The project of reducing the external world to the logical atomistic structure where each complex term is made up of phenomenal primitives and logical connectives did not die with logical positivism (or atleast, Carnap). In this post, I will argue for a return for such a project while taking into acount the falsity of the analytic/synthetic distinction by implementing Quinean naturalism and universal belief revision. I will also give the oulline of the mathematical structure of phenomenal counsciosness by showing how phenomenal space is mappable to set theory. I will finish with more speculative thoughts on the classes of different minds in phenomenal space. Process philosophy will be taken into account in a future blog post. TODO throw in tarski's truth definition somewhere in the abstract.

General outline:

1. Tarski's truth definition for defining phenomenal truth
2. Set theoretic mind space
3. Translation between them
4. Empiricism
5. Time evolution and isomorphism to physics
6. Conclusion

The Logic of Phenomena

The general structure of the epistemological system can be seen as the following: foundationalism of definitions, coherence in justification, uncertianty and scepticism.

First, let's discuss truth, or to use a less controversial statement, correspondence. We are not discussing correspondence with an external world, but rather with phenomenal experience, which will be shortered to PE, which we'll later see is a mathematical set.

Foundationalist empiricism of definitions: Primitive definitions are definitions that cannot be defined by any other terms.
(Does "primitive defintion" define itself and if so russells paradox? Graham-Nelsson paradox?)

We can consider a statement p that describes experience e to be true iff e

We're now going to formalise these notions with Field's redefinition of Tarski's truth definition. Primitive terms denotes

Which leads us to the question of whether or not primtive terms denote an abstract concept, or concrete particular experiences. And if we're talking about concrete particular experiences, is it a macroexperience (a subset of PE) or microexperience (a member of PE)?

Field on Tarski's Truth 1972

With these points in mind it is now easy to give an inductive characterization of denotation$_s$:

T1 (A) 1. 'x_k' denotes$_s$ s_k.
2. 'c_k' denotes$_s$ what it denotes.
3. $\ulcorner f_k(e) \urcorner$ denotes$_s$ an object a if and only if
(i) there is an object b that e denotes$_s$
and (ii) 'f_k' is fulfilled by $\langle a,b \rangle$.

(Here 'e' is a variable ranging over expressions of L.) Similarly we define 'true$_s$' for formulas—what Tarski calls satisfaction of a formula by s:

(B) 1. $\ulcorner p_k(e) \urcorner$ is true$_s$ if and only if
(i) there is an object a that e denotes$_s$
and (ii) 'p_k' applies to a.
2. $\ulcorner \sim e \urcorner$ is true$_s$ if and only if e is not true$_s$.
3. $\ulcorner e_1 \wedge e_2 \urcorner$ is true$_s$ if and only if e_1 is true$_s$ and so is e_2.
4. $\ulcorner \forall x_k(e) \urcorner$ is true$_s$ if and only if for each sequence s^* that differs from s at the kth place at most, e is true$_{s^*}$.

This completes the characterization of truth relative to an assignment of objects to the variables. In the case of sentences it is easily seen that we get the same results whatever such assignment we pick; we can say

(C) A sentence is true if and onlv if its is true$_s$ for some (or all) s.

It is convenient to introduce the expression 'primitively denotes' as follows: every name primitively denotes what it denotes; every predicate and every function symbol primitively denotes what it applies to or is fulfilled by; and no complex expression primitively denotes anything

Definition of s_k

Now we can proceed to Tarski*s semantics. Rather than characterize truth directly, we characterize it relative to some assignment of objects to the variables, say s_k to 'x_k'. The idea is going to be to treat the variables, or at least the free variables, as sort of "temporary names" for the objects assigned to them. So we proceed by fixing a sequence $s = \langle s_1, s_2, \ldots \rangle$ of objects, to be assigned to 'x_1', 'x_2', ..., respectively; and we want to say what it is for a formula to be true$_s$, i.e., true relative to the assignment s. As a pre-

< Idea >

Using Tarski's truth definition and have the primitive symbols denote concept of sensory perception. Correspondence with perception gives true statements.

Primitive terms (the empiricist viewpoint) found in Semantics. Do I want to justify the empiricist theory of primitive terms? Or leave it as a premmiss?

