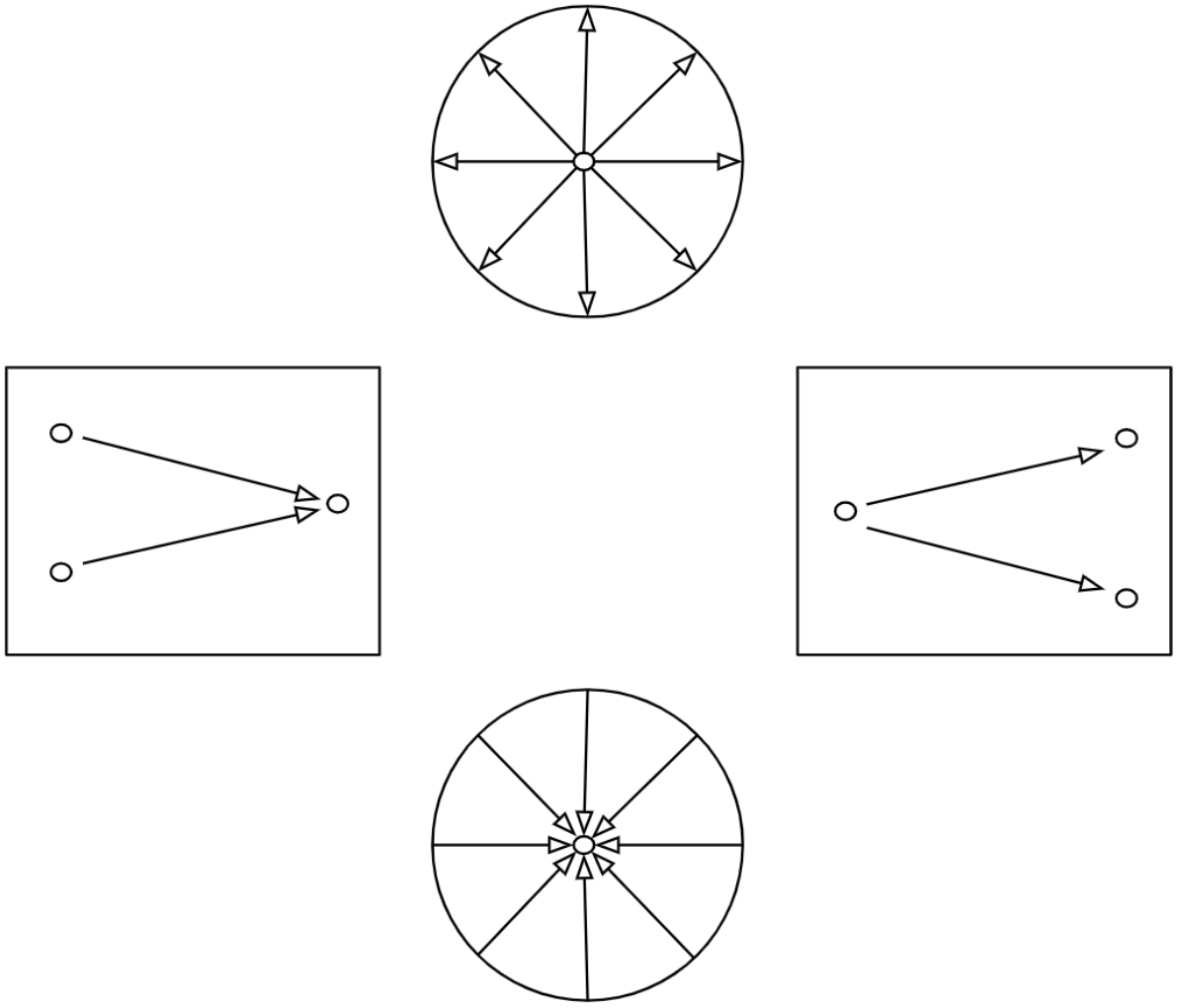
THING THEORY

An Explorative Approach to Phenomenological Analysis

or “Doing Math on Words”



Thing Theory: An Explorative Approach to Phenomenological Analysis

(or "Doing Math on Words")

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ABSTRACT

What is a "thing"? It is, by definition, a thing.

"Thing" is simply a label assigned by humans to point to some particular phenomenon.

This essay will outline a structure to analyze and categorize any given "thing", concept, phenomenon, knowledge model, or abstract system based on a metamodel construct which includes 4 key principles, and no axioms. Understanding these principles may shine some light on the previous description of a "thing".

1) It is a cohesive phenomenon that is manifest or "objectively" sensible.
2) It is a particular system with identifiable qualities/states.
3) It is an accessible model/interface for a user to interact with the world.
4) It is a "thing", an abstracted symbol that represents a greater concept.

The concept of the word "thing" is used to point to any particular phenomenon without much specification beyond the word itself. The essence of "thing-ness", one might say, is being the most simple abstract representation of a much larger concept or phenomenon. In that sense, the word "thing", the symbol rather than the conceptual idea of a thing, is a vague "thing" in and of itself. The symbol "thing" points to the concept of "thing-ness", and thing-ness itself is the concept of pointing to a concept. Did I miss anything?

Relevant domains/foundations

-Epistemology
-Phenomenology
-Category Theory
-Semantics/Pragmatics
-Computation

Key quotes

Part II: “Every definition…” – mapping problem definition, pg.8
Part II: “…switch is flipped” – mapping problem example, pg. 11
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Part III: “The unique purpose…” – unique purpose of CKOD, pg. 22
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Dedicated to my family, for keeping me sane

PART I: Foundational Philosophy and Purpose

The utility of philosophical research in the 21st century struggles to compete with the increasing resolution, diversification, and specialization of related academic fields. Evolutionary offspring of the classical concept of “natural philosophy”, such as biology, physics, cosmology, etc. tend to offer more useful, practical insight on modern matters that philosophy has unsuccessfully attempted to unfold.

However, complications may arise when trying to apply and communicate knowledge from one domain to another, as each new domain necessarily has their own nomenclature, formats, prerequisite concepts, etc. A particle physicist, for example, might have a hard time understanding detailed expert analysis from the work of a cosmologist, much less a biologist, or a politician. The dissociated, disintegrated nature of postmodern academia can lead to 1) communication breakdown between specialized domains and 2) inability to engage students and the general public.

Despite the apparent, demonstrable success of modern sciences to solve the world’s problems and express the nature of reality in exquisite detail, there still seems to be a tangible disconnect between the general public and the culture of genuine curiosity to understand the world around us.

In order to bridge this gap, philosophy might just need to embrace the modern rebrand it has been so desperately asking for since Descartes and Kant. Philosophy is what informs our intuitions about the world and guides us to take creative approaches to complex problems. The man with the plan, Einstein himself has been quoted expressing that his reading of the philosophical works of David Hume directly informed his ideas on relativity. But as an avid philosopher and thinker myself, I would describe the current state of philosophy as “stumbling over the distracted heap that is itself”.

The language and culture of philosophy is too on the nose without realizing the point. Excessive articulation often looks past itself, too many “foundational” ideas connected within a conceptual vacuum can lead to an uncompressed maze of definitions and perspectives. In my personal experience, reiteration of a *limited* set of specific words and compressed phrases across different contexts tends to be the best way to express the intended meaning of a symbol, word, or idea. X=X across all contexts, regardless of what X is. The meaning and purpose of language is certainly informed by the rigorous syntactic and axiomatic structure, yet it is equivalently informed by the preconceived semantic notions of the end users. *If no one knows what you’re talking about, you simply haven’t gotten your point across.*

“In category theory, a branch of mathematics, a monad is a monoid in the category of endofunctors of some fixed category.” [1]

Of course, any given field of study has a learning curve, and topics get more and more specific as you continue, analogous to the dichotomous model of the animal kingdom categorizing living creatures into increasingly specific subdivisions. Each field offers answers to particular types of questions about the world, and often these domains look to one another to garner a more complete perspective. What is important to point out, is that these are all human-made structures for humans to use. We, as end users, have some given ability to use and refine these models. Knowledge is, by any good definition, something that must be accessible to its subject.

Therefore, one might propose a metamodel M which allows subjective observers (humans) to reliably interface with knowledge models, and consequently the external world in general. In the way that the dichotomy of living entities represents a cohesive iterative structure between categories of living entities, M represents (or executes) a cohesive iterative structure between categories of operable “things”, objective phenomena or subjective experiences with which a subject may interact/form relationships.

M is carried out by our brain at many levels of conscious and unconscious abstraction, and manifests as one’s ability to interface with the world in some capacity according to a given knowledge model. Any specialist uses M to operate with knowledge in their respective field, yet they may not recognize the importance or even the existence of M itself. M may often be attributed to human intuition, complex cognition, or perhaps consciousness. Regardless of the nature of M, the structure may be roughly abstracted out by comparing the natures of various diverse knowledge models and generalizing the form.

One major drawback to a structure like M is the negative correlation between the generality of the set of relevant phenomena (all consensus models of human knowledge) and the resolution/utility of M itself. A conceptual model of M would necessarily intend to describe the underlying structure of all forms of access to knowledge, and thus must cast a wide enough net so as to allow any given “knowable” concept to be properly operable as an object within the scope of M.

A comparable example of this generality relationship is apparent in abstract maths like group theory, the study of symmetry. The applications of group theory are innumerable and inconceivable, yet the degree of abstraction required to actually comprehend and value the ideas in context is not yet standard for most humans. The assertions that these extremely abstract models have the ability to make are constrained by the domain and structure of the model itself, largely by design.

A leader, public speaker, or artist, for example, must be specific enough to evoke meaning, yet general enough to resonate with a diverse audience; undefined or redundant in such a way that allows the audience’s own interpretations to interact with the substance of the content. Everyone knows the classic example of “42”, a Truth too specific for its own good. Excessively specific information is meaningless without context.

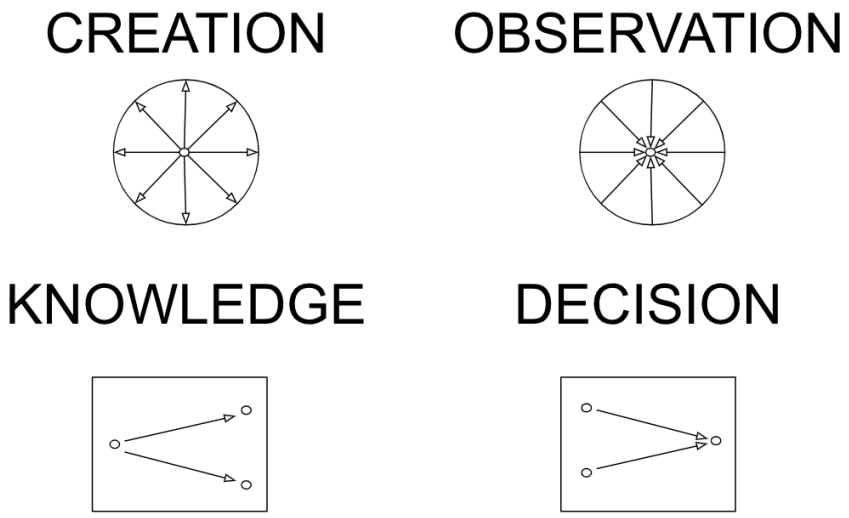
Basic math is utilized in various different fields because it is a system abstracted out from various different contexts in the world, yet in the same stroke, math does not say anything at all about the nature of these specific fields. Rather, math provides perspective and utility to a given context, like engineering, computation, physics, etc. Math informs science. Art and symbols inform meaning. M informs intelligence and creativity.

So what is M? How can we begin to conceptualize the structure of M?
And how might this insight inform our perspective on education and future research?
These are the questions I intend to focus on in this essay.

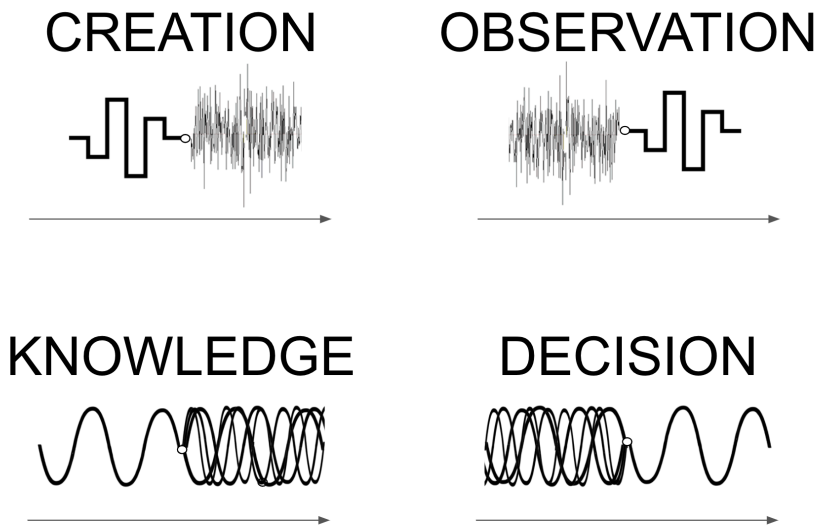
PART II: Basic Principles and Nomenclature

Let us begin with a bottom-up approach to analyzing the structure of thing-ness. There are 4 core principles in this theory, and the first thing to know about them is their names, regardless of their "meanings" in context. The goal of these names is to evoke subjective meaning for the end user, you. These are words that are decidedly popular for discussing the ideas of philosophy and various sciences. The intention is to connect *your preconceived intuitions* about these words and concepts to give a greater contextual meaning to the ideas presented here.

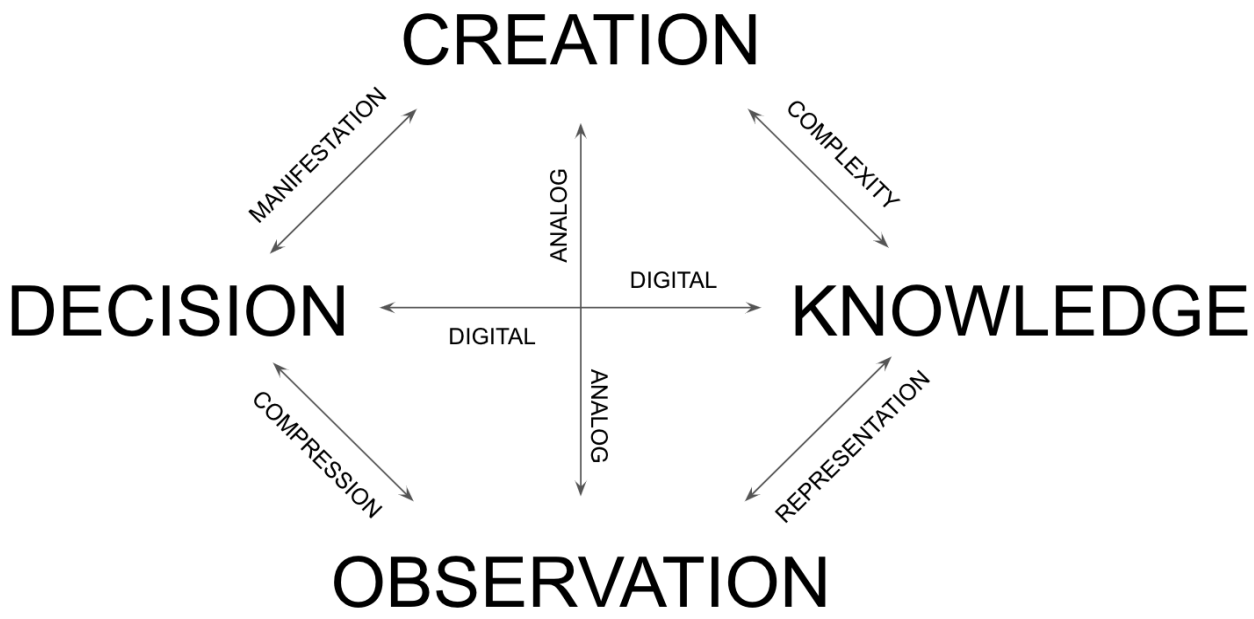
Model 1: Node Representation (objects and arrows)



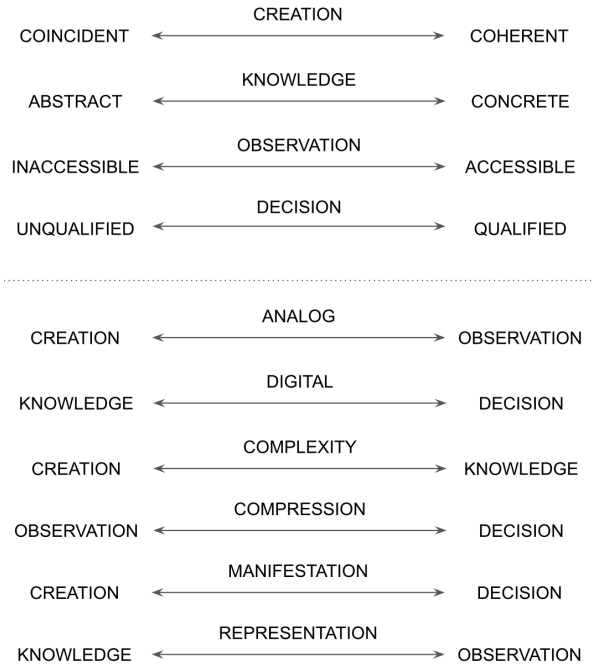
Model 2: Wave Representation (translating waves)



Model 3: Interconnected Relationships of Principles



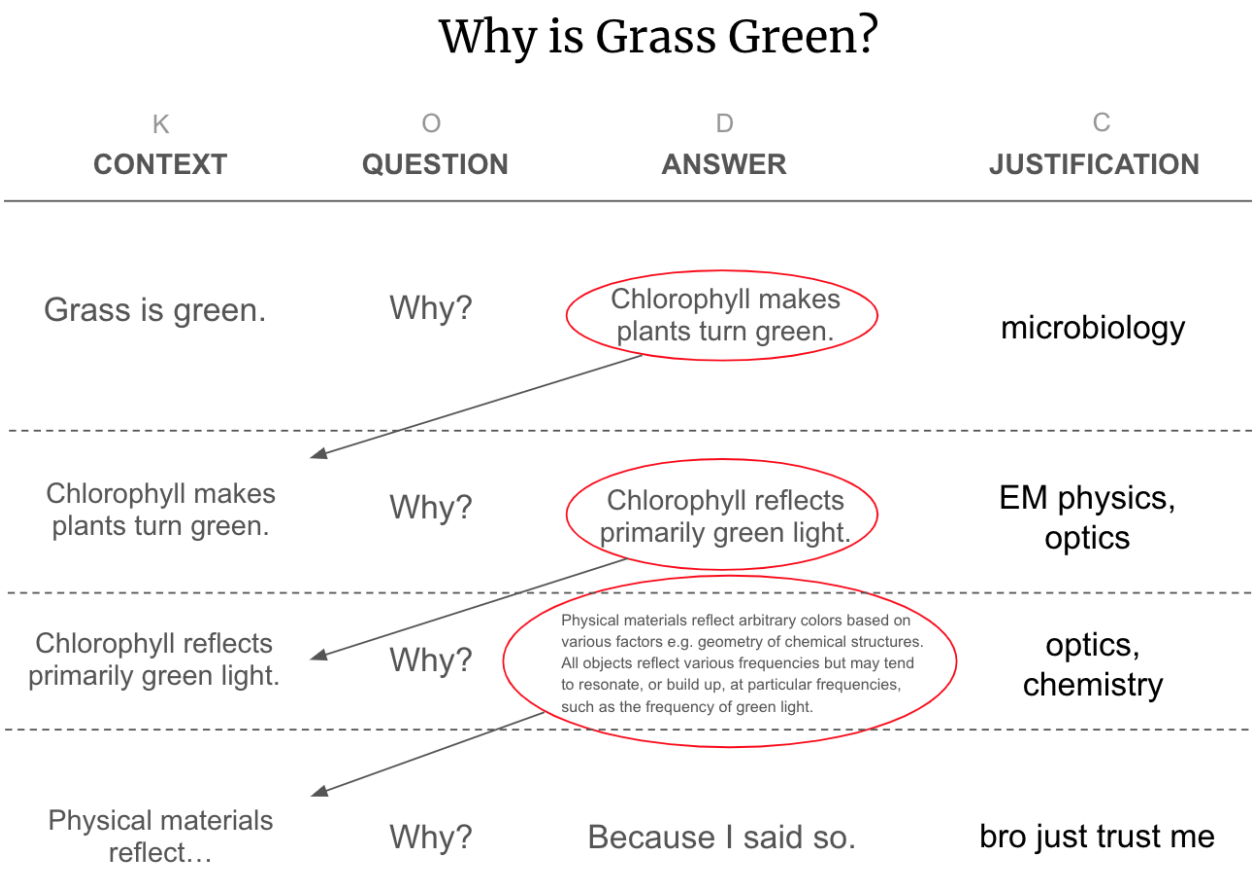
Model 4: Measurable Spectra and Relationships



The interconnected relationships shown in Models 3 and 4 intend to describe commonalities between each of the 4 main CKOD principles, and are labelled with evidently appropriate descriptions. These keywords and symbols are intended to be a guide to contextualizing the overarching conceptual model. *None of the principles are ever explicitly defined in this essay*.

