PLURALISTIC CONCEPTUALIZATION

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Abstract: Because our phenomenological experience of the world is fundamentally a conceptual one, I posit a pluralistic view of concepts that attempts to account for their fluidity, flexibility and productivity. I claim that what appear to be discrete concepts are really instantial interactions with a single conceptual ability responsible for "formatting" or otherwise giving recognitional structure to what we describe as experiential content. Following this claim, I examine the implications of formatting and cognition through analogies in computation, considering the possibility that conceptualization - taken to be a kind of cognitive formatting - may be required in every case of subject-oriented conscious life.

TABLE OF CONTENTS

LIST OF FIGURES

I. INTRODUCTION

The project at hand discusses concepts and how we should understand their activity in relation to our experience of a subject-oriented conscious life. Accordingly, this analysis will use language that implicates an internal/external world dichotomy. I implement these categories for the sake of simplicity, and as stand-in for a theoretical discourse this paper does not seek to engage. The focus will thus be the necessity, nature and operation of concepts as opposed to what they tell us about the ontology of an objective or subjective reality.

With the disclaimer out of the way, I can more comfortably state the following: the contact we have with the world is mediated by concepts. To be phenomenally aware of something - whether that something is a table, a memory, or an abstract idea - is to be dealing in content that is fundamentally conceptual. Implied here is a use of the word 'concept' that extends beyond assigned lexical meanings to include what occurs when we recognize both external and internal objects as they are: existent and discrete. Understood in this way, our conceptual abilities are also at work when we remember, imagine and introspect. Thus, it is the goal of this project to demonstrate that by calling upon an array of various cognitive systems, conceptualization appears to emerge as a dynamic, higher-order function responsible for assembling conceptual networks which allow a subject to interpret internal and external information.[1] Moreover, the uniting of conceptualization (defined as a higher-order ability) with memory and imagination results in a specific definition of concept and conceptualization that is pluralistic in nature

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[1]Again, I want to remain as metaphysically neutral as possible regarding the import of an internal/external distinction. In this instance, internal might reference something like an emotion, or use of the imagination/memory.

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The majority of the theoretical work in this analysis is developed in three sections, organized as follows. The first, Language and Recognition, examines the dynamic relationship between language and our conceptual abilities. Here, I argue that given the particular definition of concept I develop in section 1.1, we should come to two conclusions: 1) concepts and the processes which produce them are fundamentally separate from language, and 2) language can be utilized in demonstrating some salient features of conceptualization. Building on these features, I attempt to develop a pluralistic model of conceptualization in section three that operates on an understanding of concepts as recognitional. Finally, in section four, I posit that given a pluralistic model, we should see conceptualization as a necessary feature of subjective experience.[2]

1.1: Concepts Defined

Integral to sections three and four is a specialized definition of concept that I would like to develop here. During this process, I will also be working to locate my view amidst extent accounts as well as motivate the kind of model I posit in section three.

Together, three competing views - the *abilities* view, the *representational view*, and the *abstract object* view - constitute the primary positions regarding the ontological status of concepts.[3] Respectively, they understand concepts to be either the faculty of cognitive agents, psychological propositions (or representations), or abstract mental objects.[4] On my own definition, I do not ontologically distinguish between a particular concept and the process which

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[2] I understand subjective experience to be something different than what we typically mean by consciousness. I develop this nuanced definition further in section four..

[3] Margolis, Eric and Stephen Laurence, "Concepts", *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition), Edward N. Zalta (ed.).

[4] Ibid.

produces it.[5] Instead, I posit that a concept is a subject-oriented effect and interaction with a higher-order conceptual ability (conceptualization), and according to this description, a concept exists as an instance of interaction with this capability. In this sense, one might categorize this definition as a permutation of the *abilities* view. *Prima facie*, this observation would be correct, but there is sufficient nuance here that I believe warrants a separate categorization.