Correspondance to sense-experience or phenomenology (the distinction being?). Are the primitive terms microphenomenal or macrophenomenal? How are they abstracted? Barkley?!

Avoiding gestalt primitive terms. Shapes and melodies are not primitive terms, but are made up of microvisual and microauditory phenomenal points.

Actually: It might be fine to include gestalt primitive terms, so long as there is a translation manual between language with different gestalt primitive terms that preserves truth value. There could however be a minimally amount of primitive terms/natural predicates used to define everything else, which is what David Lewis proposes.

Phenomenal truths

Now to truth.

We will define a recursive structure for phenomenal truths, inspired by Field's work on Tarski's truth definition. We want denoted primitives to be part of functions to form terms, which inside a predicate form an atomic formula which when combined by logical connectives form complex sentences and propositions. Truth will thus have to be defined, which is whether or not the proposition correspond to experience or not.

(Idea on phenomeanl primitives: They might not span the entire experience if say they only contain auditory primitivies despite a visual space)
Let $e_1, e_2, \dots e_n$ be a set of phenomenal primitives and $f_1, \dots f_n$ be a set of functions. Then

e_1 denotes whatever it denotes
$f(e_k, \dots, e_n)$ denotes e_i iff $f(e_k, \dots, e_n) = e_i$
$P(e_k, \dots e_n)$ is true

Then the connectives
$\phi \wedge \psi$ iff both are true
$\phi \vee \psi$ atleast one is true.
$\phi \rightarrow \psi$ if phi then psi

Here are some visual representations:

$\phi \to \psi$

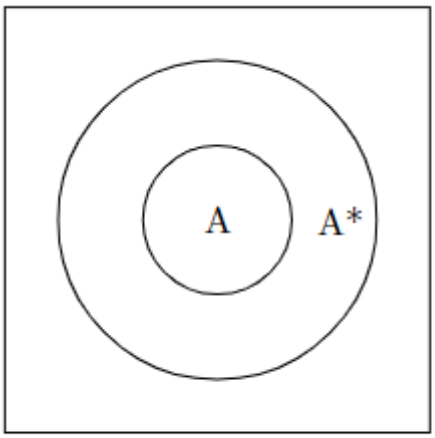

Figure: If A* is blue, then A is blue.

Spanning Phenomenology

Span: A set of primitive terms $e_1, \ldots e_n$ spans the visual field iff all true statements about phenomena can be made true using them.

Counter-example: Let the following set of primitive terms:
$e_1 =$ Audio with decibel > 20 and pitch > 10hz
$e_2 =$ Audio with decibel > 30 and pitch < 10hz

This doesn't span the visual field, for a start, but it also misses any statements about decibel < 20. So it does not span.

Minimal spanning list: A set of primitive terms $e_1, \ldots e_n$ minimaly span iff all true statements about phenomena can be made using $e_1, \ldots e_n$ and any more would be redundant.

Non-example:
$e_1 =$ Audio with decibel > 0 and pitch > 0hz
$e_2 =$ Audio with decibel > 0 and pitch > 10hz

e_2 is not needed.

Now fields view on Tarski's truth definition.
Each variable x_k in the language has a referent s_k that is an phenomenal primitive.

1.
2. 'red' denotes$_s$ the experience of redness
   'loud' denotes$_s$ the experience of loudness
3. $\ulcorner f_k(e) \urcorner$ denotes$_s$ phenomenal object a iff
   1. There is an object b that e denotes and
   2. 'f_k' is fulfilled by (a,b).
      Where e ranges over the expressions in L
4. $\ulcorner p_k(e) \urcorner$ is true iff
   1. There is an phenomenal object a that corresponds to e and
   2. p_k applies to a
5. Recursive clauses...

I shall call them "phenomenal truths" to distinguish them from other kinds of true statements such as, if idealism is false and realism is true, there exists true statements regarding an "external world".

Co-referential terms are terms that refer to the same thing in two languages, like "blue" and "blå" and "blau" e.t.c

> Let us say, then, that
>
> (1) An adequate translation of a primitive e_1 of L into English is an expression e_2 of English such that
>
> (i) e_1 and e_2 are coreferential, and
>
> (ii) e_2 contains no semantic terms.