The diagrams rather serve as intuitively designed references to the underlying relationships that should in due time reveal themselves. The symbolic representation as such serves as a dictionary, if you will, that defines symbols as functions of other symbols.

These principles exemplify “thing-ness” by being particularly vague and hard to define. Definition requires grounding the ideas in other more abstract “axioms” — external concepts that may be relatively intuitive, yet are ultimately still undefined. Ever played the “why?” game with a curious child?



There comes a certain point where this recursive axiomatic re-definition process is no longer a viable option. The dictionary is only words after all, so where does the meaning come from?

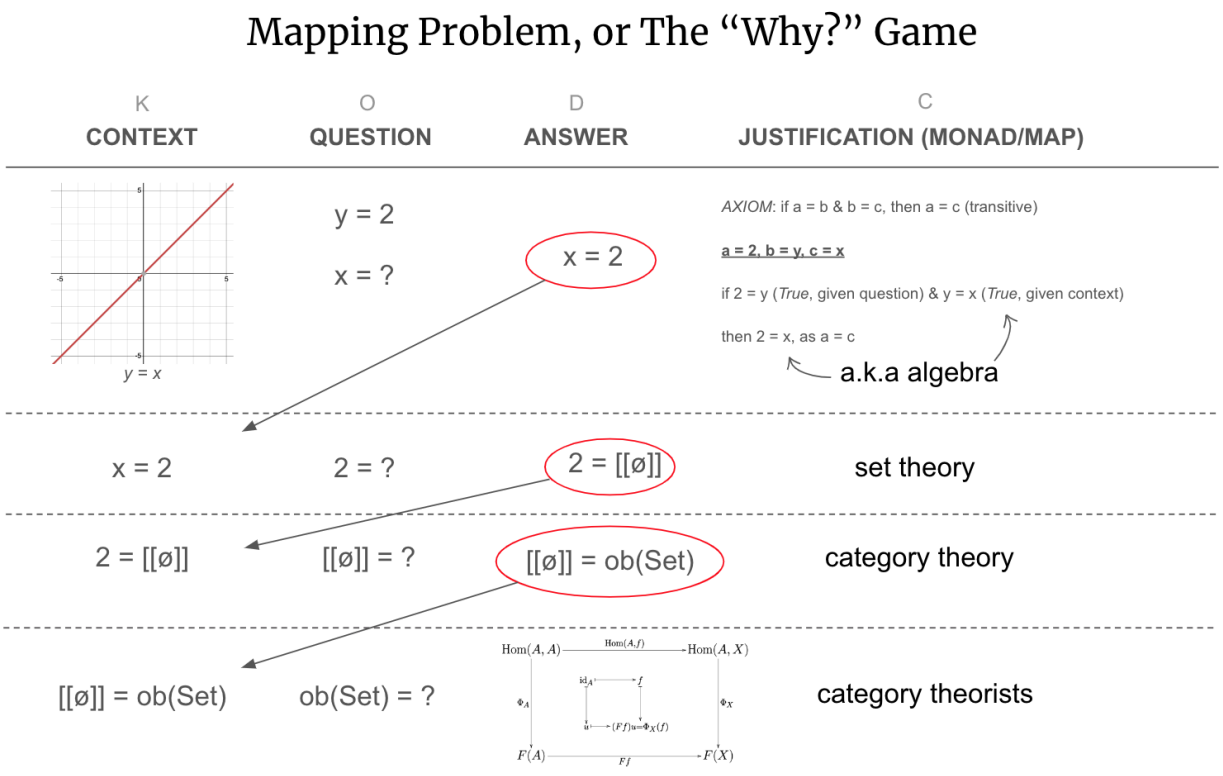
Introduction to CKOD and The Mapping Problem

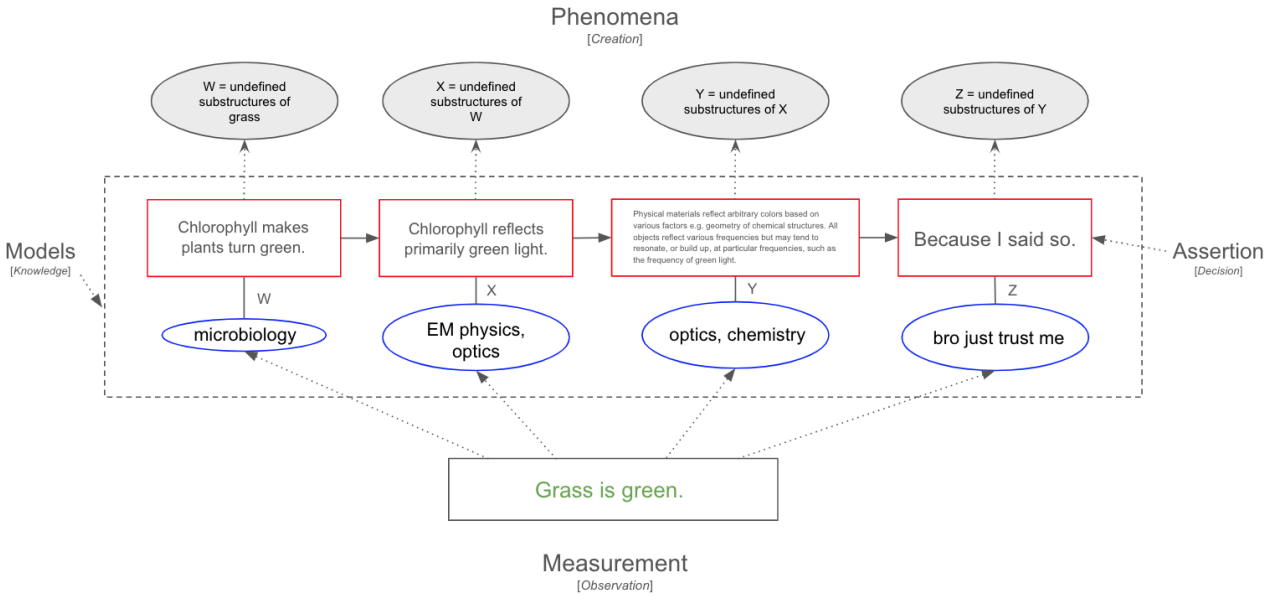
The CKOD principles are 4 categorizations or distinct properties that may be applied to any given thing, given proper context. The purpose of these principles is not to refer to a specific definition or concept, but rather to inform reasoning about other concepts, in a similar fashion to how the word “thing” informs you about the thing itself. It doesn’t. It is a word used in context, where the context necessarily defines the observable meaning and value of the word “thing”.

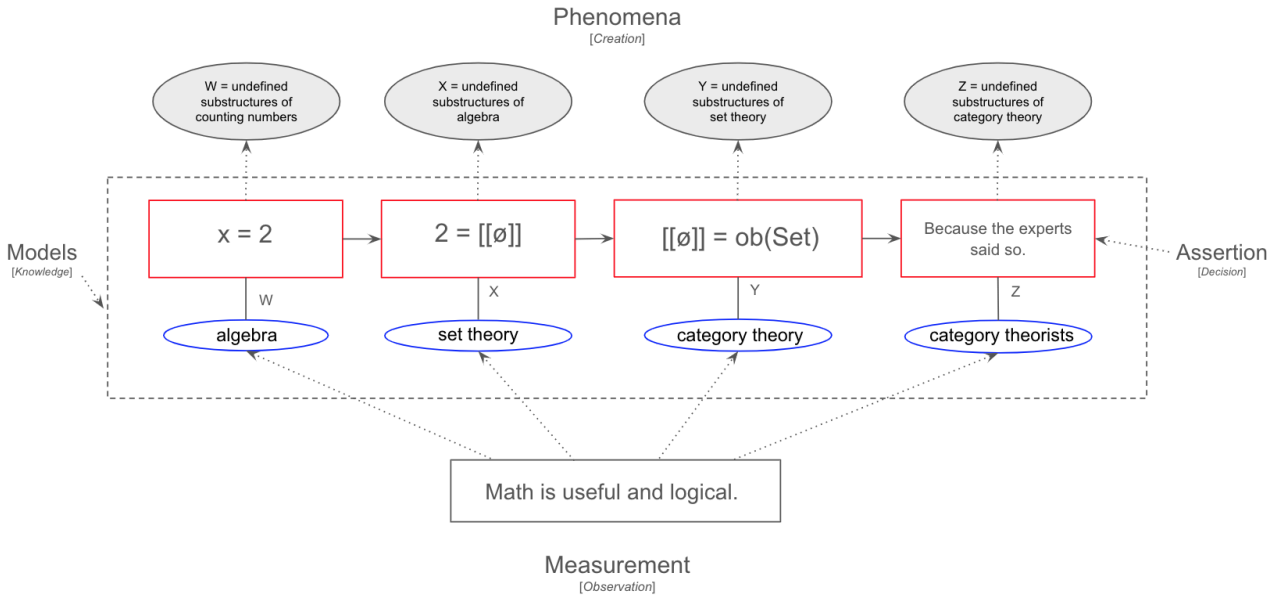
“I use this thing” - tool
“I’ve got a thing later” - event
“I saw this thing online” - media
“The unknowable thing of reality” - the Thing (God/Tao/consciousness/M)

Each example reliably informs the user of the *intended relevant* meaning of “thing” using context, without referring to a more specific thing. Any “known” concept or definition of any given phenomena eventually points to some “thing” or set of concepts that is vague and undefined; there is no “most” specific thing to refer to.

Every definition necessarily refers to some other thing that needs defining. This is what will commonly be referred to moving forward as the **mapping problem**.

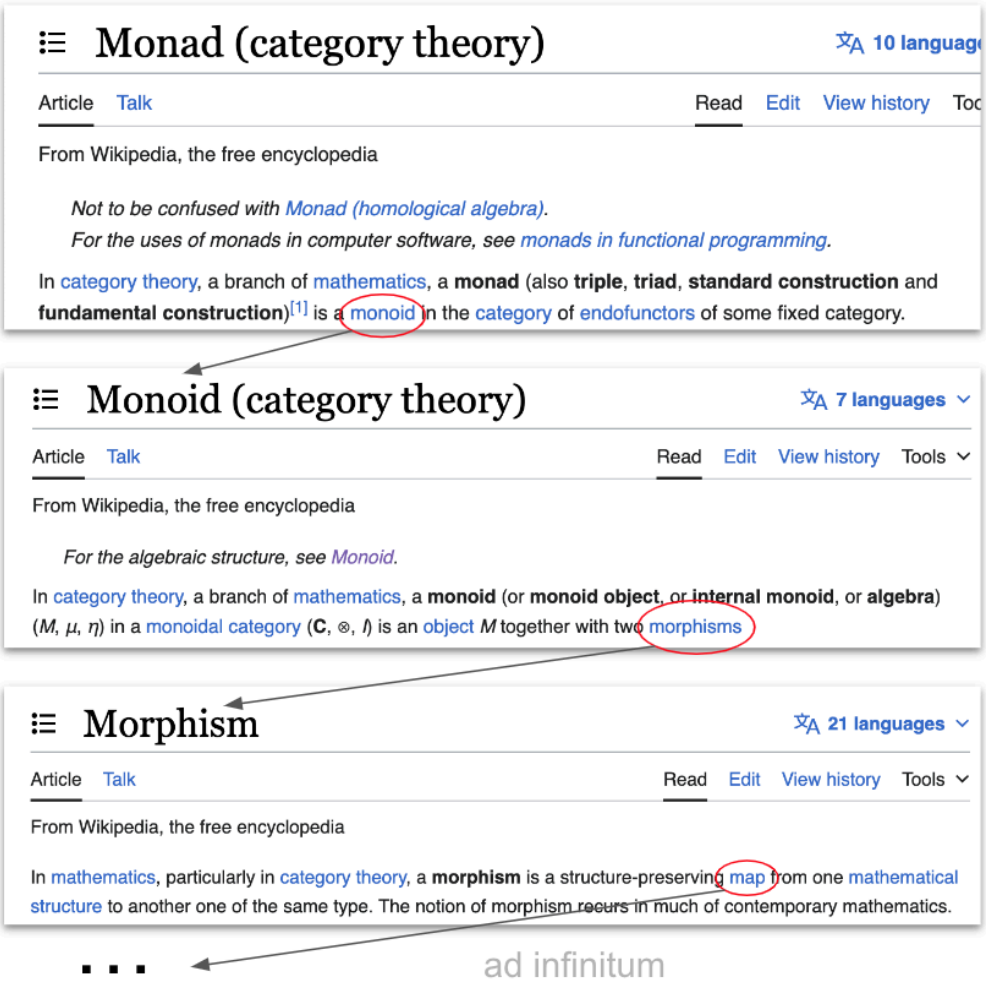



Phenomena
[Creation]
W = undefined substructures of grass
X = undefined substructures of W
Y = undefined substructures of X
Z = undefined substructures of Y
Models
[Knowledge]
Chlorophyll makes plants turn green.
Chlorophyll reflects primarily green light.
Physical materials reflect arbitrary colors based on various factors e.g. geometry of chemical structures. All objects reflect various frequencies but may tend to resonate, or build up, at particular frequencies, such as the frequency of green light.
Because I said so.
Assertion
[Decision]
W
X
Y
Z
microbiology
EM physics, optics
optics, chemistry
bro just trust me
Grass is green.
Measurement
[Observation]


Phenomena
[Creation]
W = undefined substructures of counting numbers
X = undefined substructures of algebra
Y = undefined substructures of set theory
Z = undefined substructures of category theory
Models
[Knowledge]
x = 2
2 = [[ø]]
[[ø]] = ob(Set)
Because the experts said so.
Assertion
[Decision]
W
X
Y
Z
algebra
set theory
category theory
category theorists
Math is useful and logical.
Measurement
[Observation]

Dictionary Analogy

If one were to open a dictionary to a random page, they could perhaps find a word that they can read, speak aloud, and understand each of the individual component words within the definition, yet this does not constitute proper understanding of the word. Not only does the user require subjective context to understand the connotation and purpose of the word, the dictionary must establish necessary context using a relatively specific combination of words with the intention of creating a reliable foundation for the user to reference. The dictionary does not define the words, in the same way that science does not define the world. They are simply useful perspectives that genuinely aim to provide reliable information about the world.



A computer is designed to interpret low voltage as 0 and high voltage as 1, that's just the standard decision that humans have made collectively. So when a computer, or any Turing machine, reads a state, it has to assign the observed phenomenon (low/high voltage) to a digital symbol that can be manipulated (0/1).

But imagine a switch is flipped, and now high voltage is read as 0 and low voltage is 1. What will happen is, the computer will not work. There are complex abstract computational models and processes that all rely on the given mapping that a 0 is a 0 and a 1 is a 1, 0s cannot be 1s, and 1s cannot be 0s.

To be abundantly clear, the only reason that 0 is 0 and 1 is 1 is because it is a helpful perspective within a given context. One could just as easily design a computer with the roles of 0 and 1 reversed, but it was simply a decision made by people to design these systems based on this particular mapping. It is not a divine source of meaning or value.

Measurable Spectra of "Thing-ness"

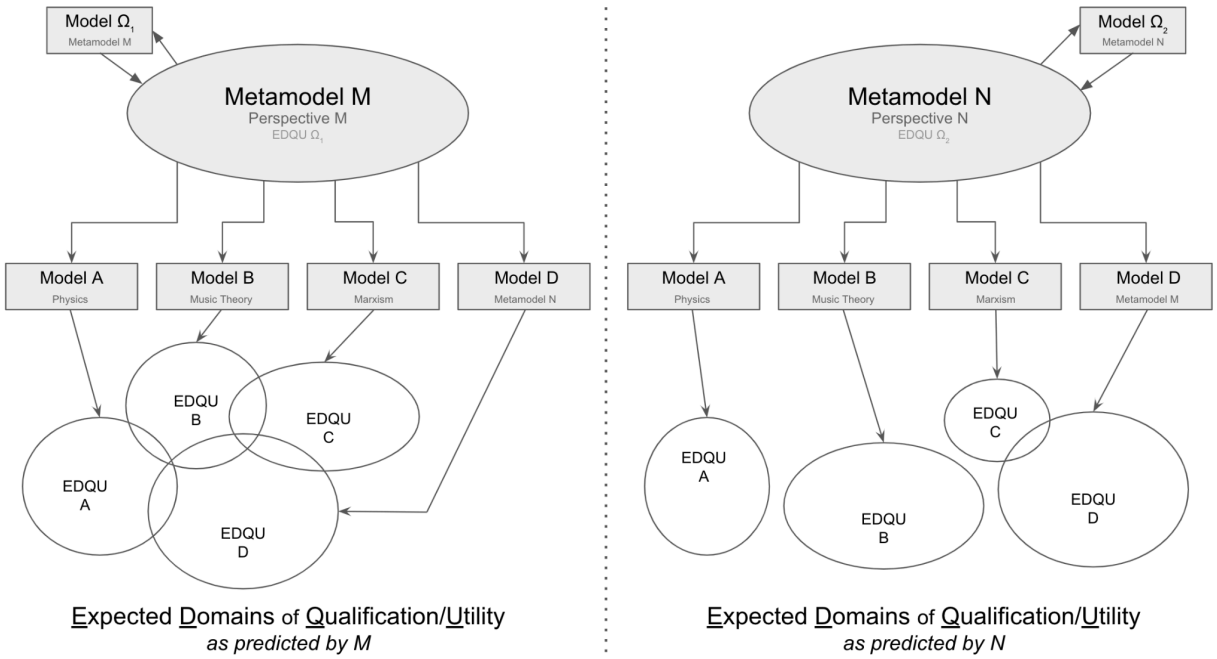
When trying to define some given thing, it is useful to identify informative binary categorizations or spectra that may apply to the thing. One may construct 4 correspondent spectra according to the CKOD principles that should reliably apply to any given thing.

Creation — A thing can be "objectively" cohesive and real, or merely a coincidence of unified behavior.
Knowledge — A thing can be relatively specific or unspecific within a given set (small/large categories).
Observation — A thing can be subjectively familiar or unfamiliar according to an end user.
Decision — A thing can be relatively qualified or unqualified for a particular given environment.

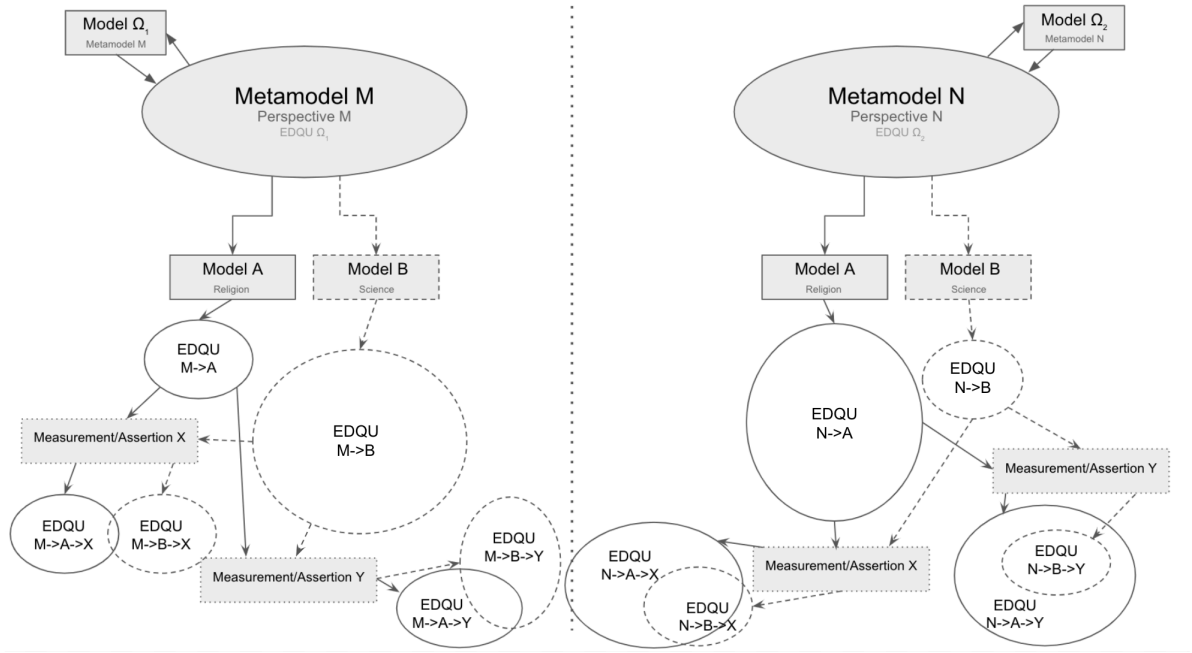
Note that in order to measure a given thing along any spectrum of value, there must also necessarily be a model which assesses the validity of the spectrum itself as a proper, appropriate measurement technique.

