans cogitate. In this chapter, I will specificaly 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 personnal 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 argumentations 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 5.5.

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 pilcher. Suppose you have to explain at the same time what a water pilcher 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 pilcher, the explanations are short enough that this is acceptable, but an issue is apparent.

I find myself in a similar bind in section 5.4 and will therefore fuse the explanations regarding goals and dosage.

5.2 Weak Cogitative Rigor

My genral considerations on the notion of rigor will be elaborated upon in chapter 6. For now, I will simply say that these consideration lead me to the following definiton 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.

5.3 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 bellief 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 sall 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 mathematicaly valid reasoning
5. Reified use of honned instincts
6. Pre-approved heuristics and estimations
7. Sub-reflexions
8. Genral pre-approced principles (example : induction principle)
9. Acceptable rationnal 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 accross 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 5.4.

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.

5.4 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 aforementionned 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 bellief) 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 missused. 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 naturaly help with futur 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 maximise 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 convers of the chain effect mentioned above. Becaus 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 unniversal, and also the ones required I however do bellieve 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 bether results on average [1] .

5.5 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 realtion will hopefully be obvious.

A first very easily understood extension is the transmission of an argument or, in all genrality, 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 rationnality 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 cogiation "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 cogiation 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 exponentialy. Hence, guarantees of correctness can become important in term of average result.

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

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

Chapter 6

General study of the concept of rigor

This chapter benefits from having read chapter 5, even thought that is not a requirement.

Estimated need for active reading : ⋆⋆

6.1 Rigor

As I have said before in chapter 5, 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 passt 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 suppossed 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 conssider the be idiots [1] . I have decided to produce a list of some of the forms of rigor I have encountered, giving

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

each a name and a short description. This list will occupy most of the rest of this chapter (ssection 6.2).

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 leasst to some extend and degree.

6.2 Enumeration of various forms of rigor

6.2.1 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 trivialy deduced from the rules allowed by the calculation.

6.2.2 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 decutive 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.

6.2.3 Constructivist Rigor

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

6.2.4 Asiduous 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 focussed on a task with precise hand movements, such as small scale painting.

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

6.2.5 Life organisational 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.

6.2.6 Rationalist Rigor

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

6.2.7 Wogian Rigor

I have written a chapter on this topic, see chapter 5.

Chapter 7

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 3

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, extanded 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 indentity of an instance of a general idea than the identity of a singular artefact. 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 naturaly 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 thoses 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 perticular 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 precisions. 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 particula 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 8

Feeding

This chapter has no requirements.

Estimated need for active reading : ⋆

8.1 Foreword

The goal of this chapter is to summarize my considerations on the topic of what and how I eat. I spent only a fraction of a day on the topic, as I did not need a very complete answer. Most of what I decided on comes from my own intuition, the french website "mangerbouger.com" [**?**], the LessWrong section on nutrition [**?**], and personnal conversations.

8.2 How to eat

I should try to enjoy eating and focus on the taste when practical. This of course assumes that the taste is good. Overall, I think I should devise my diet around the effects on my body but also keep it pleasant, even if that implies concessions to the "health" aspect.

I theorize that my diet and overall enjoyment would suffer if I were to adopt the common mindset in which one is always frustrating oneself in order to stay healthy. This comes from the bellief that it is perfectly possible to eat reasonably healthy while focussing on food I will enjoy and want, but also from the consideration that subconscious ideas play an important role in one's relationship with food.

I should find a point of equilibrium that suits me and let it evolve through re-evaluation over time. A certain degree of filtration of material and speeches that would bend my instinct toward the aforementionned bad mindstate can be tolerated. As always, I remind cautious of approaches that refuse to be questionned. However, this tolerance for filtration cannot expand to rigorous thinking and argumentation, so I should be fine.

8.3 Daily eating schedule

The following schedule assumes relative freedom to eat as I please and might need to be revised according to circumstances.

Time	Food
morning	breakfasst food taken whenever i want in the morning. Some fruit/juice. In one spike.
at some point between 12h and 14h	lunch with vegetables or similar "fresh" intake. low fat
in the afternoon	snacks. Cheese, fruits and fresh, can also sugar based.
at some point between 18h30 and 21h	dinner. The "fat and warm" meal even thought it doesn't necessarily have to be. Nice takeway or outside food goes here. Also meat if needed.
until I go to bed	occasional very light snacks. Mostly biscuits, fruits, and cheese.
0h00	tea and snack as above except larger

Figure 8.1: Daily eating timetable

The very nice but obviously fattening dinners should stay bellow two times a week. The median number of occasions per week should stay at one or bellow.

I should eat a serious meat portion about tree times a week, even thought other meals by me complemented by a little bit of meat. Favor white meat by default and consume one large portion of red meat (or equivalent) per week.

As for drinks, I shoudl focus on tea, hot chocolate, coffee, juice, and water.

8.4 Food elements

Non ordered lists of things I can use to fill my diet. Overall, I should eat the same meal at most twice in the same week. Redundancy from one week to the next is not a problem if I do not care at the time.

As is apparent bellow, I consider that my meals are only composed of one main dish, as a=I complement the rest with snacks.

Elements specific to french food have kept their french name. The lists are bound to evolve through time.

8.4.1 Meals

- Pre-cooked salad
- Homemade burger
- Homemade hot dog

- Ratatouille
- Pasta with lardons
- Tartines de charcuterie
- Peas and carots
- Pizza
- Brunch
- Caesar salad
- Salade de chèvre chaud
- Ananas chicken wih rice
- Soup
- Potatoes with cheese
- Croc monsieur
- Burrito

8.4.2 Snacks

- Cheese (various)
- Surimi sticks
- Mushrooms
- Beignets et patisserie
- Tartines
- Saucisson
- Yaourt
- nuts
- Chips
- Tomate cerises
- Various fruits

Chapter 9

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.

9.1 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 personnal use. All of such vocabulary will be given an entry in section 9.2. 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 discusssed in another section.

9.2 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).

9.3 Word consideration

9.3.1 ”moraly” 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.

9.4 words TODO

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

Chapter 10

Journal

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

10.1 2020-11-30

Yada

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