"T2 defines truth without utilizing semantic terms, whereas T1 defines it only in other semantic term If the purpose of giving a "definition" of truth is to enable you to do model theory, then the elimination of semantic terms from

T1 gives no advantage. For what purpose do we want definitions for which the elimination of semantic terms is useful?"

We must now specify the character of the phenomenal objects and how multiple microphenomenal objects form complex expression for macrophenomenal and gestalt objects, including mathematical objects which justify an empiricist view of mathematical objects.

Complex expressions expressible in FOL:
"There is an experience 'red$_{44}$' at location x, y in the visual phenomenal field"
Can generalize coordinates if the visual system is not a simple cartesian grid. "There is an experience 'red$_{44}$' at location $r_1, r_2, \ldots r_n$ for some coordinate system $r_i \in R$ in the visual phenomenal field".

"I experience pitch$_{35}$ at decibel$_{74}$ in the auditory phenomenal field".

Then the atomic sentences are defined
$\phi \to \psi$

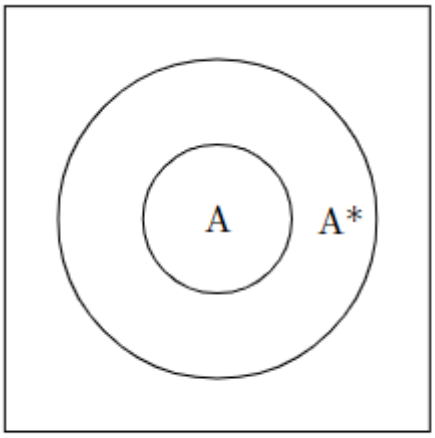

Figure: If A* is blue, then A is blue.

This gives us some really nice properties for language of phenomenal experience, it is completely compositional and atomistic.

No subjective or objective truth

Takedown of the difference between "objective" and "subjective" truth:

Objective and subjective truth as subject independent and dependent respectively.

Subjective: "There is experience pitch$_{35}$ at decibel$_{74}$ in the auditory phenomenal field".

Objective: "Subject S_i is experiencing pitch$_{35}$ at decibel$_{74}$ in the auditory phenomenal field".

Theorem: There exists a translation from all subjective truths to objective truths.

This distinction might not be valid if objective and subjective truth is defined to be truth about the external world. This I will not discuss in this article.

Set theory

Because it's first order logic we cannot predicate over sets, so if each visual microphenomena would be modelled as, for example $\{red_{44}, x, y\}$ then we would be predicating over sets rather than objects. Problems of phenomenal indexicals.

We can start translating sentences written in phenomenal language into a language of sets. We will begin with the visual space as it is the most easy to visualise and demonstrate. The idea that sets can be used to model phenomenal experience is not enetirely new, as IIT already has done that (CITE THAT PAPER) aswell as other studies who show that smell has a hyperbolic smell (CITE PAPER) set structure. As will be explained later, the exact structure and measure space on experience is up to the scientific method to figure out, but we can do a basic approximation of it. We can, for now, assume that visual space V is merely composed of a cartesian two-dimensional grid where every point has a hue and brightness. It is worth noting that the book XXX discusses non-linearilities in the visual space, but

for simplicity we assume a cartesian grid. Likewise with logiarithmic decibel on audio

In Set-construction notation:
$V = \{v : v \in [0, X] \times [0, Y] \times [0, B] \times [0, H]\}$
$A = \{a : a \in [0, D] \times [0, P]\}$

This means we can now refer to microphenomenal entities like the following:
$v \in V$
$a \in A$

We can now create sets based on true statements on phenomenal language
$\{v \in V : \phi(v)\}$

For example
My visual experience of looking at *a cup* = $\{v \in V : v \in Cup\}$

(For problems regarding names of ordinary objects such as "a cup" will come in later chapters when we introduce the language of ordinary objects)

We can also do more complicated sentences

My visual experience of looking at and holding *a cup* =
$\{v \in V : \text{region } C_v\} \cup \{f \in F : \text{feeling } f \text{ in region } C_f\}$
Which is equivalent to
$\{(v, f) \in V \times F : \text{feeling } f \text{ and seeing } v \text{ in region } C\}$

Visual space - Wikipedia
CALL IT VISUAL SPACE NOT VISUAL FIELD

We can now define an entire phenomenal field as

$E = \{V \times \cdots \times F\}$

Which makes E the space of all possible minds. We will call E *mind space*. E here stands for "experience". We can then index other experiences, such

as say, some random rabbit, as $E_{🐰} \in E$. And so on.