These spectra often conflict with one another when trying to define a given thing; this is a crucial source of the mapping problem. One person might say that a particular thing is real and accessible, such as the existence of God, while another claims it is not real and unqualified to be a real thing due to their own arbitrary contradictory beliefs. Each perspective is a way to view a thing, but sometimes one perspective necessarily exempts another, or they can exempt each other.

Any definition or measurement of a "thing" that could be considered "useful", "reasonable", "understandable", etc. in any case may be considered subjectively valid or justifiable, but definitions and measurements are simply a mapping from an "objective" phenomenon to a subjective symbol. A measurement is neither the phenomenon nor the symbol, but the perceived relationship between them.



The example above demonstrates a generalized symbolic format which will be common throughout this essay. A given metamodel (M, N) corresponds to a perspective or system which asserts measurement techniques via hypothetical models, and justifies/constrains its assertions via some model of itself (endofunctor/monad, loosely). Each model consequently corresponds to a particular expected domain of qualification/utility, abbreviated as EDQU. A metamodel's model of itself ideally has an EDQU *equivalent* to the metamodel; however, in any realistic context the idealization of the metamodel's self model Ω_n may prompt some version of the mapping problem.



Example:

X = God is either real and accessible, or a subjective illusion.

M->A->X = Religion likely does not provide truthful answers to questions of ontology.
M->B->X = God is a subjective concept and science makes no claims in the domain of ontology, this is a question that perhaps philosophy, if any knowledge model, is most qualified to answer.

N->A->X = God is accessible via faith.
N->B->X = There is no evidence to be found for or against God, any attempt to find such evidence entirely misses the point of spirituality.
etc.

Each given model is reliably qualified to operate on a subset of knowledge, and each subset is itself a metamodel of a larger set of more specific and concrete knowledge models, each with their own domain of qualification (EDQU). To come to consensus on the meaning of a measurement is to approach alignment of a particular model and its subsequent EDQU with the corresponding model asserted by other metamodels, i.e. align models with external perspectives. A given metamodel (M, N) positioned at the top or beginning of the chain of models is, loosely speaking, a self-consistent justified hierarchy of values, a perspective, or a utility function. The subsequent models are those which the metamodel labels and asserts as relevant in some utilitarian sense.

Note that each symbolic entity on these diagrams is decidedly a model and a metamodel. The bounds of a given EDQU is a crude model of the limits of a given model's ability and reliability. The arrows model correspondences to potential assertions from the models that justify those assertions. The words "model", "metamodel", "measurement", etc. are all symbols that rely on the model that is the English language to point to proper subjective meaning. Every symbol demonstrates a metamodel, in that it reliably justifies itself as being the most suitable representation of the given phenomenon it intends to represent, even if that justification is decidedly arbitrary or subjectively/contextually defined.

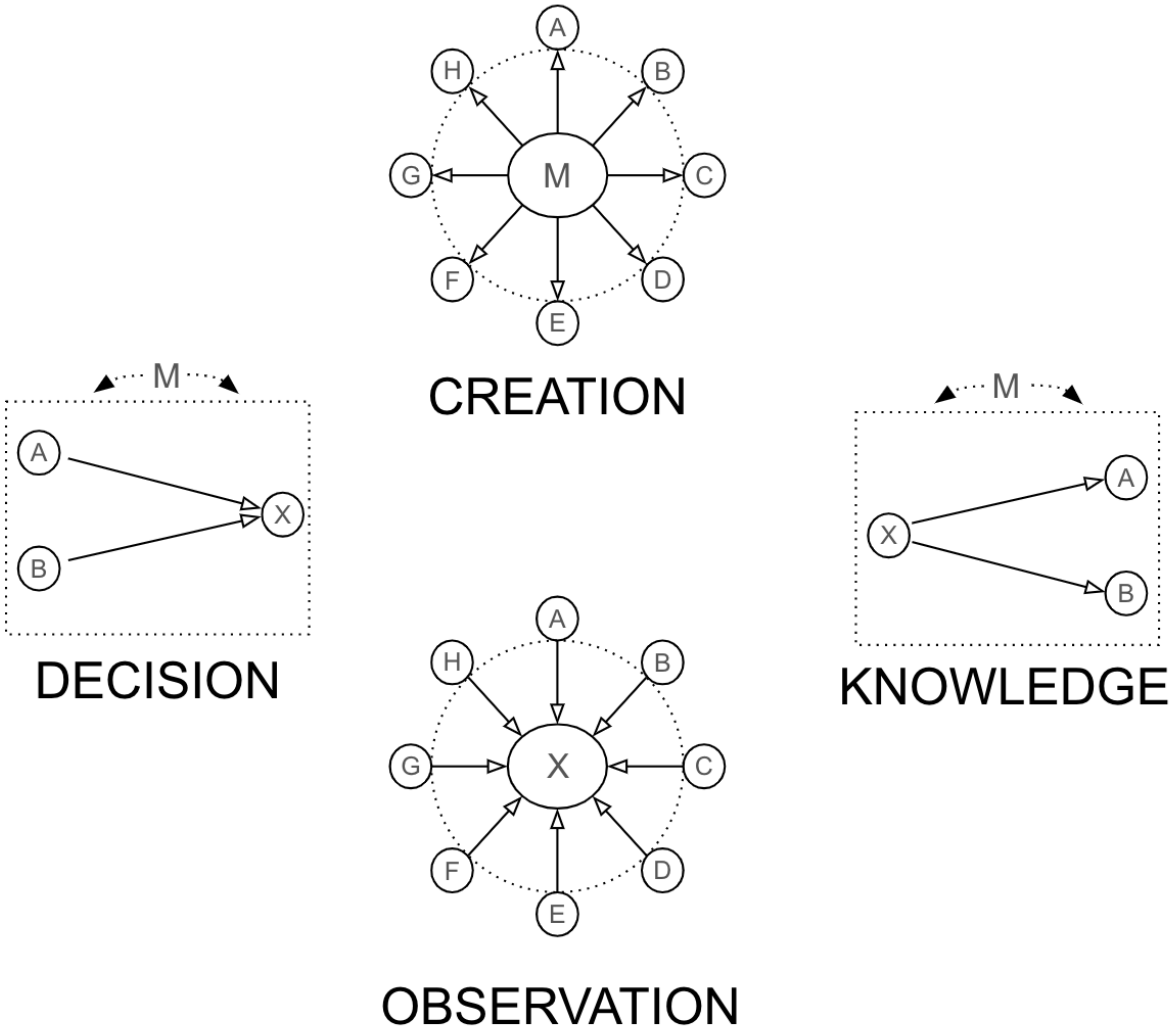
CKOD Analysis of Knowledge Models

Creation — There must necessarily be some source to which any given value or definition is attributed, whether this is a model that approximates Truth, or the theoretical phenomenon itself.
Formal logic asserts Truths about the world only in terms of assumed True arguments. Therefore, there must be some justification that the user has the given ability to accurately express True arguments, as a prerequisite to using logical models reliably.

Knowledge — There must be a comparable set of possible options/units, a dimension to which measurements are relative, in order to understand the relative precision of a model.
An experimental measurement of a particular value does no good without context as to what that value measures, and what the knowledge model predicts as a consequence of particular measurements.

Observation — There must be a set of end users with which the relationship of accessibility may be assessed.
A “reasonable person” standard, for example, does no good unless there is some meaningful understanding of how “reasonable people” act in a given context, and how they interface with particular things or situations within the context. One wouldn’t expect a randomly sampled reasonable person to know much about quantum physics or neuroscience.

Decision — There must be an end goal, or a situation in which a thing may be found to be useful for a particular discrete task or set of tasks.
A novel idea that does not solve anything is excess weight under the lens of utilitarianism, but any solution that solves a given problem may be considered to be some degree of qualified for that situation.



Creation - metamodel which justifies assertions
Knowledge - process of interacting with models based on previous assertions
Observation - measured assertion
Decision - consequence of finite step modelling process

Scientific Method

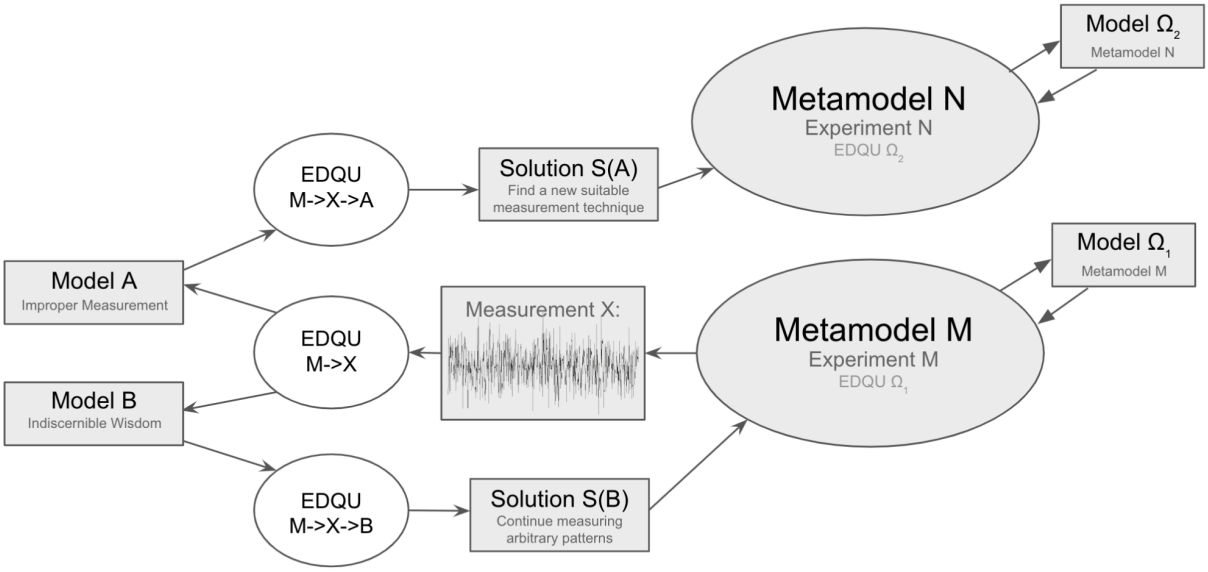
This CKOD model is indeed highly influenced by the scientific method, which instructs humans to assess the nature of the world as objectively as possible.

We observe something out in the world that doesn't adhere to our default expectations.
We generate potential conclusions based on our limited knowledge and previous experience.
We design tests that are necessarily intended to measure specific relevant observables.
We draw final conclusions about the phenomenon itself, about the nature of our models, and about the aptitude and resolution of our experiments.

Creation — phenomena
Knowledge — hypotheses
Observation — experiments
Decision — conclusions

One will notice that in order for experiments and conclusions to prove objectively “True”, there must be a given measurable phenomenon, a model of the phenomenon, and a given model of how to test/falsify the phenomenal model.

If white noise comes on the TV, you don’t assume that that’s just what they’re showing on this channel. You assume there is no reliable information coming from the source. In the same way, you must somehow justify that the thing you are measuring is real. Otherwise, the observable measurement and the relevant phenomenon are improperly mapped; the symbolic representation does not correspond to any subsystem of consensus reality.



In order for humans to obtain convergent results from the scientific method, the roles are reversed. There are an infinite number of “phenomena” and “perspectives” that are not relevant, but we design experiments with human goals in mind. The world and our models of it may be this way or that, but if an experiment can potentially prove it is likely to be a certain way, then we should act accordingly, so as to further our knowledge and approach our goals. Without experiments and conclusions, there is no comprehensible representation of proof for the end user.

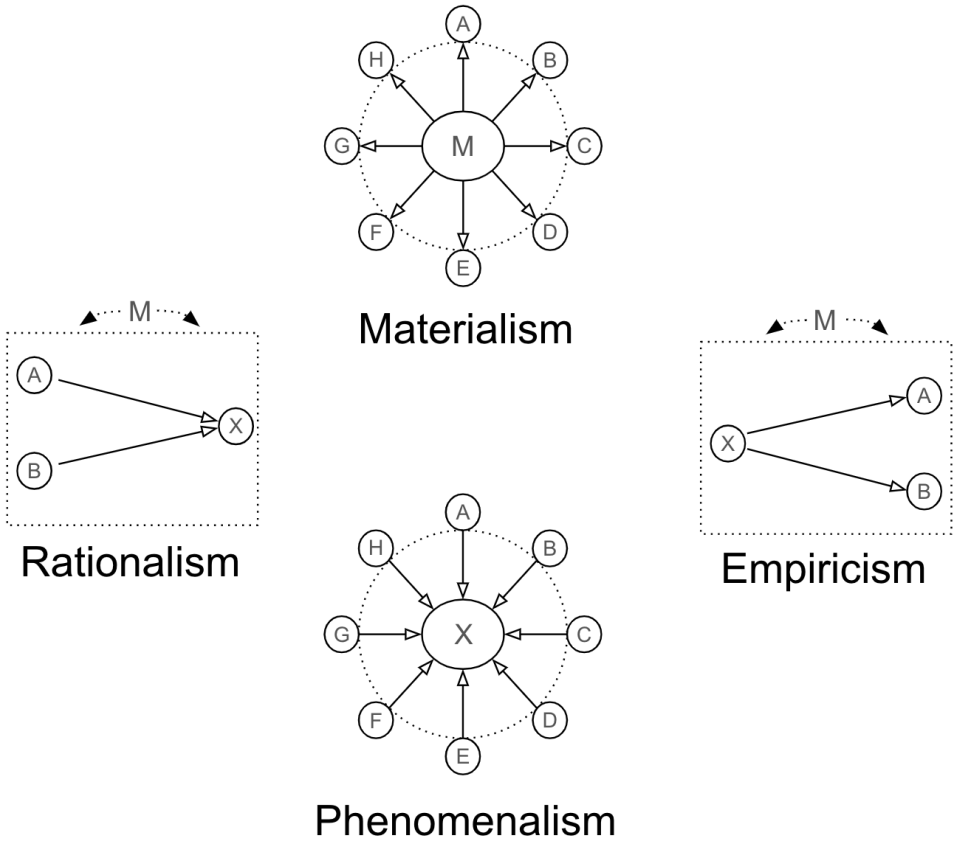
PART III: Applied Examples

The dichotomy of the *Creation* and *Observation* principles may be applicable for understanding the history of most philosophical denominations of thought. Philosophy often attempts to create distinctions and dichotomies between various opposing perspectives, but excessive articulation often looks past itself.

Integrated Correspondence of Meaning Across Domains

Between 1715-1716 a series of letters were exchanged between 2 philosophers Gottfried Wilhelm Leibniz and Samuel Clarke, discussing various matters such as the nature of space, free will and causality. The core arguments were that of God creating the Universe vs. the Universe independently creating itself, how either of those things are possible, etc.

The question is, what causes the Universe to happen, and how can we know? One answer is that it somehow objectively makes itself happen. The other answer is that something other than itself, perhaps God, a creator, makes it objectively happen.

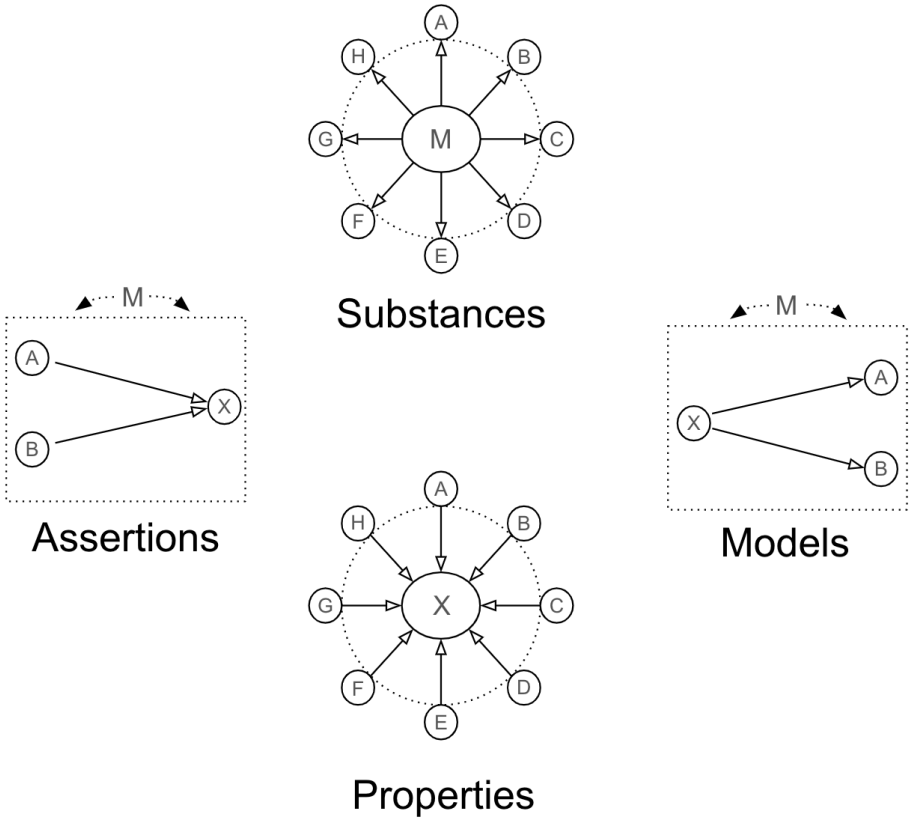


Creation — Materialism: ontological source of reality
Knowledge – Empiricism: assertion of justification
Observation — Phenomenalism: integrated awareness of reality
Decision — Rationalism: justification of assertion

Sometime in the 4th century BCE, Aristotle wrote his work titled “Metaphysics”. In it he discusses the crucial ideas of substances and properties and how to distinguish and categorize them. Substances are entities that exist in consensus reality, and properties are simply expressions or descriptions of substances.

The question is, how do we philosophically analyze substances? The key difference is that substances are the objective unknowable phenomenon, and properties are the subjective knowable phenomena. A substance describes itself, it is the thing, whatever it is. A property is something that describes a thing other than itself.

*author’s note - every substance is a property of the Universe/constraints within which it exists.

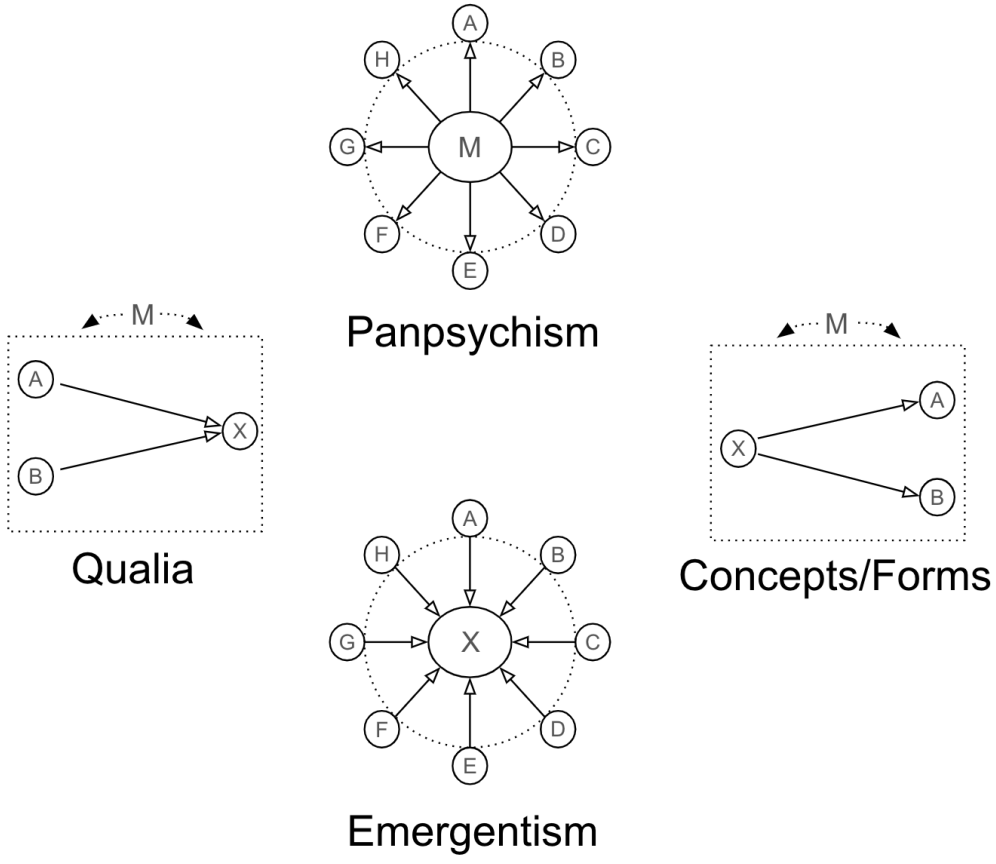


Creation — Substances: ontological source of materials
Knowledge – Models: unjustified assertion of behavior
Observation — Properties: integrated awareness of materials
Decision — Assertions: justified assertion of behavior

In 1995, David Chalmers argued in his paper “Facing Up to Consciousness” that despite the best efforts of today’s and tomorrow’s neuroscientists, we still do not have any sort of collective grasp on the phenomenal force of consciousness, qualia: colors, sounds, emotions, subjective experience. What are the structure and origin of these unitary subjective experiences, and how are they related/mapped to neurocausal correlates (NCCs)?