Apart from taxonomic differences, the *abilities* view as formulated by Anthony Kenny in "Concepts, Brains, and Behaviour" posits a slightly different different structure, according to which:

> An ability is a more or less enduring state, while any particular exercise of an ability will be a datable event or process. Aspirins possess their capacity while bottled up in the medicine cabinet, but only begin to exercise it after being swallowed. The human mind lasts a lifetime, while its exercises are our fleeing thoughts and projects and the other variegated items of our mental lives.[6]

Here, Kenny outlines the differences between an ability and its exercise, where a concept counts as an exercise of the relevant ability (clearly, a conceptual ability; what I would call conceptualization). Again, on the surface, my view would seem to count as falling under this definition. While I claim that conceptualization is a distinct ability, I do not think it is sufficient to understand concepts as exercises of this ability alone. For Kenny, an exercise of our conceptual ability will be a discrete, "datable event."[7] According to my definition, concepts, while experientially discrete, are both an effect of and interaction with a higher-order conceptual capability that necessitates a view of concepts as not entirely temporally contained.[8] In other

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[5] I refer to concepts as particulars for ease of expression. At the very least, their iterations are particular, and it is in this sense that I refer to them as such.

[6] Anthony Kenny, "Concepts, Brains, and Behaviour," *Grazer Philosophische Studien* 81 (2010), 105-113

[7] Ibid., p. 106

[8] If another example is needed, consider how a temporally discrete concept (e.g. my encounter with a bird as modulated through a conceptual apparatus) can be productive grounds for the generation of some future concept. Our experience of concept may be perceptually and temporally discrete, but this does not mean that the individuated

words, the concepts we are presented with can function simultaneously as both the result or product of a conceptual ability (exercise might in fact be a synonymous term) and a tool allowing us to interact with that same ability. Moreover, because concepts are also a way for us to interact with our conceptual abilities (not just as the passive receptor of their contents) instances of apparently discrete concepts can, in some sense, be used in the productive operation of forming new concepts. For this reason, it is difficult to demarcate between a concept and the forces that generate it. This presents a dynamic that falls outside of the *abilities* view, at least in its current formulation. Thus, in a direct sense, a concept should not be understood as completely separate from conceptualization, and while concepts do count as exercises of conceptualization, they can more accurately be viewed as a continuous interface with an overarching conceptual ability as opposed to a passive byproduct of it. With an understanding of this dynamic relationship, we may still speak of discrete concepts (after all, we experience them as discrete) so long as we recognize the fundamental connection they have to a continuously active conceptualizing ability. Therefore, in a functional way, concepts are never completely discrete. As will be shown later, it is not merely in a functional analysis that concepts fail to be fully discrete; their content also displays this feature.

In review, I have stated that unlike the *abilities* view, I take concepts to be interactions with an overarching conceptual capacity. Moreover, I caution against separating *concept* from *conceptualization* and instead suggest we see the two as ontologically unified. But this has so far only covered a certain feature of concepts and conceptualization. What I would like to focus on now is a more precise functional definition of *concept* grounded in its potential for productive activity.

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concept itself does not always represent a dynamic and productive process that can become active in both conscious and unconscious reflection, memory and imagination.

Linguistically, the variety of contexts and mental states that can be represented are conceivably limitless, and we find a similar feature as part of the specific definition this section is working towards.[9] The key difference, however, is found in the idea of recognition, and it is this concept that I wish to emphasize going forward. Take the following, for example: if Alice has no word for *horse* because she has never seen such an animal, she will nevertheless, upon encountering a horse, be very aware that there is a large animal in her presence. In other words, knowledge of what a horse is and possessing a lexical term for it are not required in allowing Alice to see and experience the creature. In comparison, what *is* required for Alice to experience a horse is a special kind of recognitional ability, one which operates somewhere between the information as processed by Alice's visual cortex, and the part of her cognitive structure responsible for assembling the qualia of her experience as such. Adding a little more definition, we can say that for Alice conceptualizing the experience *is* a recognition of the state of affairs that is expressed linguistically by something like <large animal in my presence>.[10] Further, if we imagine Alice as having no natural language, what we are left with is a conceptualizing process whose function is a kind of recognitional operation.[11] For Alice, having the experience involves a capacity to conceptualize the experience and its constituent parts which may later be expressed and interacted with through language.