We mark "The" experience that's currently happening right now to YOU reading this as $E_@ \in E$ where the "@" symbol is inspired by the "actual world" which uses the same symbol in David Lewis's possible world theory. Our discussions on solipsism in SCEPTICISM CHAPTER demonstrated the unknowability of what can now be described as the complement of the set $E_@$, usually denoted as $\overline{E_@}$.

We can then take a special subset of E which we will call "current experience". This is the set of experiences that are currently taking place, where $E_@$ will obviously be included. Since this is time indexed, though we will not discuss change in this chapter, we will call it E_t for a time point t

$$E_t = \{e \in E : \text{ all statements about } e \text{ are true } \}$$

TODO: Add pictures of mind space.

Algedonic phenomenology

Algedonic phenomenology is about pleasure/pain (Uriah Kriegel the varieties of consciousness).

Daniel Dennett and Eliminativism of pain sound sreally based. Morphine is repported that patients feel pain but that it is not bad.

"What should we make of Dennett’s position? One question concerns the concept of pain. It’s true that we ordinarily assume that pains are intrinsically awful and that we have infallible first-person access to them, but it is arguable that neither feature is essential to pain as we ordinarily conceive of it. Perhaps folk psychology allows that we could be wrong on at least one (if not both) of these points and yet still be talking about pain. Perhaps morphine cases involve highly unusual pains (pains that aren’t awful), or perhaps they involve failures of self knowledge (and those on morphine

merely think that they are in pain). In fact, the idea that pains are not atomic sensations but are rather complex states with sensory, hedonic, and moti vational elements is received wisdom in pain science. Although the various aspects of pain usually co-occur, there are conditions – such as those to which Dennett draws our attention – in which only some of these elements are present. In such cases, perhaps there is no fact of the matter as to whether the individual in question is in pain. But to say this is not to deny that pains exist; it's rather to hold that pains are more complex than we thought. To go down this route would be to embrace revisionism rather than eliminativism with respect to pain"
Dennett 1978a

Three different views: Eliminativist, Reductivist, Primitivist

Emotional Phenomenology

Emotional phenomenology has a long history of analysing the first-hand experience of emotions, the what-it-is like to have an emotion. Just like earlier, there are three different views [source] Eliminativist, reductivist and primitivist. Again, in this article the truth value of each is not evaluated, however it is formalised in set theory and the three hypothesises could potentially be scientifically falsified or verified.

Eliminativism: $\neg(M \in E)$
Reductivism: $M = \{A \in E : \exists c.\, c \in A \wedge c \in M\}$
Primitivism: $M \in E$

Cognitive phenomenology

The Nature of Cognitive Phenomenology.pdf

Does cognition such as the thought of 2+2=4 be reducible to other phenomenal experiences?

Using our
Three different views: Eliminativist, Reductivist, Primitivist

Using our developed phenomenal language and set theory we can now solve this question. Take the experience of thinking "2+2=4", there seems to be something that which it is like to be thinking about 2+2=4. The eliminativist position is thus comepletely unfounded, as it lacks any ability to explain why there seems to be something that it is like to be thinking 2+2=4.

So then we get to the more interesting question of Reductivism vs Primitivism.

Let M be a mathematical thought, such as "2+2=4" for example. Then

$M \in E$

Choise sequences and phenomenology book reference here

It seems like many philosophers constantly assume cognitive eliminativism, in the sense that there is no experience of mathematical or other "a priori" objects. The idea that there is nothing to be thinking about a number is absurd, with a small amount of introspection it's just as much of an experience as any other of our thoughts. As a consequence, mathematics is justified a posteriori and the hypothesises are a lack of contradictions given some statements and the experiments are derivations.