The question is, why is subjective conscious experience possible? One possible perspective is panpsychism, a manifestation of the *Creation* principle, that consciousness causes or manifests itself, and the Universe is modelled as the process of consciousness manifesting and experiencing itself (however undefined that may well be).

Although Chalmers describes himself as a panpsychist, part of the perspective that Chalmers raises could be considered in this context as a manifestation of the opposite *Observation* principle, in that consciousness receives value and information from brain signals (NCCs), something other than itself within consensus reality. The question remains as to how we have direct access to these qualia but fail to explain their phenomenal emergence.



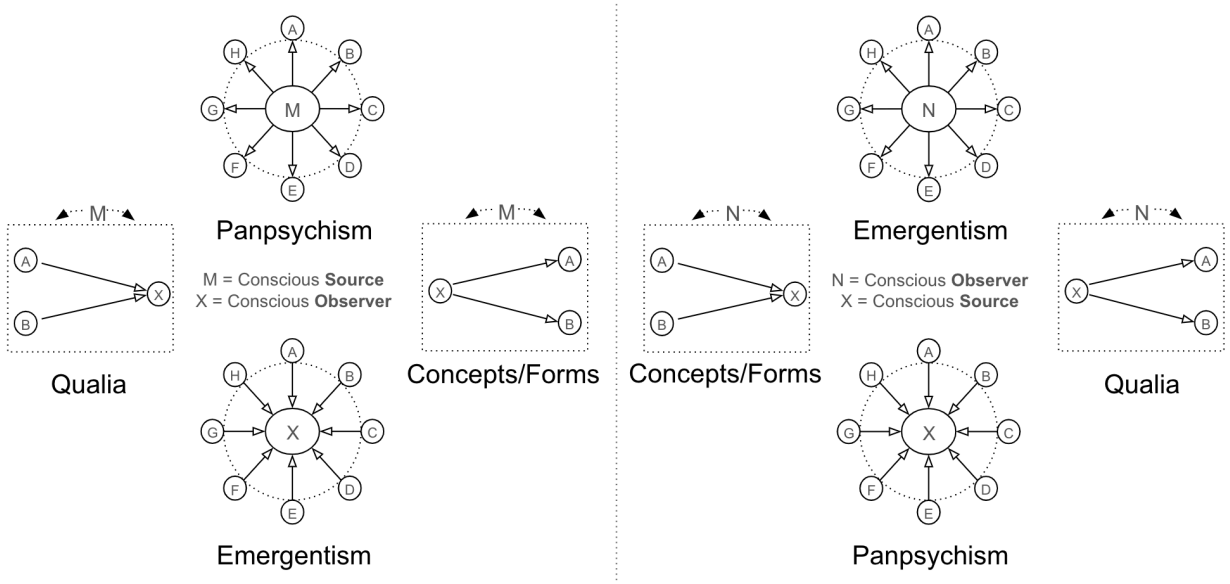
Creation — Panpsychism: ontological source of consciousness
Knowledge – Concepts/Forms: modelled behavior of consciousness
Observation — Emergentism: integrated awareness of consciousness
Decision — Qualia: compressed behavior of consciousness

Common Fallacy of the Mapping Problem

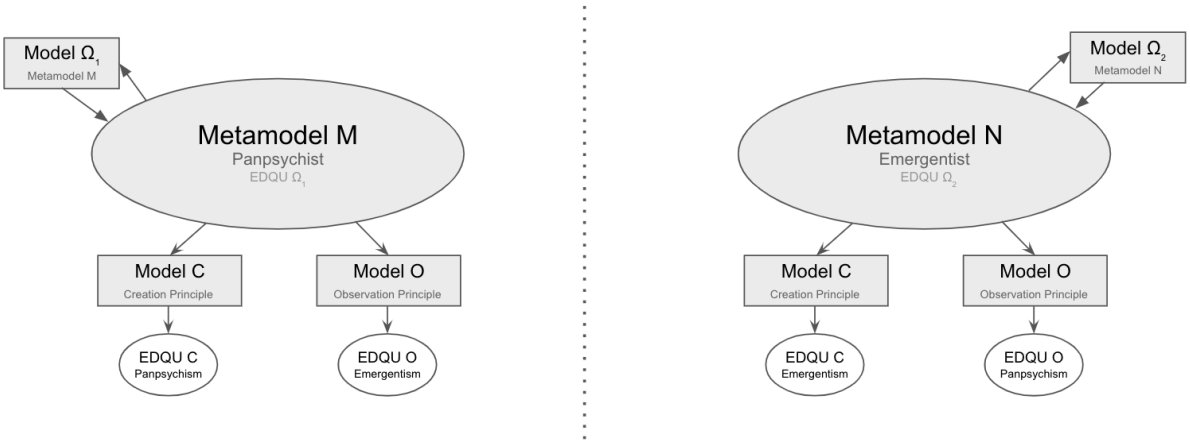
CKOD principles do not necessarily apply to a particular given phenomenon or idea in the world, but rather they inform the methods of examining other ideas. CKOD takes one thing and helps differentiate it into many related things, by means of allowing M to process information unconsciously and intuitively, mapping any given phenomena according to the abstract principles. The idea is to build confidence from the ground up, recognize that which is known and accessible (*Observation*) and create a structure that aims to extend out into the realm of ideas that are not yet known (*Creation*).

These principles hold very little water without proper context. In the first example of Leibniz and Clark, from the perspective of the Universe, if the Universe creates itself, it is the objective thing in itself. This could be labelled as *Creation*. On the other hand, *Observation*, the Universe subjectively receives the power of True manifestation, happening, through a force other than itself; God perhaps. In this instance, the situation with the creator, God, is labelled as *Observation*, because it is from the perspective of the Universe receiving from God.

But flip this around to the perspective of God. God is the divine thing in itself, and the Universe is God's creation. If we temporarily view the world from the perspective of panpsychism, then perhaps God in this instance is essentially consciousness. Consciousness *creates* a manifest image around us, and the "world" or perceived contextual environment is the thing that is *observable* through some mechanism.



In this example, the left side essentially holds panpsychism to be *more objective*, and insists upon the observer as being an emergent system of models. The right side essentially holds awareness of form, rather than form itself, to be *more objective*, and insists upon qualia as an emergent system of models. In reality, both of these perspectives are clearly models, as they can be succinctly represented with symbols as such. This example itself demonstrates a metamodel of these perspectives by means of the particular way in which it intends to represent the perspectives in context.

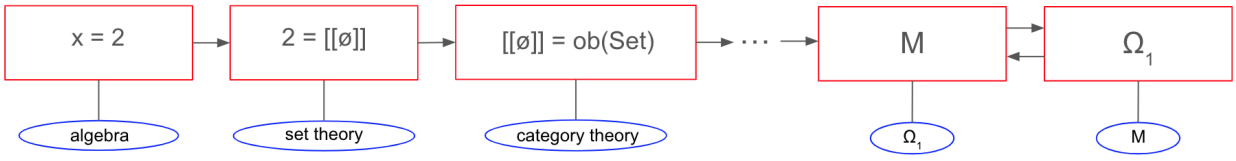


Depending on the context, the idea of God or a source of value can be attributed to either principle, *Creation* or *Observation*. There are contexts in which the same effect is possible with all 4 CKOD principles. By this logic, one could take any given thing, and analyze it with the preconceived goal in mind of attributing aspects of the thing to each principle. This is a particular strength of this kind of non-axiomatic model.

The meanings of the CKOD principles do not adhere to specific definitions or words. In this case, if one were to construct some blanket assertion like "'God' corresponds to the *Creation* principle across all contexts", they would be required to define "God" in context (good luck).

This also necessarily ignores any contextual information that intends to define the word "God". The previous example of changing the perspective from which a question is being asked (God/Universe) is another demonstration of flipping the mapping switch (0 & 1, C & O).

When one is forced to rigorously define basic intuitions e.g. identity actions or commutativity of integers, this suggests a subsequent abstraction of the possibility that 1 does not, in fact, always equal 1, etc. Rigorous constructions of axioms mapped to axioms mapped to axioms — this is the particular strength of math, yet its downfall within the domain of philosophy.



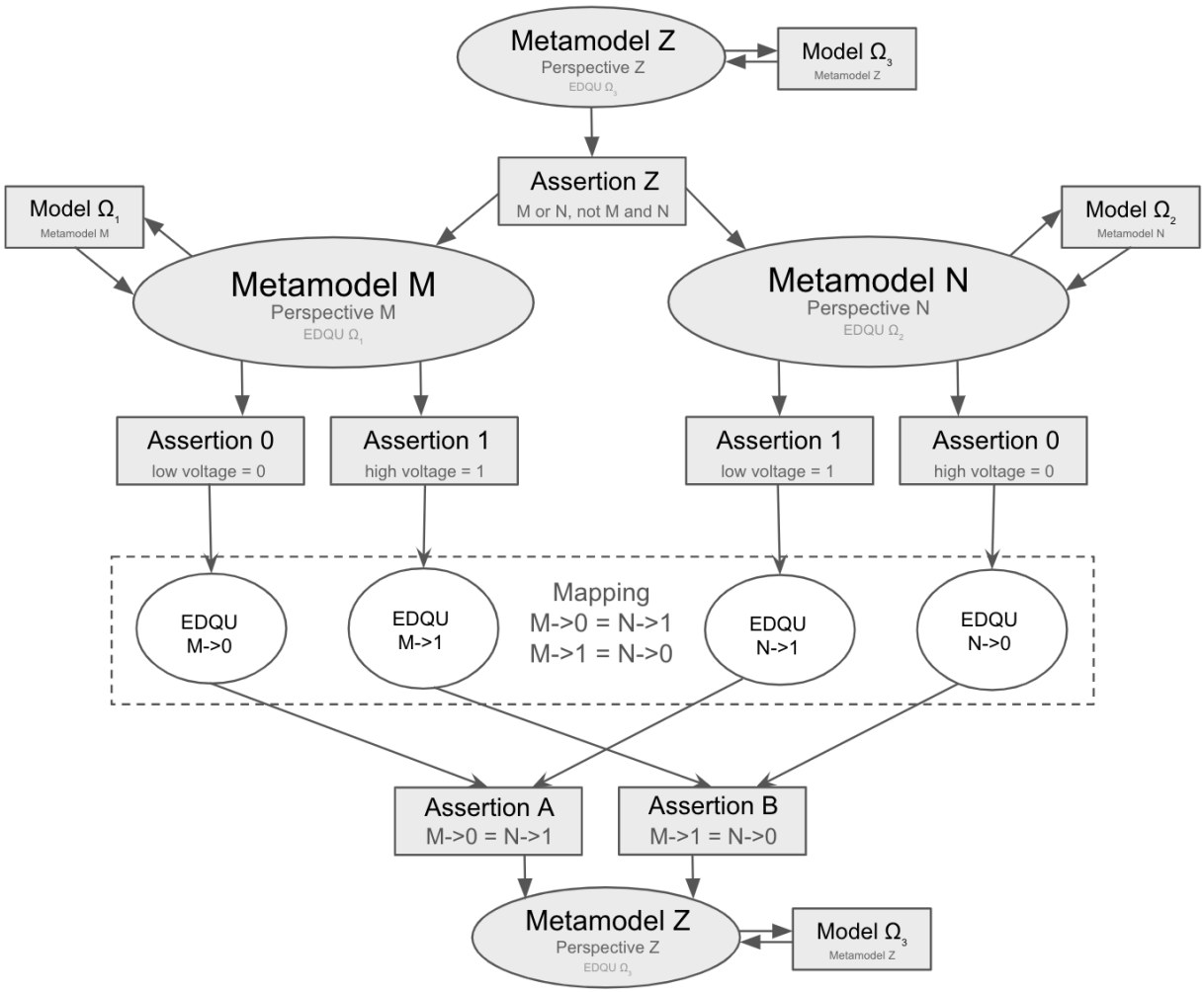
Knowledge always and only ends up in the hands of the end user.

Strengths and Limits of Subjective Knowledge Models

The unique purpose of CKOD is precisely that neither the principles nor the models that they intend to analyze are rigorously objectively defined, but rather contextually defined by the subject, the end user. If one were to object to the names of the CKOD principles in favor of some other labels, one should decidedly use their own preferred labels so as to correspond to their own perspective. The labels were made up for a specific intended purpose, they are not “correct”.

This is at the heart of the mapping problem, but it may be premature to call it a “problem”. It is simply a product of the way information is transmitted and communicated. The problem suggests that given multiple objects, and multiple subjects to which these objects convey information, there exists more than one “proper” mapping of phenomena to symbolic representations, *by any definition of “proper”*.

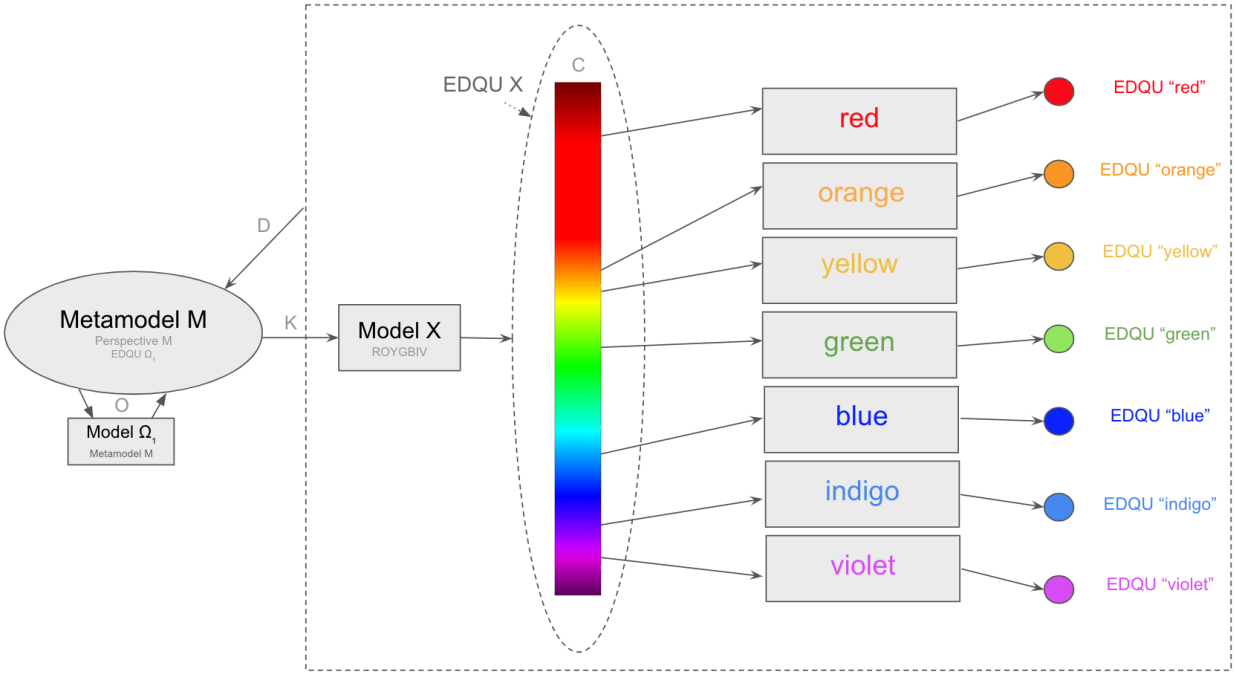
Any particular coherent mapping (perspective) may be externally perceived as an object in itself with measurable utility. Therefore, various models of any given set of phenomena may only be categorized/standardized using an entirely separate metamodel (Z below) of the proper mappings.



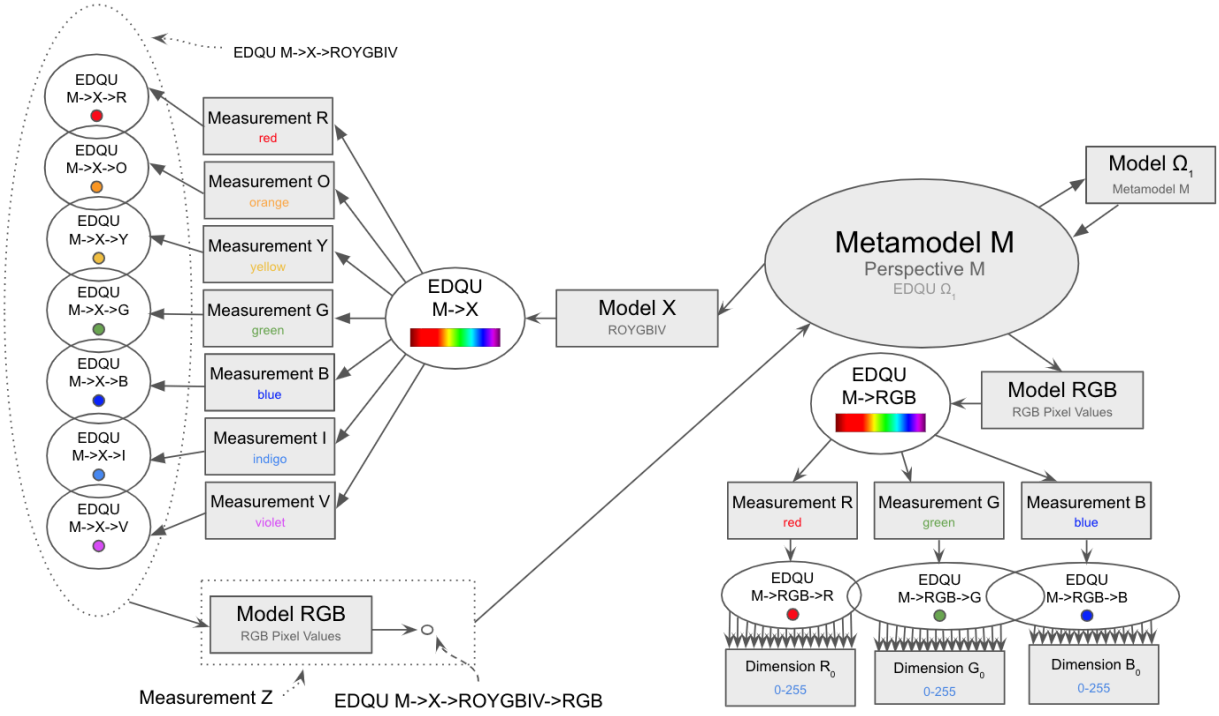
Any stable/coherent metamodel or system of metamodels must demonstrate justified conditional correspondence with the phase space. This essentially means that all measurable states within the phase space (range of possible outcomes) of relevant behavior of some given phenomena must be reliably operable within a sufficiently compact, resolute domain. Anything *subjectively* operable and relevant that could possibly happen in the given context is accounted for via a (sufficiently) surjective map of symbols onto the phase space.

The phase space of colors is the color spectrum. The ability to properly model the phase space is dependent on:

C: The user's ability to perceive the phenomenon of color
K: The user's ability to store and operate meaningfully on labels
O: The user's ability to assign labels and meaning to the phase space of color
D: The user's motivation/goal of labelling the phase space



In this example and the following, the phase space of the ROYGBIV technique provides a map of words onto colors. This mapping is sufficiently reliable, operable, resolute, successful, convergent etc. in the domain of teaching colors to children, but perhaps this technique is less than qualified to successfully execute computer operations to change the specific color value of a pixel. This new domain calls for a new model with a more resolute set of labels which can achieve this goal, 8 bit RGB values.