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[9] The representation referred to here between concepts and their linguistic symbol should not be read as applying to my definition of concepts themselves. Again, it is not the goal of this paper to make any claims regarding the reality or irreality of an external world.

[10] In linguistic form, the expression identifying a recognition of some state of affairs (in this case, <large creature in my presence>) already depends on the recognition of logically prior concepts which we can identify in the expression's constituent words. This feature extends also to the more abstract definition of concepts as recognitional tools.

[11] Without a natural language, it is plausible that Alice will, after encountering a horse, generate some mental analog for what would otherwise be represented as a word. However, compared to the rules and compositional systems of language, the wordless analog seems relatively inert, and as such would not count as either a recognitional or lexical concept.

According to this definition, the productive activity of a concept consists in the recognitional content it bears and the potential it has to influence the structure and operation of subsequent conceptual networks. In section three, I will explain in detail how memory is interlinked with a pluralistic conceptualizing ability. In the example above, however, we can already begin to see how these combined faculties might operate in a way that demonstrates the productivity of concepts.

Returning to the example: imagine that Alice has successfully conceptualized the experience and its elements - primarily *horse* - and subsequently reflects on the encounter.[12] With *horse* now integrated into her conceptual system, every deployment of this recognitional operation involving the concept is at once a discrete application (for just that event) in addition to being a retroactive interface capable of producing recognition from past experience. To be clear, the claim is not that once *horse* has been recognized, every memory of <large creature nearby> suddenly becomes <horse nearby>. This interpretation may be true of a linguistic definition of concepts, but on a recognitional view the interactions are slightly more complex. Remember that the operative idea in my explication of concept is recognition, not representation. Conceptualization of *horse* is thus a recognition of *horse as horse*.[13] Perhaps this comes as a trivial point, but note that on a purely linguistic view, the operation taking place in my example is a simple case of learning word W in language L for some corresponding object or experience. In contrast, the recognitional view will tell a more dynamic story, wherein conceptualization of *horse* (preceded by an encounter with the animal) redefines past experience and opens up new

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[12] We will see later how recollection also requires the engagement of our recognition capacity and is fundamentally tied to the productivity of conceptual thought.

[13] Natural language has no necessary role to play in this explanation. Conceptualization of horse (recognition *as*) happens immediately and without conscious thought. We can subsequently become aware of and scrutinize the effects of recognitional conceptualization, but the idea is that these processes are automatic.

possible interactions with what has been recognized. Once recognition has taken place, the discretized conceptual structure <large creature, four legs, etc.> to which we assign the word horse can be brought both into the past and future, interacting with and influencing the conceptual networks therein.

For clarity, what I mean by 'discretized' is more or less a 'chunk' of some conceptual manifold.[14] In memory - which requires its own conceptual structure - I may distinguish between different experiential elements (e.g. tree, mountain, river etc.) not limited to what present as physical objects. Thus, conceptualization as a processional whole is experienced through discretized chunks that can be reconfigured in a multitude of arrangements. I can in one moment conceptualize a horse as a horse, discretizing it entirely apart from its environment. In a subsequent thought, I can move through a different conceptual space and consider the horse's mane. Further, I can discretize the experience in more abstract ways, such as recognizing and reflecting upon the relations between elements of the conceptualized whole. For example, one may consider the relationship between the horse, its habitat and its diet - a particular discretization of a conceptual whole whose elements depend on having been recognized as such.

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[14] *Manifold* is also a term that requires some explanation, particularly for its usage here. What I intend to capture in the notion of a manifold is a kind of structure that exceeds (or can exceed) local parameters. In topological terms, these local parameters are represented as Euclidean space, where non-metric geometry can be mapped. In conceptual terms, local parameters can be equated with conceptual interactions that in this analogy operate as local 'mappings' of a more complex structural whole. Accordingly, the discretization of conceptual space constitutes a local 'mapping', descriptive of how some particular discrete conceptual interaction correlates to a manifold conceptual space.
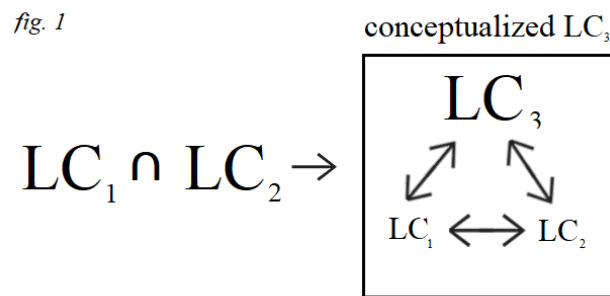
II. LANGUAGE AND RECOGNITION