Self referentiality.
Since we experience mathematical objects, and we're using mathematical objects to describe the experience of mathematical objects, could a mathematical object describe itself?
$[E_@] \subseteq E_@$

Where the brackets indicate symbol which refers to itself.

So mathematical and logical objects are clearly phenomenal.

IRREDUCIBLE COGNITIVE PHENOMENOLOGY AND THE AHA FEELING.pdf

Hmmm UNLESS the "AHA!" experience is irreducible. A property such as being in a (mental) state of awareness of the meaning of a proposition or being in a (mental) state of awareness of the truth maker of a proposition might be irreducible.

I wonder if that can be expanded to memory and mental images. Most certainly can, since one's awareness of the meaning of a proposition is phenomenologically awareness of the inner auditory sense of the proposition as it's heard in thought. So it can be generalized to say, our mental imagery or smell.

What about aphantasia?

Religious Experience

In the book "different kinds of religious experience" blah blah

It is also reduction to other experiences.

Action Experience

Actions are also reductive.

Mind Classes

Complex definitions and gestalt objects

Cup $=_{df}$ Sight experience of cup $\wedge$ Tough experience of cup

Properties derived from similarities in complex objects. Belief formation about complex objects. Causality between complex objects. Theories about

complex objects. Coherence between theores, theory ladeness. Bracketing.

There are then different minds $\{M_i\}$ and they can all form a class of minds. $\{M : \phi(M)\}$ for example, is the class of all minds where $\phi(M)$ is a true statement. For example

$\{M : \exists X \subset M \wedge Red(X)\}$

Would be the class of all minds such that there exists a subset of the mind that is red. It excludes all minds that does not have a red spot in their visual field.

More advanced classes may thus be constructed
$SE = \{M : M \text{ is sentient}\}$
$SC = \{M : M \text{ has a self concept}\}$

And perhas one can show theorems to be true such as
$SC \subset SE$

to be true or false, though we do not do so here.

$\{M : M \text{ is Human}\}$

A lot of these sets can be vague, in which case some function to determine "how much" they belong to a certain class of minds in mind space they belong to. "Being human" is, atleast by posthumans, considered to be a vague predicate, there is no clear demarcation from human and non-human.

Discreteness vs Continuity

In 2. The logical structure of the world we discussed the Löwenheim-Skolem paradox and Putnams paradox. The solution we proposed was to now allowed a complete theory of the world to contain an infinite number of items. And any complete theory of the world will contain all phenomenal points. Thus we will rule out the following possibilities:

Non-infinite extent of phenomenal points:
$|E| = \aleph_0$
$|E| = \aleph_n$ for all n

Discreteness of phenomenal points:
Take hue for example, from $[0, H]$ (including the topological property that it is a circle and $0 = H$.). It must then be the case $H \in \mathbb{N}$.

Empiricism, Biophenomenology, Heterophenomenology and Husserlian Phenomenology

Heterophenomenology, Dennett

The idea that an individual, atleast a human, can themselves figure out the primitive terms, is not something I believe to be highly reliable to yield true statements. Instead, the primitive terms are discovered through thorough empiricism and inter-subjectivity via phenomenal consciousness model building using methodologies like Heterophenomenology and Biophenomenology.

Heterophenomenology is also how we get to question on how it is like to be a bat. The notion that there could exist new, completely different phenomenal primitives that humans (currently) don't have direct experiential access too, is a very interesting and humbling one. This means that we cannot claim that any list, even of perfectly healthy human introspection, of phenomenal primitivies is a complete one. Once we're able to experiment on separation/combination laws, computational mind upload e.t.c then we'll be able to better understand which possible phenomenal primitives are out there.

Speaking of separation laws, what if they are computational? "His discussion revolves around his imaginary Olympia machine, a system of buckets that transfers water, implementing a Turing machine. Maudlin's main target is the computationalists' claim that such a machine could have phenomenal consciousness." So each water molecule has rudamentary phenomenal consciousness, the system as a whole has some emergent phenomenal consciousness given by the combination laws which are computational in nature. If computational process, then there exists a phenomenal process. Even for a human brain, each neuron from it's changing potentials and neurotransmitter recieval/delivery can be it's own separate phenomenal consciousness while building up a complex computational system which has it's own system.