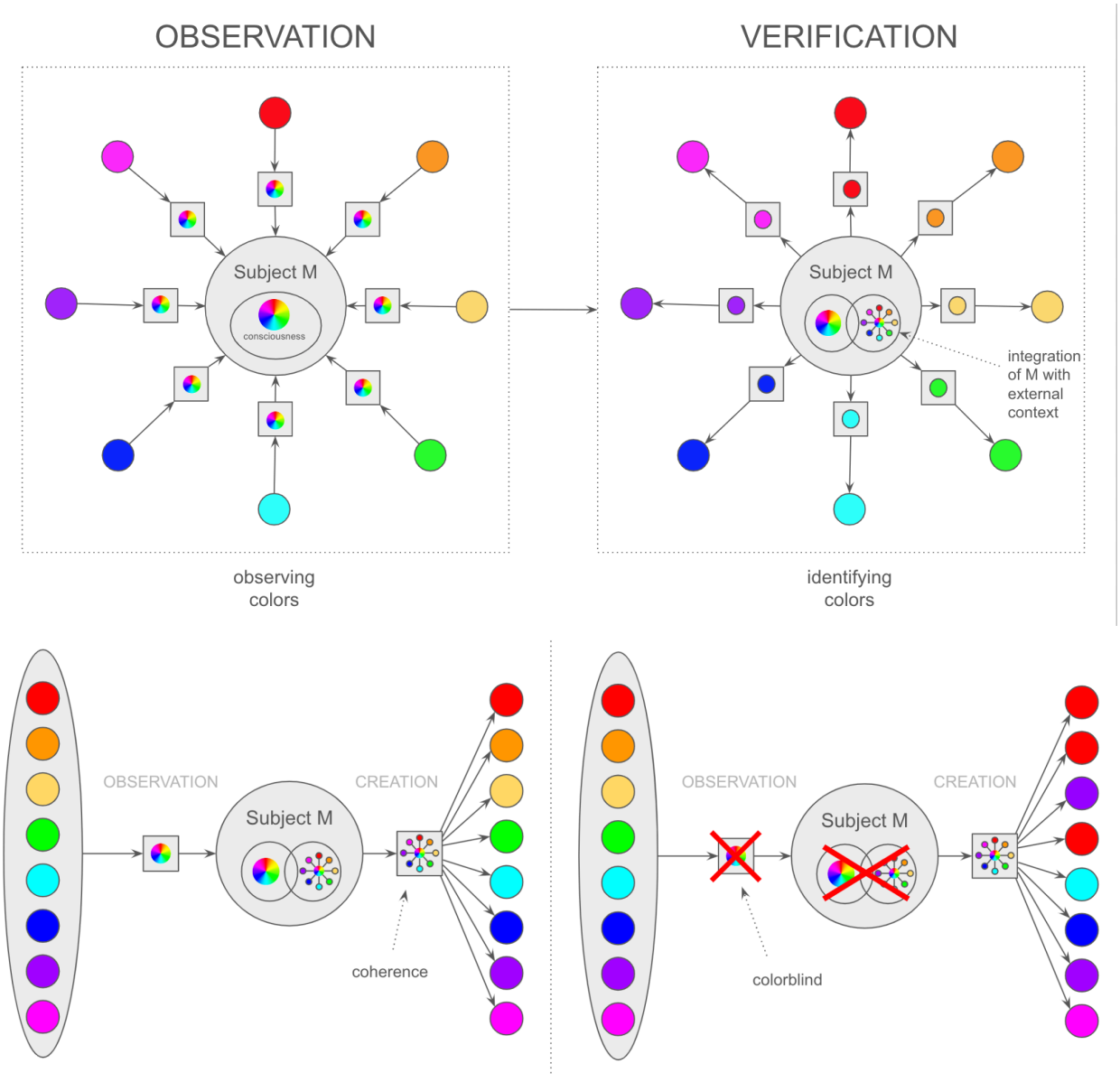


EDQU M->X->ROYGBIV->RGB does not suffice as X is not resolute enough to perform precise calculations on pixel values. Metamodel M therefore has to take this into account (Z) and adjust the structure of Model RGB so as to meet the needs of computer scientists.

The mapping problem only arises when we assume that a model is “closed” or asserts “Truth” in any objective sense. A model necessarily maps objects to subjects, therefore the model is neither the object nor the subject, but rather an interface between them.

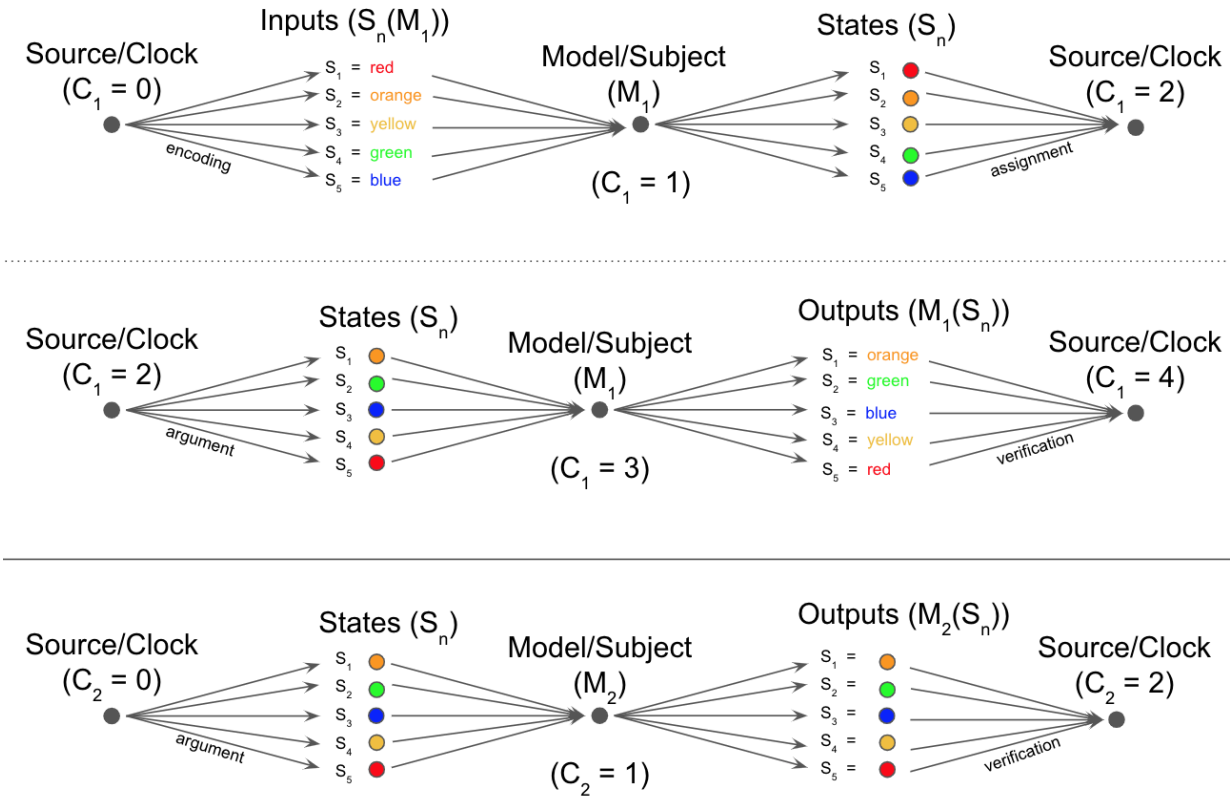
Analysis of the Structure of Concept Mapping

[*Observation to Creation*]



If multiple objects convey a single type of information to a single subject, the relationship may be measured along a single spectrum of outcomes. Either the subject successfully distinguishes the objects, in which case the fundamental ability to model the objects has already been proven, or the subject cannot successfully distinguish the objects, in which case the subject's fundamental mapping ability would certainly be unable to provide reliable information with which to identify and classify the objects with maps to symbols.

There is not necessarily any need to actively map phenomena to subjective symbols, such as labelling the color red as the word “red”. The subjective observation of the object is sufficient symbolic representation for the single subject to properly distinguish the objects, as demonstrated by M_2 below.



In the example above, M_1 is a model that maps observations of colors to particular words. The verification ($C_1 = 4$) of the model’s ability to prove the integration of the proper mapping is demonstrated after M_1 successfully distinguishes an arbitrary set of observations ($C_1 = 3$) by operating on these mapped labels.

M_2 is a model that maps observations of colors to other previous observations of color, bypassing the need for words mapped to these colors. The words are relevant only when the desired overall outcome of a given task necessarily involves translating the colors into words.

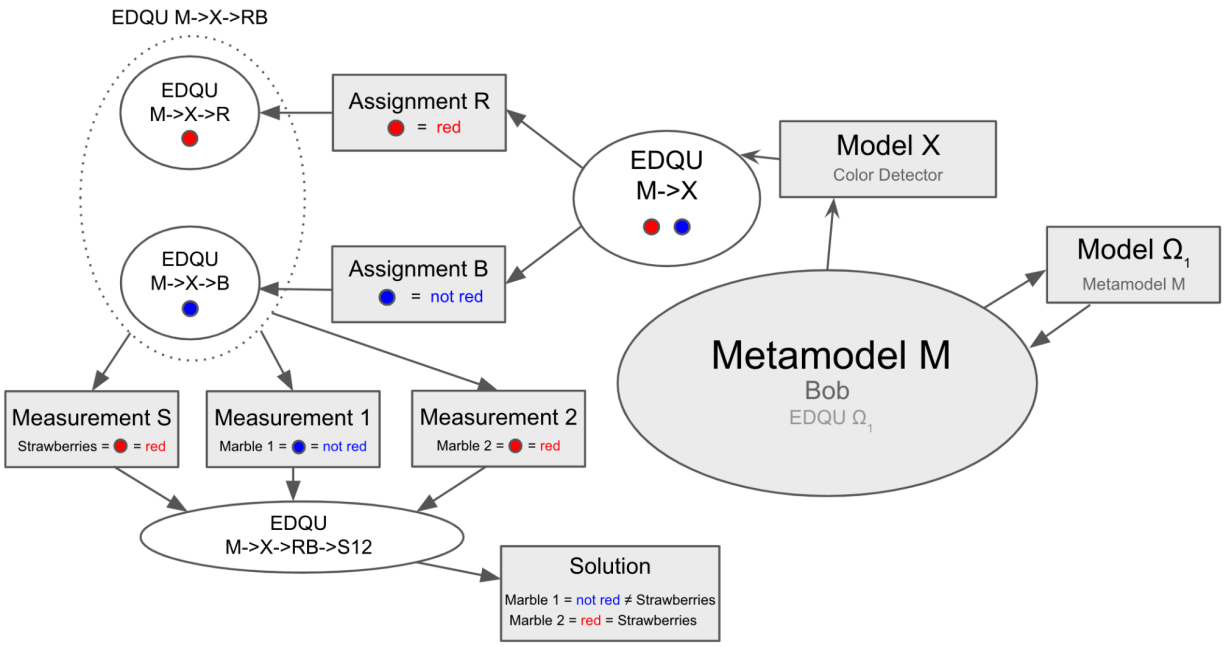
If I ask what color a banana is, the answer necessitates the ordered mapping that M_1 has integrated to say “yellow”. If I ask you to point to something the same color as a banana, M_1 is unnecessary and M_2 is sufficient. One need not articulate every color of every object present in their visible field in order to demonstrate the ability to see these colors.

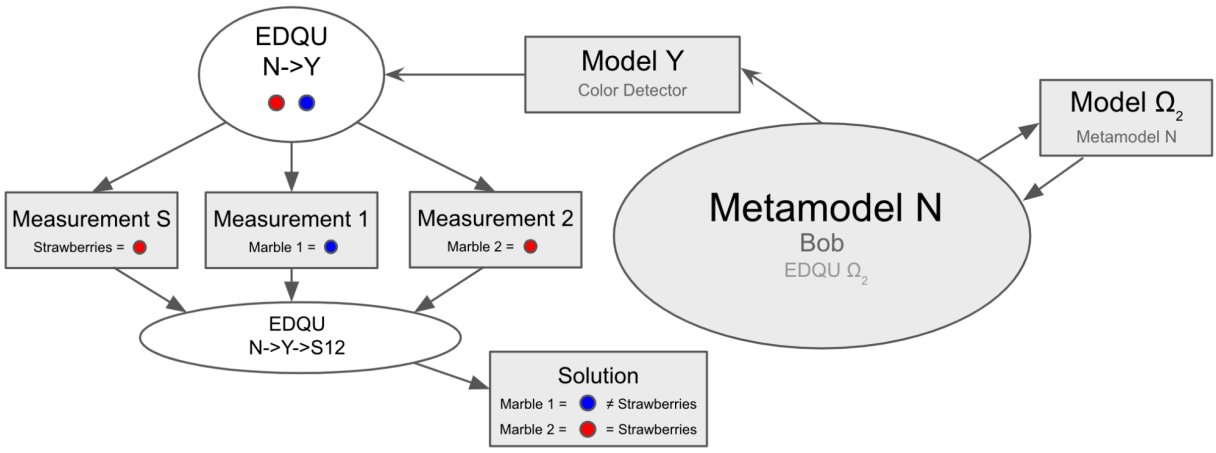
Bob’s Marbles

Imagine Bob has two marbles, one red and one blue, and Bob is tasked with selecting the marble that is the same color as a strawberry. Bob need not articulate (M_1) the color of strawberries or marbles in order to make this distinction correctly.

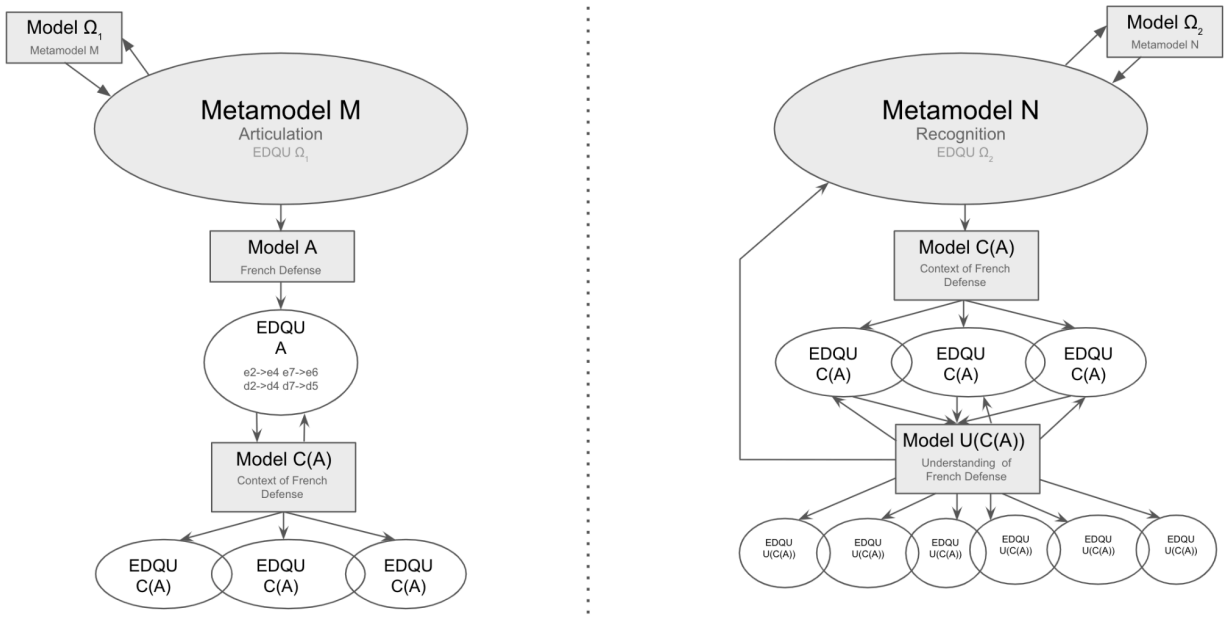
In order to verify Bob’s ability to distinguish colors from one another, Bob only needs access to the marbles, and the concept of strawberries. Strawberries are a color, one of the marbles is the same color, the other marble is not the same color, therefore the first marble is the correct marble according to the given task. And Bob could use a version of M_2 in place of M_1 for this task, which would cut the computation time (C_n) roughly in half by avoiding excessive articulation.

In the following example, Metamodel M represents the M_1 process of articulating the colors and assigning labels for the purpose of coherence and cognition. N represents the M_2 process of mapping the colors directly based on primitive observation rather than articulate thought.





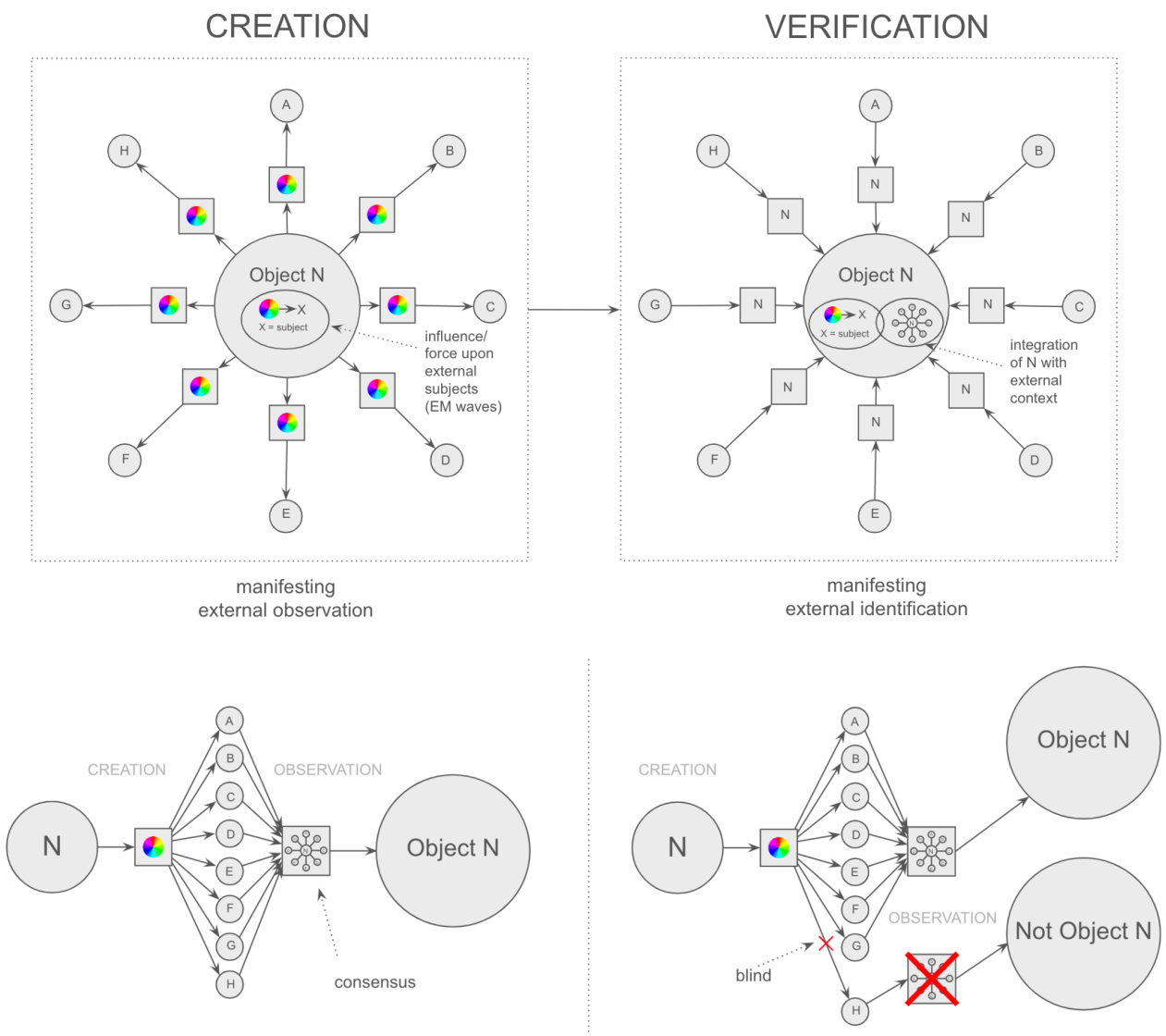
A chess player, for example, may recognize a pattern of information involving the pieces on the board, a pattern that does not necessarily have a name. Some moves and patterns have names, as over time they have been widely accepted as useful and deserving of a name, while other more complicated or less common approaches require the player to deeply understand the potential intentions of the other player, and predict potential outcomes. Recognition is a different process from naming. Mapping names to observations is a mapping of linguistic symbols (words) to conscious symbols (observable form), while mapping observations to phenomena is a mapping of conscious symbols to phenomenal symbols (undefined “things”).