In the section above I demarcate between concepts viewed as words, and concepts viewed as interactions with a recognitional ability, positing the latter option as my own view. Despite the differentiation, this section will explore the interactive and ultimately productive relationship between concepts and natural language. While this work focuses on an understanding of concepts that is distinct from language, there is in this complex interaction something revealing of our conceptual abilities, and it is precisely this salient feature that I wish to draw out and build upon in the following sections.

In a simple, one-dimensional sense, we can describe language as a series of icons that represent concepts and their relations. Things quickly become more complicated, however, when we combine our ability to identify concepts (by using language) with the generative features of a recognitional understanding of concepts. The example I will provide in the paragraph below deals strictly in lexical concepts, which I have identified as distinct from an underlying recognitional ability. While I think the separation is conceptually necessary, an interesting phenomena occurs here: our underlying recognitional abilities responsible for phenomenal structure (a fundamental kind of conceptualization) also takes place between lexical concepts themselves. The conceptualization of <moving thing> involves the very same processes as <there is a car>[15] despite a fundamental difference in content. In this way, lexical concepts can

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[15] In addition to the lexical term 'car', we must also notice that beneath the word is a prior recognitional conceptualization of the object itself. Consequently any instance of recognition requires a logically ordered sequence; in order to understand 'car', you must understand constituent concepts both lexically and recognitionally.

become recognitional.[16] For example, it would be very difficult to stop seeing x *as* x once a recognitional conceptualization has taken place; one may forget the lexical assignment 'horse' (perhaps it is a new language) but nevertheless retain the recognitional residue that identifies the corresponding object. Furthermore, lexical concepts in the frame of a sufficiently complex natural language can interact with one another constituting a third type of recognitional effect.

Consider this example: natural language x assigns lexical concept LC_3 to the composition of two preceding lexical concepts LC_1 and LC_2. Now, imagine that natural language y contains analogs of the lexical concepts LC_1 and LC_2, but no analog for the composed lexical concept LC_3. With sufficient description and translation, a speaker of language x can successfully communicate LC_3 to a speaker of language y, who now recognizes LC_3 and its relationship to LC_1 and LC_2. In this arrangement, LC_3 relies (though not entirely, as we will see) on LC_1 and LC_2, and once a speaker of language y has come to recognize LC_3, the compositional relationships between the three lexical concepts necessitate a recognition of LC_3 *as* LC_3.

fig. 1

$$LC_1 \cap LC_2 \rightarrow \boxed{\begin{array}{c} \text{conceptualized } LC_3 \\ LC_3 \\ \nearrow \quad \searrow \\ LC_1 \longleftrightarrow LC_2 \end{array}}$$

Above is a rough graphing of this conceptual flow, from lexical concepts one and two towards a third lexical object that becomes recognitional (marked as *conceptualized LC₃*). Note

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[16] This does not hold in every case, of course. In the lexical realm, we can simply forget what an object is, and thus fail to see it *as* its lexical term.

that on my definition of concept, a similar relationship can also be graphed for the processes responsible in the recognition of both LC_1 and LC_2.[17] In arranging this example you may notice that I have decided to borrow some ideas from set notation to aid in symbolizing what I understand to be the operation occurring between the first two lexical concepts.[18] The intersection - denoted by ∩- describes conceptual overlap between lexical concepts one and two, where the relevant subordinate concepts present in both are connected through, or share, conceptual 'space'. I choose the notion of intersection as opposed to union because recognition of LC_3 will not necessarily require all of the subordinate conceptual elements in LC_1 or LC_2 to be active in the same way. Put differently, were we to plug in lexical concepts for LC_1 and LC_2 (which we will do shortly), not every concept requisite for understanding them would be needed to generate a recognition of LC_3. A union, in this case, would describe a situation in which all subordinate concepts are required in order to understand and recognize LC_3. To visualize this kind of scenario, imagine the connection between fire and arson. One does not, in this case, need to know that fire is hot to understand how it plays a role in forming *arson*.