Separation laws and combination laws don't need cosmo/pan psychism. They can be generalised.

The mathematics of combination/separation laws:
Let $\{x_1, \dots x_n\}$ be a set of objects and $\{P_1, \dots, P_m\}$ be a set of phenomenal properties.
Microphenomenal experience: $P_a(x_i)$.
Macrophenomenal experience: $P_b(x_j, \dots, x_k)$
As natural laws (universal generalizations):
$\forall x_i . P_a(x_i) \rightarrow P'_a(x_i)$
$\forall x_i . P_b(x_j, \dots, x_k) \rightarrow P'_b(x_j, \dots, x_k)$
$\forall x_j, \dots \forall x_k . P_b(x_j, \dots, x_k) \rightarrow P'_b(x_j, \dots, x_k)$
$(\bigwedge_{j=0}^{j=k} P_a(x_j)) \rightarrow P'_b(x_j, \dots, x_k)$

In the future, brains can be constructed and edited in ways such that inter-personal confirmation is possible and combiation/separation laws can be scientifically evaluated.

Setting up an experiment to test the supervenience thesis:
Definition: Mental x supervenes on physical y if a change in x is necessarily

a change in y. You cannot have two same y and have two different x. Testing this experimentally means putting physical objects in such a way such that the phenomenal experience is different but the physical system is exactly the same (Elaborate more).

Biophenomenology studies the interaction between experience and physical substrate that correlates with experience. The causal processes can thus be intersubjectivitily verified by constructing experiments with counterfactuals. "If I trigger these neurons, then we expect the person to report on this phenomenal experience".

That smell is hyperbolic, or the visual field is composed of hexagonal pixels in a non-linear grid are some current scientific theories about the nature of phenomenal consciousness. That these processes are to be somehow introspectively discoverable like with Husserlian phenoemeonology is something that I strongly believe to be false.

The mathematical structures can thus be unravelled. Measure spaces and so on. The fallacy of one's own mind is to be avoided, other minds have different features (colorblindness, deafness, aphantasia, queer sexuality/gender e.t.c). And it's a fallacy to believe one's own mind to be any kind of default, even among the mind-class of humans.

SOURCES: Visual space book, Hexagonal structures paper, hyperolic smell.

Future ideas

Time evolution of minds, how they evolve over time, aswell as the special place of memory (is memory a subset of mind?) in the theory will be discussed in a future post. Minds and Physical systems have isomorphisms; a physical system can be represented as a mind and can thus be visualised. This blog post is under construction.

Diverse Ideas

We can introduce the language of physical objects, including primitives (like space points, temporal relations, extension e.t.c) and a perhaps a translation manual between phenomenal statements and physical statements. Perhaps the physical object language can be split into observables and unobservables. Then we have a longer translation

Phenomena --> Observable physical objects --> Unobservable physical objects
or

Phenomena --> Unobservable physical objects
Phenomena --> Observable physical objects

Scientific realism or anti-realism

Belief revision of a complex sentence.
Falsifying a belief: $P(S|E_i) > P(S|E_{i+1})$
Verifying a belief: $P(S|E_i) < P(S|E_{i+1})$

Problem of induction. The newly added evidence in the larger set E_{i+1} can increase or decrease the probability of a complex sentence S.
What about Quinean global support? Other theoretical sentences can be a part of E_{i+1}!

This is why Bayesian > Inferentialism!!! A case for changing science!

Orthogonality thesis/Hume's guillitotine: Why science is not value-driven. A global act axiom is needed to justify any act, sentances with the word "should" in it.
Example of modus ponens with ethical axiom:
(1) You should take actions that maximise happiness

(2) Eating x chochlate bars will maximise happiness
(3) You should eat chocholate

Formalised:

$\forall x. max_x(H(x)) \rightarrow O(x)$
For obligatory modal operator O and happiness function H and action x.

$max_x(H(x) = H(a)) \rightarrow O(a)$
Therefore
$O(a)$

Williams says this: "Epistemic foundationalism does not really offer external constraints on our beliefs" is this uuhh, important?