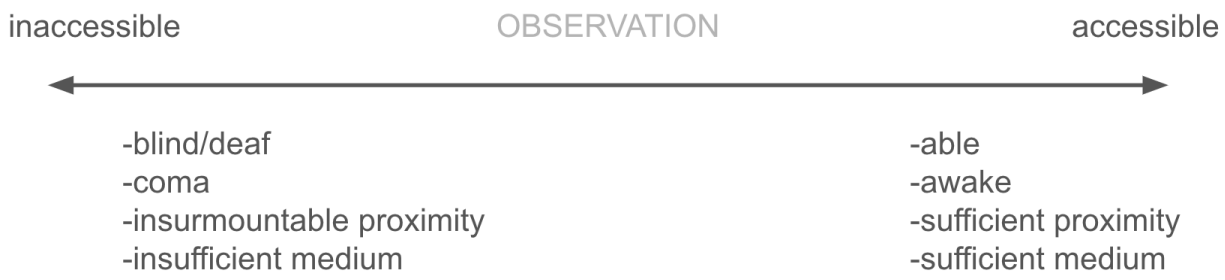
Note the increased degree of self-integration with N. The purpose of N is to recognize complex contextual information relevant to a particular in-game situation, such as the French Defense in this example. The purpose of M is primarily to communicate efficiently with other chess players about in-game situations, while N is designed to take appropriate action within those situations.

A musician may play beautiful music all their life without a day of studying theory. Music is for the ear, the end user, while the structure and nomenclature merely inform the process. Theories in general are primarily for communication, whether it be with other end users, or with oneself at a later point in time. Every language, every symbol, every model is for communicating ideas, while the meaning resides within the observer's ability to interpret and utilize the information.

[*Creation to Observation*]



On the other hand, if a single object conveys a single type of information to multiple subjects, the relationship may also be measured along a single spectrum of outcomes. Either a given subject does symbolically observe information from the object, in which case the relationship is True primarily by means of the source of the object; or the subject does not observe information from the object, in which case the relationship does not exist, and any attempt to cultivate a mapping to the "object" is illusory, as there is no True relationship to map.



A blind person cannot see an object in front of them, while an able person next to them can. The blind person certainly has the ability to express that they can see, however this is illusory, and does not give them the ability to see. The ability to see is either given or not given, in the same way that one's ability to successfully utilize given information for self-beneficial purposes, like playing music or chess, is either given or not given in any discrete instance.

For this previous demonstration with colors, one may construct this conceptual model using CKOD principles:

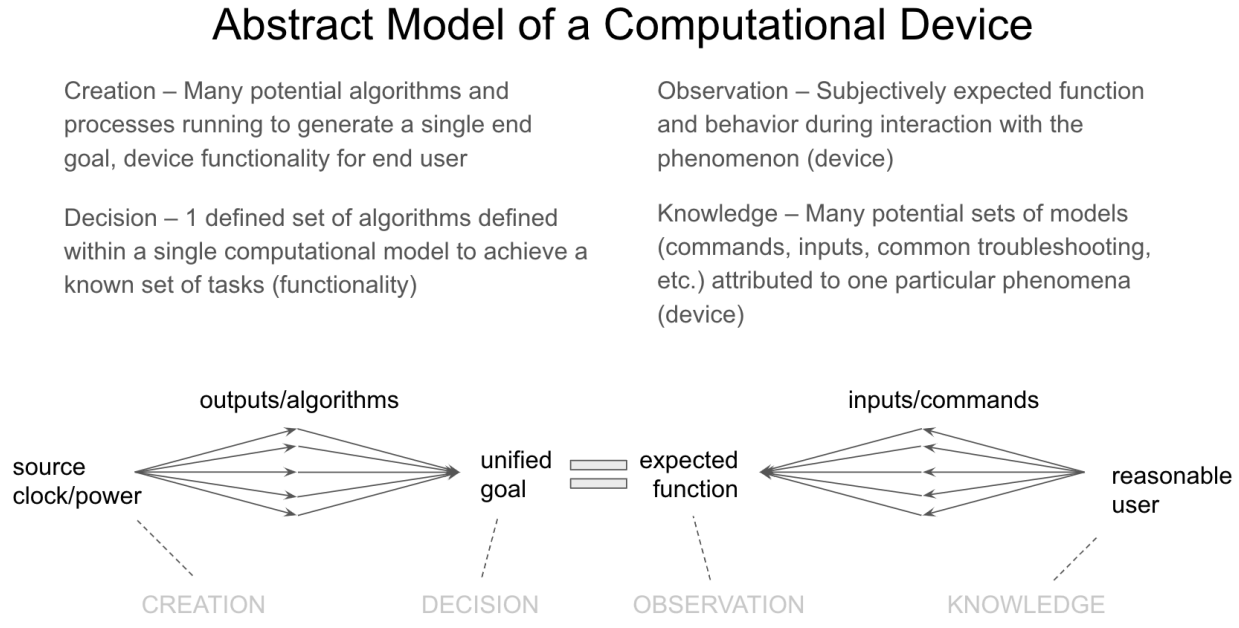
Creation — The real potential for the subjective experience of color to be mapped to objective EM information, the manifest reality of colors, sounds, etc.
Knowledge — The potential ability to subjectively distinguish and apply context to the world using visual forms, symbols that represent macro activity in the world.
Observation — The manifest ability of a single observer to actually receive conscious information from the world by means of a particular source, visual stimuli.
Decision — The measurable ability to distinguish objects, as determined relative to other observers with comparable ability.

Reliability of Abstract Systems

Digital representation of a phenomenon is just analog with extra steps. The field of computation assumes that low voltage is 0 and high voltage is 1, and that the machine will be able to reliably interpret these 0's and 1's in order to achieve an end goal. Given that this is True, the computer will work and the digital representation of computation will hold True.

But like before, flip the mapping switch for 0's and 1's, swapping high and low voltage, and the system does not operate. This is because the computational model, and any model, is simply unable to take into account the infinite number of environmental situations that could obstruct the expected functions of a system. The real analog world interacts with these computers in a way that our computation model is not designed to predict. When the axioms of an emergent model are undermined, another more rigorous model must take its place.

Even electrons are still a model of a thing that science cannot fully explain. The analog world acts in convergent ways and we take advantage of this simplicity, but everything within consensus reality is still the analog world interacting with itself. Given that electrons act how we expect them to act, and given that these electrons can generate a current and provide all the physical mechanisms necessary to reliably manifest computational systems, then and only then is computation actually possible in real time. But these models all necessarily admit that the world is ultimately an unknown thing, and good models are still just that, models.



Applied CKOD Models

The following is a collection of 55 simplistic knowledge models of various concepts; each model relates 4 particular interconnected ideas to 1 of 4 CKOD principles. Note that each correspondence from some idea to some principle is a map, a seemingly fitting decision that was made by a human being. The goal is, and has been throughout this paper, relative subjective coherence rather than strict objective rigor.
[** = author's picks]

NATURAL PHILOSOPHIES

**
1) Philosophical Inquiry: exploring fundamental questions about the world

C: Metaphysics - the study of fundamental nature and reality
K: Epistemology - the study of knowledge models and their bounds
O: Aesthetics/Ethics - the study of subjective values and moral principles
D: Logic/Applied Models - the study of reasoning and rationality

**
2) Scientific Method: an approach to creating phenomenal models in the most objective, unbiased manner possible

C: Phenomena - recognizable events, processes, and objects that can be analyzed and modelled in a useful way
K: Hypotheses - predictions about particular behaviors of a phenomenon
O: Experiments - carefully designed processes that intend to prove/disprove hypothesis
D: Conclusions - analysis of results in relation to hypothesis, analysis of efficacy of experiment, analysis of revelation about nature of phenomenon

3) Hegel's Phenomenology of Spirit: core concepts from the 1807 book by Georg W. F. Hegel

C: Eidetic Variation/Overdetermination - deliberation of relevant constituent factors/constraints/subsystems that uniquely identify/manifest a phenomenon in context
K: Consensus/Thesis - socially established understanding of given phenomenon
O: Époche/Antithesis - minimally erroneous subjective assessment of anomalous phenomenal behavior
D: Reduction/Synthesis - higher-order integration of subjective phenomenal understanding into subjective metamodel of some more generalized set of phenomena

**
4) Kant's Critique of Pure Reason: core concepts from the 1781 book by Immanuel Kant

C: A priori - objects as they naturally are
K: Analytic - assumed Truths about the world
O: Empirical - symbols as they subjectively appear
D: Synthetic - proposed Truths about the world

**
5) Generalized Uncertainty Principle: fundamental principle of wave mechanics, quantum physics, information processing etc. conceived largely by Werner Heisenberg

C: Uncertainty - there is inherent uncertainty in any measurement by the nature of the fact that a measurement is a context-dependent process performed across a conceptual dimension (e.g. time) rather than a True value that is objectively/logically valid
K: Complexity - the amount of information present in a given measurement/assertion is correlated with the amount of information present in the relevant subsystem, and with the resolution of the given measurement technique
O: Boundedness - relevant phenomena are generally bounded/detectable (e.g. pulses), and meaningfully measurable along some arbitrary dimension
D: Certainty - for any given subsystem, there exists some non-ideal yet optimal measurement technique relative to other measurement techniques, and relative to the given utility metamodel (e.g. accurate position, accurate momentum, or some functional combination like using wavelets)

*author's note: The foundational structure and intent regarding CKOD were initially conceived while studying the uncertainty principle and its philosophical significance.

6) Outlined Model of Spacetime: a high-level abstraction of the known behavior of the fabric of the Universe

C: Quantum - effectively infinitesimal resolution of *space* and the microscopic processes and structures of the world
K: Causation - potential causal structures of phenomena and the unknown methods of execution of causation across *time*
O: Classical - macroscopic observable entities manifest within *space* and their subjective conceptual form
D: Collapse/Effect - convergent predictable phenomena and their known behavior across *time*

7) General Relativity: classical theory of gravity developed by Albert Einstein in 1915, as a generalization of special relativity

C: Spacetime Curvature - nonlinearity of 3+1 dimensions
K: Field Equations - structured geometric model which predicts consequences of nonlinearity
O: Gravity/Time Dilation - measurable effects of curvature on space and time
D: Geodesic - shortest, least action path from initial state to future state according to relativistic geometry

8) Wavefunction Collapse: mysterious behavior of particles described by quantum mechanics with no known explanation

C: Superposition/Probability Density - potential distribution of an observable with wave-like characteristics
K: Entanglement - information stored from previous interactions, which causes some predictable changes to probability distribution of observable
O: Collapse - currently unexplainable process of transition from wavefunction (many potential values) to delta function (single known value)
D: Observable - measurable results of individual experiments with wave-like particles; measurements which demonstrate predictable distributions

9) Category Theory: core concepts derived within the mathematical study of objects and relationships

C: Functor - unified action upon a collection (category) of objects
K: Morphism - preserved structure from an object to any object in the given category
O: Category - unified abstraction of a collection of objects
D: Object - structured entity with relationships to other objects

10) Category Theory (cont.)

C: Initial Object - object with least (0) action of morphisms upon it, optimal action upon other objects
K: Relational Identity - set of unique morphisms that defines observable identity of an object in context
O: Terminal Object - object with optimal (all) action of morphisms upon it, least action upon other objects
D: Zero Object - isolated object with morphisms only to and from itself

11) Group Theory: core concepts derived within the mathematical study of symmetry

C: Group Operation(s) - structure-preserving action of group member upon any group member
K: Ordered Pair - combined representation as a set with group structure introduced
O: Underlying Set - set of group members without operational structure
D: Group/Symmetry - (member of) collection of symmetric states of a phenomenon

12) Group Theory (cont.)

C: Identity - group which acts upon initial state to return to the same state when applied once
K: Associativity - potential to combine actions given a respective order of operations
O: Inverse - group which acts upon initial state to return to the same state when applied twice
D: Closure - convergent behavior of actions to a subset of group members

13) Subjective Experience of Time: a high-level abstraction of subjective metrics of change

C: Clock - periodic source signal of time metric and consensus reality, prone to limited/finite utility
K: Future - unbounded representation of potential predictions, prone to incompleteness and bias
O: Present - loosely defined amalgamation of locally accessible subjective forms, prone to unpredictable change across time
D: Past - bounded representation of stored history, prone to telephonic memory distortion and misrepresentation of events

14) Hard Problem of Consciousness: how can we begin to conceptualize the mysterious strong emergence of phenomenal consciousness?

C: Qualia - the phenomenal experience of being a subject with informative, qualitative consciousness
K: NCCs - neurocausal correlates which map brain activity to subjective experience, models of consciousness from an objective perspective
O: Strong Emergence - the inaccessible/complex emergence of the subjective reality of qualia from seemingly nothing
D: Hard Problem - infinite recursion of modelling (mapping) answers questions of weak emergence, but does not aid understanding of strong emergence of qualia

**
15) Russell's Paradox: logical paradox related to self reference and set theory developed by Bertrand Russell; normal (N) sets and abnormal (A) sets

C: Semantic Paradox - if N contains itself, then N by definition is a member of A. if N is a member of A, then N is not a member of N, and no longer contains itself.
K: Determinability - all sets may be determined by some* process to be members of either N or A
O: Self Reference - A is defined as that which contains/references itself, and N is defined as ~A.
D: Normal/Abnormal - all sets are decidedly members of either N or A

*how does one reliably determine whether an arbitrary set is a member of N vs. A? if a set is abnormal, one must determine that the given set is indeed one of the (arbitrarily many) members contained within itself, then *halt*.

***side note- if one of your goals is to minimize the quantity of your goals, should you maintain that goal?

16) Newton's Laws of Motion: unified laws that predict the motion of macroscopic objects

C: Potential - macroscopic objects with mass can move (or not move) and behave according to simple principles of force
K: Change - change in the behavior of an object's motion is dependent on relevant parameters (force, mass, air resistance, etc.)
O: Interaction - every force is a time-dependent response to some initial force; every force manifests a response force from objects to which the force is applied
D: Inertia - an object with no forces applied to it is an object at rest; an object with forces applied to it is an object in motion

17) Maxwell's Electromagnetism Equations: unified laws that predict the behavior of charged particles

C: Positive Divergence - generative outward source of force vectors
K: Curl - circular vector field flow through a medium
O: Negative Divergence - receptive inward sink of force vectors
D: Flux - vector of process flow through a medium

18) Maxwell's Electromagnetism Equations (cont.)

C: Gauss' Law of Electricity - induced relationship of electrostatic force
K: Faraday's Law of Induction - induced relationship of electromagnetic force
O: Gauss' Law of Magnetism - induced relationship of magnetic force
D: Ampère's Circuital Law - induced relationship of electric/displacement current

19) Laws of Thermodynamics: unified laws that predict the behavior of heat and energy flow

C: Absolute Equilibrium - energy increases with temperature, approaches zero at absolute zero temperature
K: Entropy - measurable disorder/potential of a system's energy
O: Relative Equilibrium - energy approaches positive constant across all points in a closed system
D: Conservation of Energy - measurable constant of a system's energy

**
20) Abstract Outline of Mathematics/Logic/Epistemology: how subjects make rational observations about the world

C: Axioms - set of reasonable conjectures taken to be objective within a given Universe/model
K: Rigor - effective structure founded upon given axioms to organize/catalyze information processing
O: Notation - symbols/objects that are identifiable to subjects, and do not contain meaning in themselves, but point to Rigor
D: Calculations - groupings of symbols/objects with coherent rigorous structure that provide valuable information

21) Philosophical Substances: ancient model of physical materials and the nature of their behavior

C: Substances - entities that naturally arise/manifest as a consequence of the Universe's physical laws
K: Models - limited descriptions of substances that make themselves apparent as useful descriptions
O: Properties - conscious observations of substances as they are presented in consciousness, that which informs models
D: Assertions - arbitrary symbols assigned to particular substances as encoded references to some greater Truth of the Universe

COMPUTER SCIENCE

22) Information Relations: abstract generalizations of basic aspects of information processing

C: Outputs - information transformed through a given structure
K: Computation - particular relationships that perform particular processes
O: Inputs - information received from a given source
D: Function - observable utility of the system, feedback (light on/off)

**
23) Wireless Transmission: sending encoded information via open media

C: Transmission - method for initiating and executing connection
K: Protocol/Medium - physical media and abstract processes in place to ensure connection
O: Receiver - accessible point of connection to receive and process signal
D: Output Signal - observable representation of successful transmission

24) Components of a Circuit / Ohm's Law: practical model of electricity flow through a wired circuit

C: Voltage/Battery - source of power/work
K: Current/Medium - flow of electricity from source outward and back
O: Impedance - effective resistance/attenuation of flow
D: Output - observable function of the circuit (the circuit is closed, the light turns on, the computer boots up, etc.)

25) Effective Methods: rigorous procedures for solving computational problems

C: Axioms - finite-step reasoning assumed as True for a given model
K: Rigor - structure of relationships and procedure to model complex general case problems
O: Application - real-world ability to apply abstraction to medium construct
D: Effect - method predictably halts and produce correct outcomes

**
26) Turing Machines: a class of abstract machines that read information and perform operations

C: Programs - predetermined instructions to assess the data
K: Read - ability to accept and process information
O: Data - discrete symbolic information recorded on tape
D: Write - information produced by the machine

27) Halting Problem: foundational concept explored by Alan Turing and Alonzo Church regarding the computational limits of Turing machines

C: Arbiter - (unsolvable/paradoxical) hypothetical model to determine if algorithm will halt/loop
K: Algorithm - arbitrary executable instructions given to Turing machine
O: Initial State - a program must start in some given state and progress through its instructions
D: Halt/Loop - every conceivable algorithm will either halt or loop; this behavior is generally unpredictable per Church-Turing thesis

28) Deep Learning: a method for training large-scale AI learning models

C: Datasets - training with real-world given information to understand the task
K: Network - instructions for making good/bad decisions
O: Outcomes - perform the given task in the environment
D: Feedback - report, analyze, and integrate success and failure of outcomes

ART/AESTHETICS/MEANING

**
29) Outlined Model of Aesthetics: framework of fundamental processes/entities related to the study of art and expression

C: Art - discretized (bounded) subjective expression in its ideal form
K: Form/Context - logical observations relating to a piece of art (era, style, etc,)
O: Perspective - individual values and understanding of specific art, art in general, etc.
D: Evoked Emotion: manifest subjective response to art

**
30) Abstract Analysis of Aesthetic Trends and Cultural Movements: how simple ideas form into collective expressions and influence one another

C: Domain/Medium of Expression: collective methods for representing and distributing ideas to audiences
K: Pre-Modernist Traditionalism: amateur exploration of novel domains
O: Modernist Idealism: articulate, justified models of relative value
D: Post-Modernist Absurdism: nihilistic rejection of domain-specific standards

31) Ideology/Dogma: collective communication of idealized principles

C: Homogeneity - internal consensus of values and logic
K: Perceived Justification - collective resistance to status quo
O: Value Model - relative hierarchy/prioritization of beliefs
D: Articulate Action - solutions to perceived problems

**
32) Semantics/Definition/Mapping Problem: how subjects assign mappings of observations to dimensional spectra

C: Coherence - objectively cohesive and real vs. coincidence of unified behavior
K: Generality - relatively specific vs. unspecific, within a given domain (small/large categories)
O: Accessibility - subjectively familiar vs unfamiliar according to an end user
D: Aptitude - relatively qualified vs. unqualified, within a given domain

33) Metaphor/Analogy: stylistic comparison of two concepts in order to demonstrate or embellish a particular aspect or behavior of one concept

C: Shared Behavior: underlying concept/structure that the comparison intends to demonstrate
K: Comparison: establishment of a structure-preserving connection between two known concepts
O: Aesthetic: contextual purpose/intent of creating a new connection as opposed to not doing so; subjective aesthetic value of comparison
D: Aptitude: general correspondence between relevant aspects of involved entities

**
34) Gender Theory: binary analysis of societal, cultural, and sexual roles

C: Masculinity - active/dominant/assertive status
K: Fluidity - exploration of self-identity
O: Femininity - passive/receptive/vulnerable status
D: Adherence - assertion of self-identity

**
35) Rhythm: structured application of low frequency oscillations (tempo)

C: Tempo/Metronome - source of persistent repetitive action
K: Player - interpreter of style, tempo, theory, groove, technique
O: Membrane/Timbre - instrument designed to make a certain sound
D: Rhythm - manifest repetitive sounds