Before moving further, I would like to explain the significance of the remaining components of the graph so that the relationships it describes can be more clearly seen. We have already covered the intersection between LC_1 and LC_2, whose operation in conceptual terms is one of content overlap that results in the production[19] of a third object, LC_3. Subsequent to $LC_1∩$ LC_2 is the arrow, denoting the result or consequent of the operation. The box containing the three-part diagram symbolizes the conceptualization of LC_3 as LC_3, and constitutes what I take

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[17] Recognitional graphs like figure 1 for both LC_1 and LC_2 will be similar in that every subordinate concept belonging to a lexical concept LC_n has its own conceptual dependencies. This point will be revisited in section three.
[18] The strategy behind my conceptual hijacking of a basic notion in set theory is meant to provide some analyzable structure in the relationships that I describe here. It is not intended to be mathematically rigorous, and I have introduced some other relations (denoted by the arrows) which are not a part of set theory.
[19] I treat production and generation as synonymous.

to be the most interesting feature of what is demonstrated here. If figure one were drawn as $LC_1 \cap$ LC_2 LC_3, the recognitional dynamic would not have been properly represented. LC_3 is not merely the synthesis of two preceding lexical concepts, nor is it a simple case of addition, where LC_3 is just a kind of conceptual sum. Conceptualization of LC_3 *as* LC_3 is in addition to LC_3 itself a recognition of the productive relationship; first in the conceptual interactions between LC_1 and LC_2, and *also* in the conceptualization of the relational system in its entirety. The arrows, therefore, represent both shared conceptual content and a productive path towards a higher-order concept which is in this example represented by LC_3. Hence, *conceptualized LC_3* (a term for everything contained in the box) should more accurately be seen as representing what we ultimately interact with when we think of such a higher-order concept. It is the production of a recognitional effect whose focus is not LC_3 on its own, but rather LC_3 in addition to the relationships between its subordinate concepts. In other words, LC_3 and other higher-order concepts just are relations which in combination with a conceptual ability have a recognitional effect. Moreover, while I am inclined to think that this is in itself a novel feature, it is more importantly representative of how our conceptual system operates more broadly.

I do not claim that my rough diagram (figure 1) is a perfect representation, and there are issues in a symbolization of concepts that is static and atomistic. However, it does reveal in part the generative capabilities of conceptualization and, in particular, the productive capabilities that are possible when language interacts with conceptualization. So far, however, the analysis of this feature has been formal and abstract. I will labor a bit now to make things less abstract, and demonstrate in more concrete terms what I am getting at.

This kind of conceptual recognition demonstrated above and in figure 1 can be achieved between lexical concepts of varying complexity and composition. I describe LC_3 as higher-order,

and have something like the following in mind: consider the lexical concept *betrayal*, whose

meaning is sourced from a complex arrangement of other concepts (loyalty, normativity,

relationality, friendship, etc., each bearing their own conceptual dependencies). An initial

encounter with this concept will be fundamentally different from an encounter with, say, *cat*.

Nevertheless, once we understand what betrayal is, its conceptual structure becomes

recognitionally active[20] according to preceding subordinate elements. When this process is

complete, the possibility of detaching the word betrayal from its recognitional concept suggests a

stronger conceptual independence from natural language. The really interesting feature in this

case, however, is that by interacting with lexical concepts, conceptualization can produce a

recognitional effect on something as abstract as betrayal. However, to graph such a relationship

in a way similar to that in figure one would prove to be a difficult task. One would need to trace

each discrete conceptual dependency for every lexical concept on the mapping. Such a process

appears to work downward, toward more and more fundamental concepts. The trajectory of this

mapping will, ultimately, rest on the issue of acquisition, which apart from a short note towards

the end receives little attention in this analysis. While questions of acquisition and the existence

of foundational or innate concepts are important areas of investigation with important

implications for a theory of concepts, it falls beyond the scope of what I want to achieve in this

paper.