Collective science? Takes place in sociology?
A combined subject increases the number of sense-data, observation sentences, complex sentences and number of models and theories. It's only a sped up and there are no emergent collective structures. Institutional problems (for academia or corporate science) can affect the accuracy, negatively, for epistemic virtues on larger scale.

Formalisation of phenomenal space and the space of all minds. Subsets and classes of phenomenal space, capable of different types of cognition, intelligences, consciousness and self-consciousness.

SMITBT.pdf (philpapers.org)
Discrete vs Continium: Challenging the arguments by Smith. Finitist Set Theory and its equivalent mereological system is probably complete and coherent.

1. Urelements are discrete microphenomena
2. There exists functions between sets, a set at one timestep.
3.

Mind space of an electron
{spinup, momentum, energy level} isomorphic with {red, 1hz 1db sound, 1 point of popcorn smell}
As an example.

The isomorphism between phenomenal space and newtonian mechanics will be delivered in a future blog post.

Even "me" or "I" is non-primitive since what I consider to be me is a subset of perception. Concept of identity.

Time dependence, finite state, Hoffmans evolutionary perspective, e.t.c will be discussed in future blog post.

It is contradictory to say "There exists no blue to x<4 in the visual field" and "There exists blue to x<3 in the visual field"

Logical phenomenal atomism

Rudolf Carnap introduced a terminology distinguishing between logical and non-logical symbols (which he called *descriptive signs*) of a formal system under a certain type of interpretation, defined by what they describe in the world.

A descriptive sign is defined as any symbol of a formal language which designates things or processes in the world, or properties or relations of things. This is in contrast to *logical signs* which do not designate any thing in the world of objects. The use of logical signs is determined by the logical rules of the language, whereas meaning is arbitrarily attached to descriptive signs when they are applied to a given domain of individuals.1(https://en.wikipedia.org/wiki/Non-logical_symbol#cite_note-1)

Against disjunctivism: "Illusions" are still subsets of experience that can be referred too.

The problem of other minds: Is the contemplary set of E non empty? Is there a true statement such that "Sj with atleast one member not in E such that there's a true statement about Sj".

Imagine a possible world where $p, q \in w$. Let's say there exists belief-having subjects. Assume that there exists a belief set for each permutation of the statements p, q (i.e $\{p, q\}, \{\neg p, q\}, \{p, \neg q\}, \{\neg p, \neg q\}$ and call these "meta-narratives". Assume one fourth of the belief-having subjects believe in meta-narrative $\{p, q\}$, another quarter in $\{\neg p, q\}$ e.t.c. And assume one belief-having subject is a post-modernist who is annoyed that no one can come to agreement, and believe every narrative is equally true, just different perspectives. The post-modernist will be wrong. The first meta-narrative is the correct one. This can be extended to any set of propositions and truth values for the propositions (including multi-valued and fuzzy logic, and in some instances you end up with uncountable many meta-narratives).

Primitive terms:
Can point any experience and name it.

Mimimal realization of primitive terms for describing phenomenal terms.

Beatle in a box, some people with more coarce-grained minimal realization of primitive terms. Like colorblind vs non-colorblind.

Husserls Bracketing. Angrippas Trilemma. Word definition coherentism vs foundationalism.

Panpsychism has combination laws, cosmophysicms has separation laws.

Panpsychism formalised:
Panpsychism is true iff the following proposition is in T_ω : $\forall x P(x)$ for phenomenal property P.

Combination laws could be used to analyse the phenomenal experience of other objects. Imagine an invention that connects a human brain and can be

placed on any object in other to experience what that object experiences. Such an invention would take advantage of mental combination laws. An invention like this could be invented over time using neurophenomenology, like for example adding neurons to the brain and repporting new phenomenal experience, as a way to understand the combination laws.

Alternatively separation laws. Imagine a berkleyan universe where everything is in God's imagination. This means that while there is a universal experience and subject (god) there are also set up separation laws which separates different sub-imaginations. A different theory could be bernado kastrups analytic idealism where he proposes that the universe has dissociative identity dissorder. I don't yet know how to formalise cosmopsychism into first order logic.