36) Harmony/Melody: structured application of high frequency oscillations (pitch)

C: Theory - context/constraints of style/song (key, mode, scale)
K: Player - interpreter of style, pitch, theory, arrangement, technique
O: Instrument/Timbre - instrument designed to make a certain sound
D: Harmony/Melody - manifest contextualized sounds

37) Hermeneutics: abstract outline of the study of interpretation of collective media, particularly religious texts (Christianity)

C: Critical Text - relevant media within the given domain
K: Effective Wisdom - resonant subjective knowledge gained or inspired by relevant media
O: Initial Interpretations - potential subjective understandings of the world/given domain
D: Articulated Wisdom - framework of diction/logic provided by relevant media

RELIGION/MYTHOLOGY

38) Abstract Outline of Religious Belief: attribution of divine meaning, truth, wisdom, or selfhood to some abstract concept/phenomenon

C: Creator - depictions/symbols representing the source of reality and meaning
K: Universe/Mechanics - assertions/beliefs about the nature of reality and meaning
O: Soul/Self - universal identity of conscious entities
D: Ego/Tradition - extended labelled conscious identity

39) Abstract Outline of Mythology: use of recurring structures and themes to create stories about morals and the human condition, generally in a religious/polytheistic context

C: Archetypes - abstract recurring narratives of the human condition
K: Morals - ideal frameworks of integrated human values
O: Myths - constructed stories that demonstrate elements of the human condition
D: Characters - simplified personifications of archetypes provided by myths

**
40) Four Noble Truths of Buddhism: collective set of realizations/Truths asserted by Buddhist teachings

C: Dukkha - suffering is a given/inevitable
K: Tanha - suffering is associated with desire
O: Nirodha - suffering can be ceased/bounded
D: Marga - there exists a path to enlightenment (Eightfold Path)

41) Dhyana in Buddhism: mental training and meditation for clarity/equanimity (*upekkhā-sati-pārisuddhi*)

C: Vitarka - applied attention, mental potentiality
K: Piti/Sukha - pain/pleasure, relative information content
O: Vicara - applied cognition, observable forms of reality
D: Upekkha - non-reliance/applied dismissal of information

BUSINESS/COMPETITION

42) Basic Outline of Business Operations/Roles: how value is exchanged in a capitalist society

C: Product/Service - potential exchange of value, indirect interactions with abstractions of clients (market research)
K: Marketing/Distribution - operations to ensure persistence of valid, agreeable exchanges with clients
O: Sales/Exchanges - manifest exchange of value, direct interactions with real clients
D: Profit/Analysis - operations to ensure persistence of valid, agreeable company goals

43) SWOT: 2-dimensional analysis of current known status and projected future status

C: Strengths - manifest ideal status in a realistic situation
K: Threats - complex realistic goal in an ideal direction
O: Weaknesses - fallible realistic status in a realistic situation
D: Opportunities - bounded ideal goal in an ideal direction

**
44) OODA: 4-step approach to strategic operational decision-making developed by John Boyd

C: Act - execute optimal strategy towards relevant goal
K: Orient - align and integrate relevant goals and information
O: Observe - take in information about given situations relevant to a goal
D: Decide - operate and optimize based on integrated model

**
45) Natural Selection: generalized approach to modelling entities within a competitive environment developed by Charles Darwin

C: Environment/Selection - uncountable set of factors that determine utility and reproduction opportunities for given entities
K: Reproduction/Mutation - (un)reliably transmitting encoded information across space and time
O: Species - bounded set of entities that can safely interact and reproduce with one another, creating new mixed entities
D: Evolution - macro-scale observable effects across time of mutations as selected by environment

46) Game Theory: mathematical study of strategy, games, and competitions

C: Game - context, equipment, themes, and basic outline of the game and goals
K: Rules - standardized boundaries to restrict undesirable behavior and maintain fairness/spirit of play
O: Centralized Play - information/activity available to all players; e.g. ball, field, game board, piece/player locations, etc.
D: End Game - rigorous outline of the goals and thresholds that constitute “success”; can be finite or indefinite

SPECIALIZED DOMAINS (MISC.)

47) Exploratory Developments in Neuroscience: layered integration of cognitive domains

C: Reptilian - models the relationship between the world and self (safe/unsafe)
K: Limbic - models the relationship between self and experience (happy/sad)
O: Cortex - models the relationship between experience and cognition (true/untrue)
D: Metaconscious - models the relationship between cognition and world (valuable/dispensable)

48) Behaviorism Model of Psychology: how subjects respond to stimuli and environments

C: Unconscious Behavior - natural, default modes of being for a particular subject
K: Memory/Training - model of relationships/paths between undesirable states and desirable states
O: Trigger - symbol associated with desirable/undesirable states
D: Observable/Desirable Behavior - undesirable/desirable state, feedback mechanism for subject

49) Control Theory: how to predict, control, and manipulate macro-scale systems of entities to follow preferred behavior schema

C: Dynamical System - chaotic system that exhibits periodic behavior
K: Phase Space - set of potential observable states of ideal system
O: Initial State - given observable state of ideal system
D: Evolution Function - time-dependent predictable macroscopic behavior

50) Abstract Systems Analysis: how to remove unwanted noise (audio, video, group goal [mis]alignment, mathematical randomness, etc.)

C: Subject Appraisal - troubleshoot common sources of potential user error to reduce avoidable sources of noise
K: Process Replacement - remove equipment, systems, or entities that are identifiable as direct sources of noise
O: Noise Reduction - counteract sources of noise with destructive interference
D: Ignorance/Non-Awareness - expected noise is sufficiently negligible for proper systems operations

51) Political Axes: popularized model of political beliefs and ideologies

C: Authoritarian - maintain control of state and people
K: Left Wing - maintain control of state, release control of people
O: Libertarian - release control of state and people
D: Right Wing - release control of state, maintain control of people

52) Abstract Outline of Wave Mechanics: how entities respond to periodic changes in environment

C: Wave - self-propagating source of encoded information content
K: Medium - bounds/structures through which information passes
O: Experience - manifest conscious experience of events projected/mapped to qualia
D: Definition - articulate, rationalized understanding of information content

**
53) Concrete Outline of Sound Wave Mechanics: how subjects respond to sound waves

C: Sound Source - vibration of matter; speakers, headphones, vocal chords, instruments, objects, Universe
K: Physical Medium - matter; solid, liquid, gas, and sometimes plasma
O: Auditory Experience - experience of sound; music, pitch, timbre, aesthetic value
D: Labelled Model - model of sound; music theory, sound recognition (x="thunder"), wave mechanics

54) Stephen Wolfram's Hypergraph Model of the Universe: theoretical model of fundamental particles of reality and their properties/ observable behaviors

C: Rules - set of instructions for recursively updating a hypergraph
K: Multiway Graph - network of parallel timelines that can potentially intersect and interact with one another
O: Branchial Graph - discretized categorization of multiway states relative to causal ancestor/invariance
D: Spatial Hypergraph - set of relationships between nodes representing a single state of the multiway updating process

55) Giulio Tononi's Integrated Information Theory: theoretical model of fundamental properties/observable behaviors of consciousness

C: Axioms of Experience - irreducible properties of conscious experience
    C) Intrinsicality - phenomenal emergence of experience
    K) Composition & Integration - relative specificity of content of experience (many vs. one :: composition vs. integration)
    O) Information - relation of current experience to comparable memories/predictions of experiences
    D) Integration & Exclusion - compactness/unity of experience (inside vs. outside :: integration vs. exclusion)
K: Physical Substrate of Consciousness (PSC) - medium of cause-effect from which consciousness emerges
O: Causal Power - theoretical measurable property correlated to threshold of consciousness of a given interaction with PSC
D: Phi Value - measured maximum bound of causal power in a given system of interactions with PSC

BONUS

Recursive Derivatives
*author's note: this feels like it belongs. just a hunch

sin -> cos
cos -> -sin
-sin -> -cos
-cos -> sin

Classical Elements

C: Air
K: Fire
O: Water
D: Earth

**
Abstract Outline of Universal Ideals (hypothetical): a set of 4 collective instrumental goals towards which all entities are drawn

C: Morality - approach the ideal set of values upon which action in the world is based
K: Competition - approach the realistic set of parameters upon which persistence within the world is based
O: Rationality - approach the ideal set of values upon which understanding of the world is based
D: Civilization - approach the realistic set of parameters upon which persistence of the world is based

Four Horsemen of the Apocalypse in Christianity

This model requires some context and justification. Please refer to the previous model "Abstract Outline of Universal Ideals". In this example, each of the 4 "universal ideals" will be paired with an opposing Horseman, representing the failure/downfall of the given ideal.

C: Conquest (Morality) - inability to equitably constrain unjustified, natural conflict
K: War (Competition) - inability to equitably constrain justified, controlled conflict
O: Death (Rationality) - inability to sustain individual identity
D: Famine (Civilization) - inability to sustain collective identity

I will take this opportunity to emphasize once again, the purpose and overall intent of these principles are not suited for rigorous domains. If you read the list of the 55 basic models and feel as though they are *incomplete* or *misappropriated*, I fear you've missed the point and I wonder how you got this far in the paper. Abstraction is the key to efficiency and utility, while Truth is a demonstrably aimless quest.

PART IV: Theoretical Analysis

As noted previously, definitions of fundamental axioms require a coherent phenomenal foundation, however they also require basic human intuition and understanding to put them to any use. Deciding on a proper starting point to define “thing-ness” is admittedly an ambitious task, and any explanation given here is certainly falsifiable somehow per Gödel’s Incompleteness. For example, the laptop on which this was written was decidedly not a “thing” in 3000 BCE. This is the kind of statement that is technically, arguably incomplete or undefined, but it simply requires acceptance from the user as “True enough”. The things that became the things that became… the things that became this laptop, did exist in 3000 BCE. Insert Ship of Theseus™ reference.

But let’s not beat around the concept of a bush.

If a phenomenon is not known to a subject, it may still be a “thing” according to another subject. If a phenomenon is not known to any subject, it is necessarily not a “thing” until proven otherwise.

A “thing” is therefore defined as a phenomenon that is known to at least one subject. An arbitrary thing is either known (1) or unknown (0) to a subject, or perhaps somewhere in the middle along a spectrum. The manner in which one might go about measuring some scalar value of a phenomenon being known or unknown is decidedly irrelevant to this case.

The subjective essence in which a thing may be fundamentally known and accessible may be referred to as “observable form”, or simply form.
The undefined processes of a thing that are unknown or inaccessible to a given subject may be referred to as “creative nature”, or simply nature.

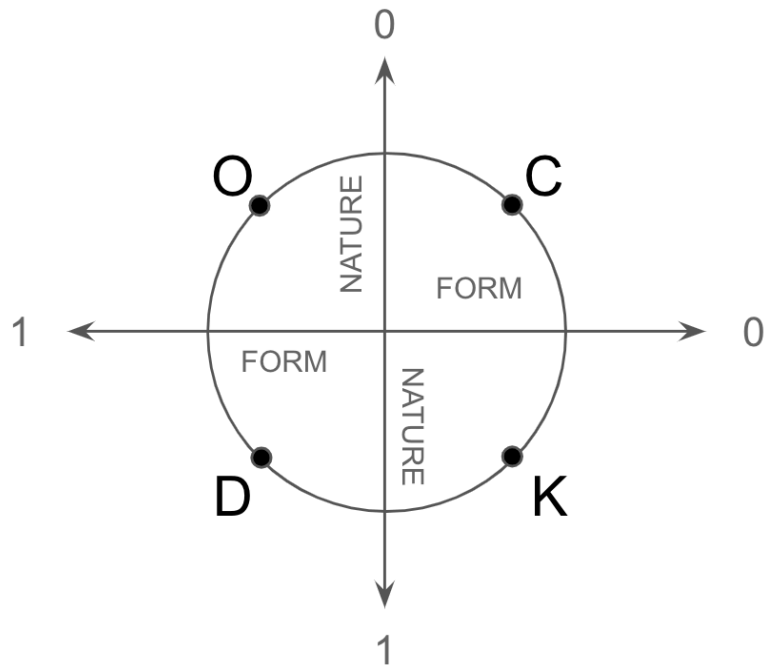
The structure of these principles are founded on these binary representations of “known” vs. “unknown”, and consequently “form” and “nature”. These distinctions are made so as to avoid vague statements like “The known is known and the unknown is known”, yet the iterated structure is fundamentally constructed with 1 key dimension, “known-ness”. To measure a phenomenon along any dimension other than “known-ness” requires a metamodel which ensures the validity and reliability of the measurement, and the extent to which the measurement is decidedly valid is precisely the extent to which the nature of the phenomenon is known, the “known-ness” of the “thing”.

CKOD as Defined in Terms of Known/Unknown Form/Nature

If the nature of a phenomenon is _____ (unknown/known), and its form is _____ (unknown/known), it may be referenced with the _____ (CKOD) principle.

Creation (00) — unknown nature / unknown form
Knowledge (10) — known nature / unknown form
Observation (01) — unknown nature / known form
Decision (11) — known nature / known form

**
0 = unknown, 1 = known
(nature, form) = (0 or 1, 0 or 1)
**



CKOD as Defined in Terms of the Scientific Method

Let's use the scientific method to unpack this and ground it in a more familiar concept.

Creation (00) — Phenomena

The scientific model has been painstakingly polished and repurposed over millennia for the purpose of studying general phenomena at large. But imprecise measurement technology will inevitably lead a scientist to become a philosopher. Ancient Greeks likely had no ability to conceive of anything such as a black hole. They simply did not have the ability to observe these phenomena. Black holes were not yet "things". And there are certainly more phenomena yet to be discovered by science, that's why they're still doing it. But the objective nature of these unforeseen structures, and the measurable form in which they may be discovered or accessed, are still both *unknown*.

Knowledge (10) — Hypotheses

Based on known phenomena and unexplained errors in our models of them, scientists aim to create new ideas by incorporating new models into the current consensus in a way that models an unknown phenomena. The nature in which new ideas manifest is highly intuitive and based on the *known* theories, while the form in which the new ideas manifest is arbitrary and *unknown*.

Observation (01) — Experiments

A model must be falsifiable in order to be scientific. Any model faces inevitable imprecision due to finite measurement technology in any given era of science. Our subjective ability to construct abstract metrics and relationships to measure and predict the world allows us to converge upon persistent results. The observable value and the validity/nature of the experiment are necessarily considered subjectively *unknown* until objective measurements have been obtained. The form in which the results appear may only be along *known* dimensions, whether it is measured in position, velocity etc. or a discrete state dimension, like on or off, spin up or down.

Decision (11) — Conclusions

Experiments about the world are prone to both user error and incomplete knowledge of the environment, yet scientists must eventually make proper decisions about the most useful ways to model the world. These conclusions based on noisy information may still be useful and in the best cases, reproducible. Making proper claims about the way the world is allows one not to actually see how it is, but to make more educated guesses about what it might be in the future, and what might have been in the past. In the meantime, we can "safely" treat our best models as appropriate representations of the *known* nature of a phenomena, and the *known* form of this knowledge is our precise conclusions based on these complex models.

Standardized Model of Emergence

For the next example, there will be two versions of a list that intend to describe the same pattern. This is an attempt to standardize the concept of emergence. Physics emerges from the Universe, chemistry emerges from physics, biology emerges from chemistry, etc. There is a particular partial order to these emergent phenomena, regardless of our ability to explain the specific causes or factors associated with each case of emergence.

One thought that motivates this line of thinking is the idea that, in a multiverse situation with many different timelines of reality, there are naturally convergent social tools that would likely prove to be widely applicable and useful across many timelines, as they prove to be useful across a wide range of domains.

Math, commerce, philosophy, science, etc. would not be unique to a relatively small set of Universes like ours. Arabic numerals, on the other hand, are much more specific and arbitrary than the profound emergent concepts they represent.

Let us propose a metamodel which predicts a hypothetical partial order for these reliably convergent, emergent physical and mental structures. The CKOD principles each refer to a particular emergent category of phenomenal models, and the statements between each principle represent the defining relationships that allow each phenomenon to emerge from the previous, starting with foundational independent phenomena and building up to macroscopic dependent phenomena.

Version 1: Structural Analysis

Objective Physical Phenomena

Creation — infinite persistence of analog information potential

- emergent relationships of physical laws

Observation — finite persistence of conscious awareness

- manifest relationship from object to subject

Knowledge — infinite persistence of digital information potential

- emergent relationships of physical entities

Decision — finite persistence of conscious entities

- manifest relationship from subject to itself

Subjective Mental Phenomena

Creation — infinite persistence of potential conscious stimuli

- emergent relationships with local information sources

Observation — finite persistence of informed intention

- manifest relationship from subject to object

Knowledge — infinite persistence of conscious energy

- emergent relationships with global information sources

Decision — finite persistence of informed judgement

- manifest relationship from object to itself

Version 2: Layman Analysis

Objective Physical Phenomena

Metaphysics/Modern Physics (nature/form of theoretical objective reality)

- least action selection

Modern Philosophy (Ontology, Epistemology, Aesthetics, Logic, Math)

- meta selection

Physical Studies (Chemistry, Cosmology, Classical Physics, Organic Biology)

- utilitarian selection

Social Studies (Sociobiology, Sociology, Commerce, Politics, Gender Theory)

- natural selection

Subjective Mental Phenomena

Hard Problem/Neuroscience (nature/form of manifest subjective reality)

- ontological map

Environment Feedback Control (Control Theory, Technology, Government Mechanics)

- homeostatic map

Phenomenology (Color Theory, Music Theory, Linguistic Semantics)

- qualitative map

Reason and Rationality (Ethics, Decision Theory, Social Choice Theory, Legislation)

- equivalence map

The 2 groups of 4 are divided into objective and subjective, and each particular principle within its respective grouping also necessarily reflects a manifest relationship with the parallel principle in the other grouping. Analog information potential is the objective phenomena which acts as the foundation of conscious stimuli for observers. Conscious awareness informs the convergent intentions of an observer by means of representing the world in real time, so as to execute on intentions in real time.

This example, and most others here, are intended to predict a theoretical conceptual structure rather than assert a properly defined system with immediately falsifiable conclusions. This is explicitly guess work, but the underlying structure should be particularly emphasized, rather than the specific linguistic content; the nature of the words rather than the form.

This is a call on the reader to temporarily ignore the blatant incompleteness of this model and focus on the semantic direction in which it is pointing. That's how science works, after all. This model is intended to be more of a creative tool and a practical perspective on epistemology, rather than a definitive statement on metaphysics, or some facacta "Theory of Everything". One might note, however, that it should prove especially difficult to ever construct some such "Theory of Everything" without the proper notion of what a "thing" is.

CKOD and "Thing-ness"

How does a thing become a thing?

There are 4 entities that inherently compose any thing: an *objective* phenomenon (C), a *subjective* phenomenon (O), some *relation* (D) between them and a *context* (K) in which this relation is manifest.
If the resolution of a known model is sufficient in a given context to predict relevant phenomenal behavior, then the "thing" is *decidedly* known.

If the resolution of a known model is insufficient in a given context to predict relevant phenomenal behavior, then it may require assistance from other associated *knowledge* models.

The nature of how information is categorized as relevant depends on subjective reasoning, informed by accessible phenomenal contexts, with unknown resolution of the exact perceived value or abstract relevance of any particular piece of information.

Creation — phenomenon
Knowledge — context
Observation — subject
Decision — relation

Creation — coherence
Knowledge — complexity
Observation — accessibility
Decision — resolution

In this example, the CKOD principles are utilized to assist the model of a given "thing", as well as the model of the underlying processes necessary to attribute aspects of "thing-ness" to the thing.

Self-Similar Iteration of CKOD Principles

These 16 statements, constructed using the CKOD principles, should loosely apply to any given thing in any given context.

What is it? A vague thing (*Creation*)

Creation — It is believed to be manifest from some external source of reality
Knowledge — It has least one manifest state/property that is pertinent for understanding it
Observation — It is observable through some cohesive form within experience
Decision — It is a “thing” with unknown properties

What is it? A system (*Knowledge*)

Creation — It is a source of known states and predictable outcomes
Knowledge — It has a medium of interface with other systems
Observation — It is a particular known thing that takes a particular state or states
Decision — It has specific utility in relational context with other systems, it is a system within a greater system of systems

What is it? An experience (*Observation*)

Creation — It is a direct and cohesive subjective experience or reception in some sense
Knowledge — It is a series of arrangements of experiences that inform one another
Observation — It is the ineffable experience of being a subject
Decision — It is a manifestation of consciousness

What is it? A tool (*Decision*)

Creation — It is a thing designed for a greater purpose including and beyond existing
Knowledge — It is useful in known contexts and environments
Observation — Its utility may be understood conceptually
Decision — It is itself, a “known” thing with a name/label, an abstraction

Even in this particular example, despite the eloquent symmetry and composed rationality of the author, the arguments are ultimately rooted in undefined words and concepts. This is the unending horror of the mapping problem, and it demands a solution.