Then it's just formalised like any other natural law. Let P, Q be phenomenal properties. Then we could say $\forall x P(x) \rightarrow Q(x)$ which indicates a law-like statement (universality) maybe that every time x has experienced red in region A, it experiences green in region B. These laws could then maybe be extended to be necessary, not merely contingent given some notion of natural law. There could even be correspondance and interaction rules with non-mental rules which could solve the mind-body problem.

Gunky and Junky phenomenology. Part and parthood forever. Reminder that consciousness seems bounded so it can't be Junky. Atleast $E_{@}$ isn't junky. It probably isn't Gunky either considering the finite computational capacity of the brain and some empirical results for trying to find the smallest piece of experience.

Absolute vs Relational space: If object ob that the theory predicates over has the property "is at location $(r_1, r_2, \ldots, r_n)$ for generalised coordinates r_i", then it only needs n pieces of data to describes its location. If the set of objects in the universe is $|d|$ then every object needs a relational property with every other, so you get the 2-ary predicate "is at location $(r_1 - q_1, \ldots, r_n - q_n)$ for generalised coordinates r_i for the object and q_i for

some arbitrary object". This would be vastly more complicated. The amount of predicates for absolute space would be $n|d|$ while the amount of predicates for relational space would be $n|d|^2$.

Algorithmic complexity theory: The smaller the theory of the world iff the smaller it's algorithmic complexity.

Theory ladenness: Once we have introduced the language of ordinary objects, the definitions of these objects can be different, radically different so. In this sense, if the meaning of a word (in the language of ordinary objects) is determined by its connection with other words (in the language of ordinary objects) then there would still be structures that can be found. This could imply that evidence is still accumulative.

There are also fuzzy predicates on the objects measured. What counts as object x? This can be arbitrarily divided.

"(3) Moreover, Kuhn extended the claim that observation is theory laden to say that *all* major aspects of a science are laden by the others. Substantive data and theoretical claims, methodological standards, goals, and even the social institutions of science are all bound up in mutual dependence. (The received view had kept them separate and independent in order to avoid mutual contamination allegedly leading to circularity; see Scheffler 1967.) It is this internal feedback that introduces the interesting, nonlinear dynamics into Kuhn’s model, since the feedback produces coupled interaction terms (Kuhn 1977: 336; Nickles 2013b; De Langhe 2014b)."

Scepticism against internal mental states

Some reductive materialists sometimes argue against mental states such as beliefs, desires, emotions and so on. I will argue that beliefs are primitive while desires and emotions exist but are derivatives from more fundamental microphenomenal experiences.

The language of ordinary objects

The language of phenomena can be extended by introducing new primitive terms such as temporal, spatial and so on which could form the language of ordinary objects. However compositionality is no longer retained, because of 'grue' and 'bleen' are now definable, and 'blue' and 'green' are in turn definable by grue and bleen, which means that statements including the term 'green' include terms with holistic definition/defined by a holism.

From SEP: Epistemological Problems of Perception (Stanford Encyclopedia of Philosophy)
"2.1.2 Referential Directness
Another way that perception might be direct is if perception represents external objects, as such, without that representation being mediated by representation of other things. Contrast this with the classical empiricists' opposing view, that the only way to represent external objects is as the cause of our sensations (Locke 1690, Berkeley 1710). One might worry, however, that unless perception puts objects directly before us, we are in danger of not genuinely being able to think about the objective, external world at all, but only about ourselves. To say that perception is referentially direct is to say that the ability of perceptual states to represent does not depend on the ability of other states to represent.""

Is dualism only formalisable in second order logic?
$R(P) \rightarrow M(P)$
If P is "private", then P is "mental". Alternatively brentano:
$I(P) \rightarrow M(P)$
If P is intentional, then P is mental.

The language of sense-data is extensional and compositional. If phenomenalism is true then logical atomism is true.

A tree without leaves is somewhat blocking the view of a white hospital. Different views of perception may grant that there are overlapping

"perceptions" on certain phenomenal points/regions. The white of the hospital is experienced "behind" the browness of the tree, according to maybe naive realism and intentionalism. But perhaps not according to sense-datum theories.

Creating an association between a sense data and a mental symbol is a function of awareness. The mental symbol is now associated with the sense data and the mental symbol can generate said sense data. This is what we call the reference of the mental symbol.