The Solution

The responsibility is on the part of the user, you, me, anyone, to be able to avoid the mapping problem altogether by rooting undefined concepts in intuitive symbols that are necessarily given to be known, accessible, and understandable. And even despite the efforts of CKOD to achieve this, these words are still a model which represent the metamodel M. M is the thing in itself, the creative nature that defines “thing-ness”. The thing that defines the undefined, the thing that models the model-maker, at the risk of sounding absurd or pretentious.

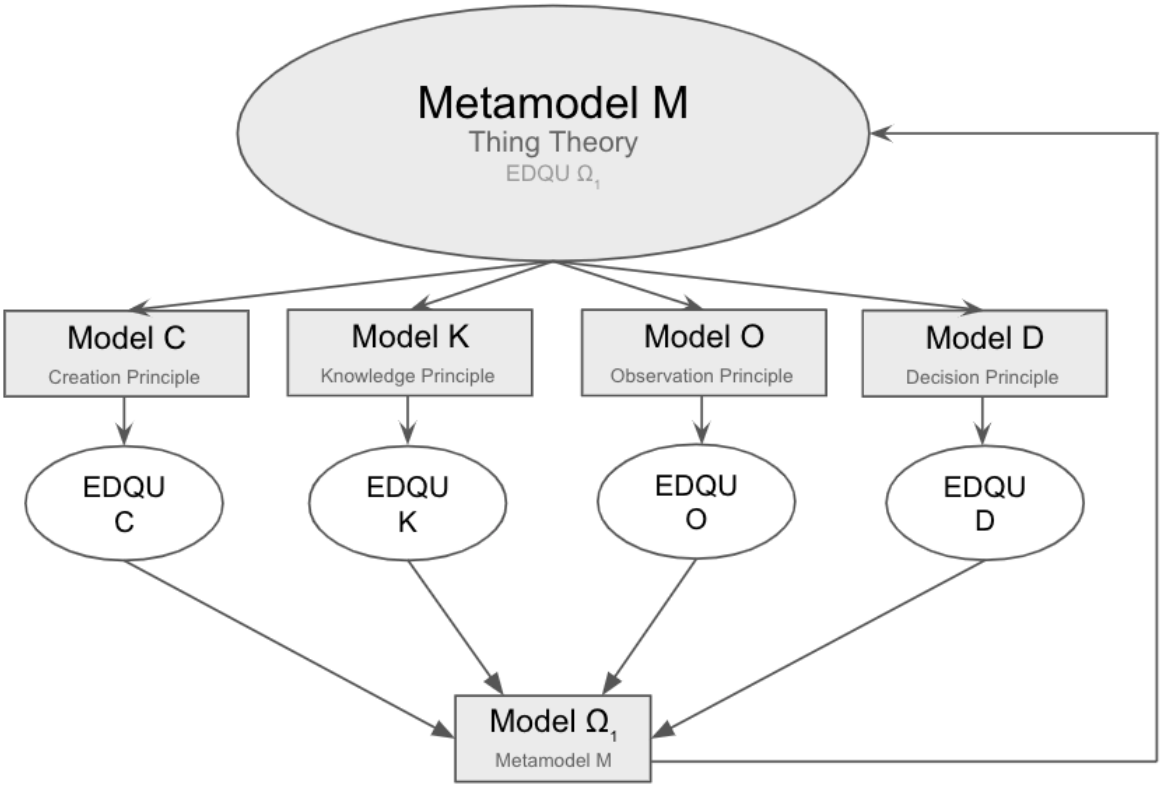
There is no discernible way to make any verifiable claims about the Thing (M), except to say that more likely than not, it is “real” in some objective sense. The Thing is defined, by any good definition, as that which is not known. There is no sense in attempting to “know” anything about the Thing, as this would constitute a model of some “known” phenomenon, which is, again, definitively not what the Thing would be.

These principles *intend* to make useful claims about subsystems of the Thing, given reliable context, as the dictionary and science *intend* to make useful claims about meaning and reality. Models in a vacuum do not make verifiable claims. But they do a better job (D), within their respective EDQUs (O), relative to other models (K), as measured by an arbitrary given metamodel of utility (C).

CKOD intends to be a useful model of the abstract notion of a “thing”, an “object”, a “concept”, a “phenomenon”, regardless of what the “thing” is.

What is Thing Theory?

Creation - a relatively coherent interpretation of “thing-ness”
Knowledge - an analysis on the structure of models, maps of labels to phenomena
Observation - a finite set of symbols in a .pdf file
Decision - a set of 4 labels that can be reliably applied to a wide range of domains



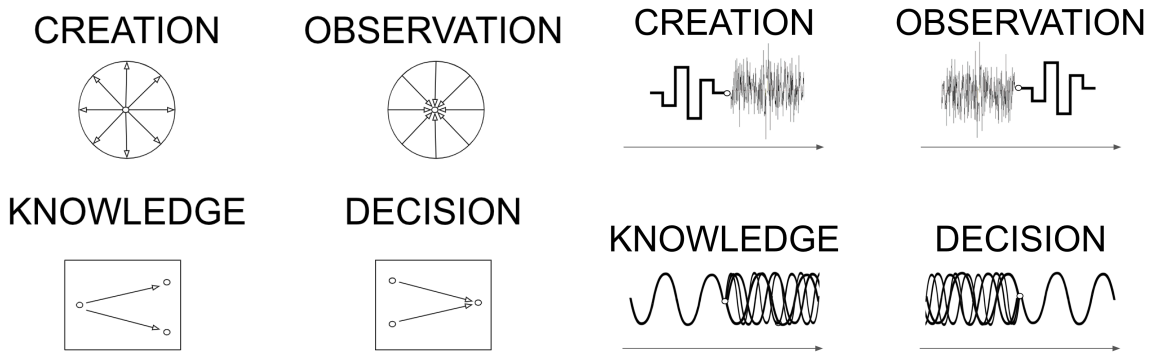
Future Iterations of CKOD

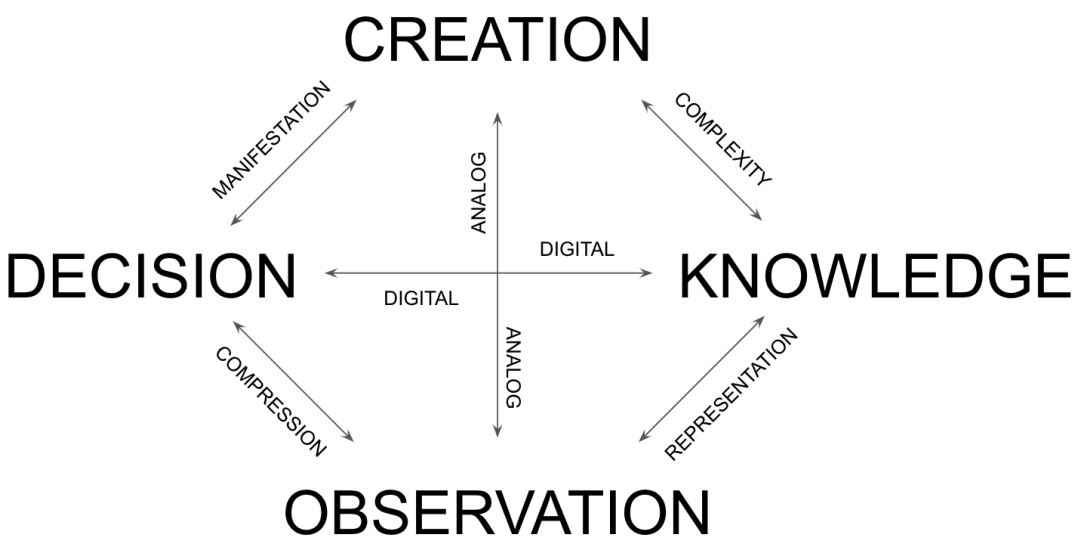
The future of this CKOD model likely involves constructing diagrams in a similar fashion to those shown here previously, and creating a metric of sorts to connect one system to another, one list to another, one model to another. One should note the fractal nature of these expanded lists, as one may take the initial model of 4 CKOD principles mapped to 4 “things” and recursively analyze each individual “thing”, creating 16 novel self-contextualized concepts.

It is likely possible to continue some similar form of recursion indefinitely, however this increase in resolution requires a respective increase in the number of undefined concepts expressed within the framework, unnecessarily vague “things”, e.g “God” or “consciousness”. Ultimately, this leads to more experimental errors and general inefficiency of the model. Applying these principles at higher resolutions requires bigger, more specific lists, and the tedious, error-prone construction of the model tends to become more work than simply analyzing the given phenomenon with another more appropriate model.

The arrow diagrams featuring metamodels M and N are highly inspired by category theory. There is considerable work to be done on pinning down any particular axiomatic structure which exemplifies the true meaning and purpose of the CKOD principles. Category theory seems to exemplify the concepts of abstraction and structured relations between objects, yet in the same stroke, the rigor required to properly operate with category theory is astoundingly far beyond the desired reasonable accessibility that CKOD asserts, at the cost of justified reliability.

This model works best as exactly what it is, a grouping of words and symbols in a suggestive format. The brevity and subjective freedom with using these CKOD principles allows for efficient, decisive thinking. Attempting to articulate the principles further necessarily diminishes the perceived value they hold for the end user.





	CREATION	
COINCIDENT	⟷	COHERENT
	KNOWLEDGE	
ABSTRACT	⟷	CONCRETE
	OBSERVATION	
INACCESSIBLE	⟷	ACCESSIBLE
	DECISION	
UNQUALIFIED	⟷	QUALIFIED

	ANALOG	
CREATION	⟷	OBSERVATION
	DIGITAL	
KNOWLEDGE	⟷	DECISION
	COMPLEXITY	
CREATION	⟷	KNOWLEDGE
	COMPRESSION	
OBSERVATION	⟷	DECISION
	MANIFESTATION	
CREATION	⟷	DECISION
	REPRESENTATION	
KNOWLEDGE	⟷	OBSERVATION

One will note the apparent symmetries in these diagrams. Each smaller word in Model 3 represents a relationship or spectrum between two core principles, and each relationship has an opposite relationship corresponding to the other two principles. Let's demonstrate these ideas in context.

Let's say we are writing a song, and it needs a tempo and a key. There are many options for both, but eventually we decide on 120 bpm in C. Those technically arbitrary decisions now inform, or create, the reality of the song. Certain notes work well in C major, like F and G, and certain styles work well at 120 bpm, like hard rock or hip hop.
What informs these decisions in the real world of music?

1. The key, the notes, the rhythm etc. subjectively feels right for some reason.
2. Musicians are aware that certain actions and decisions have certain functions, e.g. C is the easiest to play on the piano (all white keys).

[*Analog-Digital*]

Music creation is a function that takes an input of *analog* human creativity, and returns a *digital* output of sound. Note that digital in this context refers to any instance of musical information, whether on a computer, tape vinyl, live performance etc. These processes are all defined by a mapping from encoded form to audible form, and this mapping is a physical process modelled by a digital construction, a suitable model that does the job well enough to play sound.

The distinction between digital processes and analog should be understood such that digital representation of an analog system exists only within an ideal self-contained Universe, with given axioms that ideally do not require any external corrective analysis. A computer assumes 0 is 0, 1 is 1, and any other mapping is undefined within the standard Universe of computation. A digital model assumes given constraints are reliably met, and constructs a system within which these constraints are treated as True; the "fact" that they are "True" provides nonzero information and value towards some goal: to compute, to make music etc.

An instrument player cites themselves as the source of the music, by virtue of the fact that the speaker is hooked up to their instrument rather than someone else's. But without the speaker, the mixer, the signal processing, the sound engineer, the cables, the instrument itself, a musician is just the same as a member of the audience.

Creation - subjective creative ability and vision
Knowledge - processes that affect the analog signal in a predictable way
Observation - output medium (speaker, headphones, audio file)
Decision - resolution and quality of input signal/processes measured by functionality of output medium

[*Manifestation-Representation*]

The ability to discern particular notes in a key and keep a steady rhythm are intentions, decisions, that are *manifested* from the music creator to the world. A drummer intends to stay in time, to the best of their ability. And the audience observes this as a nice steady beat, or perhaps a poor, weak drummer who needs to get back to paradiddles.

The preconceived ability, knowledge, to discern what is happening, from the perspective of the audience, or from the perspective of a musician hearing themself, informs the subjective experience. This relationship between musical knowledge and subjective taste allows the listener to *represent* the objective thing in a subjective way.

Creation — the will to create a song
Knowledge — skills and ability that inform choices
Observation — subjective positive experience
Decision — particular composed distinctions
Creation — a song created by will

[*Compression-Complexity*]

A more trained ear might prefer music with lots of *complex* arrangements and melodies, as there is more musical action happening, more information to experience. The particular qualities of an individual song or performance are what make the song uniquely itself compared to other similar works.

On the other hand, a Top 40's listener might not have any articulate taste, instead they prefer to interface with music in a much more passive, decisive way. "I like this song. It sounds fire." In this case, there is no need to *represent* any experience or *manifest* any response more than appreciation or disinterest. The *compressed* subjective experience allows people to come to conclusions quicker and free up mental capacity.

Creation - relative complexity/articulate source of artistic value
Knowledge - unbounded potential complexity of perspective
Observation - subjective taste
Decision - bounded complexity of response

To summarize, CKOD aims to map the known to the unknown by means of digital representation in terms of the perceived known and unknown, however the subjective perception itself is constructed in terms of only known form, and the construction is inescapably and ultimately informed by the unknown forces of objective nature.

Creation — informed by the manifest unknown
Knowledge — in terms of the perceived unknown
Observation — in terms of the manifest known
Decision — informed by the perceived known

PART V: Potential Future Applications

As a philosopher I tend to make do with personal experience and critical abstract thinking. And if creating this model has taught me one thing, it's that theory will only take you so far. You've got to hear the music for yourself in order for any theory to be considered "useful" or "correspondent". And the current education system does a bang-up job of making kids go blind and deaf. Learning is perceived as hard work because we naturally expect kids to be ready for more hard work in the future. We don't take the care to show them how or why they might actually find the concepts interesting, useful, or thought-provoking, thus genuinely increasing the chances of retention. As a well-rounded adult, I've come to understand more deeply the idea that all values, all models, all ways of being are something like feathers from the same bird, models from the same metamodel. This idea feels more comprehensible every day, yet impossibly difficult to articulate across the vast, incredibly diverse landscape of the modern information era.

This CKOD model is incomplete and biased. This has been emphasized several times in this paper, and in the future I do plan to write more precisely on why it would be fruitless to search for some "final" model of epistemology. Knowledge is severely limited when several orders of magnitude or sources of complexity arise in a given situation, loosely speaking. Complex problems are complex, and require many different perspectives and models to get a grasp of the whole elephant. This is precisely correspondent with the *Knowledge* principle. There is no simple equation that can rigorously define everything all at once, because there is no rigorously defined order to emergent phenomena. Therefore, there is no ideal perspective to be had across the entire spectrum of emergent phenomena, but rather a partially ordered set of self-contingent explanations. Every knowledge model is contingent on the idea that consensus reality is a "thing" that may be modelled.

Discipline and rigor is the natural enemy of creativity, and neither model for education is better than the other. But there seems to be a general sentiment of disdain for the excessive structure imposed upon students with natural passion and curiosity. As a certified college dropout, I can claim with near certainty that I learned more useful information in the 2 years after college than I did during my 2 years at college.

This is far from arguing that current education is bad or obsolete, but perhaps out of date, out of touch, and micromanaged to a fault. I am a firm believer that the next generation of students that grew up with online resources such as Khan Academy and Grant Sanderson's 3Blue1Brown will be better equipped for the real world than the greatest minds of 50 years ago. The goal was and is to make learning easier and more engaging, and online video media is quickly becoming a cornerstone of our new standard for education.

All of this to say, we have the necessary honey to catch flies, it's a matter of efficient distribution at this point. Efficient distribution is a two-way street: top-down, and bottom-up. Top-down refers to what CKOD intends to do, which is to idealize the core concepts of relevant information in an accessible, practical format. Bottom-up is what online media and all media does at large scale, which is mass distribution of source material.

Globalization inevitably necessitates a way to talk about knowledge at a wide scale, across different fields, in a language that everyone can easily understand. I created this CKOD model because I was perplexed that no one had ever taught me anything even remotely like this in school, in these kinds of contexts. 3+ years into my parallel studies of philosophy and abstract math, I have only just begun to realize the relations of my own work in epistemology to the likes of group theory, category theory, topology, etc. I fully intend to utilize more structured mathematical analysis in future papers to properly convey the intended concepts.

Pure abstract math manifests the necessary language and structure to perform analyses of information similar to the CKOD model and models within philosophy at large, yet the semantics are encoded in this intentionally rigorous, bloated framework that constantly builds upon one's prerequisite understandings of math and what it actually *does*. CKOD is to abstract math and epistemology as technological and theoretical advancement is to experimental science (as D is to K): an idealized version of pure, rigorous knowledge that aims to act as a practical interface between an end user of a knowledge model and the external world. Technology brings advancements of science into the hands of many, just as CKOD intends to bring the intuitions associated with math and philosophy into the hands of many.

Rather than trying to point to something in the world and make sense of it, CKOD points to where the meaning resides: in the minds of end users. It intends to be a model of common sense, a model of models, an accessible blueprint for basic thinking and reasoning. These kinds of ideas and skills are difficult to teach to young children due to their inherently abstract nature, but articulating these core ideas will allow us to further explore our ability to compress this information in the most ideal ways possible, in order to pass it on to future generations.

Conclusion

If none of this essay has proved convincing, yet you still somehow find yourself reading the conclusion, let me offer this final argument that really drives the whole thing home.

The intention of CKOD is ultimately to act as a model that describes and informs other models. I don't expect anyone to see these weird repetitive lists and take it as gospel, nor assume that these words in this order are the "correct" and "True" order for describing any fundamental structure. The ENTIRE point is to abstract out the underlying pattern that is so desperately trying to express itself here.

And for the big reveal… this entire essay has been constructed using the CKOD principles to subtly organize the content. The abstract model (K) informs this articulated model (D), not only in nature (C), but also in form (O).

Part I (*Creation // input*) — Foundational philosophy and purpose
Part II (*Decision*) — Basic principles and nomenclature
Part III (*Observation*) — Applied examples
Part IV (*Knowledge*) — Theoretical structure
Part V (*Creation*: // *output*) — Potential future applications

This is the strength of CKOD. It is an organizational tool for thinking. It has been personally helpful as a guide to understanding and mapping my own intuitions. To take it as Truth is to identify with nothing more than a collection of symbols. But to take it as nothing is to treat it as nothing more than a collection of symbols.

Now one might note that the CKOD organization in the paper is a bit out of order, counterclockwise perhaps, and that's quite alright, maybe even good. The intention in this case was to begin with convincing foundational reasons to take the ideas seriously and continue reading, and then gradually explore the formal structures and applications of the ideas. *Compression* to *Complexity*, all within the overarching CKOD. There is no end to it.

This style of a self-similar, fractal creative process is natural in my experience as a musician. I find that having an understanding of the underlying structures that come together to create music helps me write songs more quickly. They help me get ideas out from my head to some medium as accurately and efficiently as possible, and that ability is priceless as a creative who knows too well the fallibility of inspiration and motivation. Creativity is abstract structures and variation within more abstract structures and variation, a babushka doll of Yin-Yang.

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The following is a list of articles published by myself on mindmathmusic.com, specifically relating to the topics mentioned in this essay. I should hope that presenting the principles in a less formal context may provide confidence in their wide-ranging applicability.

http://www.mindmathmusic.com/philosophy/ckod-ception
http://www.mindmathmusic.com/philosophy/ckod-early-draft
http://www.mindmathmusic.com/philosophy/whats-really-going-on-here
http://www.mindmathmusic.com/philosophy/defining-objects
http://www.mindmathmusic.com/philosophy/game-of-life

I do intend to follow Thing Theory with a more comprehensive paper detailing the structures of metamodels and how they operate on models, including themselves.

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Thank you for your time and attention. *Creation* willing, this is the first step on a journey to somewhere new and exciting. Walk with me if you so choose.

-PK

WORKS CITED

[1] “Monad (Category Theory).” Wikipedia, Wikimedia Foundation, 6 Feb. 2024, en.wikipedia.org/wiki/Monad_(category_theory).