With the addition of language, the world can become populated by a different sort of

conceptual entity (understood as instantial interactions with a higher-order ability) that retain the

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[20] Further, I describe recognitional activity as involving a certain set of subordinate elements for every experientially discrete concept. For some instance of generation, recognition becomes active when every subordinate element $E_1, E_2, E_n\ldots$ of concept C intersects with a pair set belonging to another experientially discrete concept.

recognitional weight of non-linguistic or pre-linguistic concepts.[21] While I employ the word 'abstract' above to describe this category of higher-order conceptual object (recall *betrayal*), I would like to introduce another term that in this context is more telling of how such objects are constituted and helps to differentiate my position from that of the *abstract object* view.[22] Crucially, however, I want to avoid too strong a dichotomy between these kinds of mental objects; again, the focus of this work centers on how recognitional structure is generated in a manifold of experience.[23] The metaphysics of dichotomizing at this level of phenomenological experience seems too thoroughly problematic to be of any use for what I am attempting to develop.

The concept I would like to posit in place of 'abstract' is what I call an *interactive particular*. The upshot of this definition is that it more accurately describes concepts whose recognitional effect consists in the conceptualization of a certain network of relations (again, recall the relationship between LC_1, LC_2 and LC_3). These need not be lexical, but good examples can be found in concepts such as *chaos*, *cheers*, and *marriage*. Other candidates typically fall in the category of natural language and cultural invention, as linguistic systematicity is conducive to conceptual complexity. My precise claim for this definition is that the particularity of any higher-order (in addition to lower-order concept) should not be read as indicative of ontological status. Rather, what we experience in conceptual particularity (which I also call discreteness) should be understood as an active and constant interface with an overarching capacity.

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[21] In my theorizing I do not explore the possibility of a 'language of thought' hypothesis or how it may affect conceptual abilities. Ultimately, my focus is on the productive features at work throughout the conceptualization process. I can state that at least on the surface I do not anticipate a theoretical issue arising if concepts *do* have such structure.

[22] While I frequently use the term 'object' to denote some conceptual particular, remember that the view I describe is different from a view which understands them to be ontologically exactly these kinds of objects.

[23] Experience here is not intended to refer only to sense experience, but rather to include both the content of thought and perception; any kind of experience at all.

III. MODELLING A PLURALISTIC CONCEPTUALIZATION

In this chapter I begin developing a comprehensive model of conceptualization that describes its products as constructed, fluid, flexible and defined by their arrangement in networks as opposed to atomistic reference.[24] What I call *pluralistic conceptualization*[25] is an attempt to describe a conceptual ability that is continuously at work as a generative and interfacing capacity, allowing us to give recognitional structure to what would otherwise be meaningless and disorienting noise. In this sense, recognitional structure as it relates to concepts can be thought of as a certain kind of mental formatting of analog content. Much in the same way that a computer will scan a photograph and convert the visual information into a readable, digital format, conceptualization converts perceptual data into a readable mental format; it is digitization for the mind. Moreover, the model I intend to develop holds that the deployment of our conceptual abilities involves the interaction of memory and imagination in a fundamentally productive way.

Going forward, I will focus on the underlying capability of conceptualization that makes recognition possible. It is in this way that I take conceptualization to be a kind of interface. Daniel Weiskopf provides a simple example of this: "...how we perceive the world is infused or

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[24] Here I am referencing *conceptual atomism*, a view that defines conceptual content by its relation to the world, not by relation to other concepts (see Fodor 1998). We can of course (especially in a lexical sense) experience concepts as discrete. I will say more on this later, but it is important to remember that for the pluralistic view I want to describe, conceptual meaning always depends on persistent, parallel conceptual networks. For this reason, concepts never reduce to individuated elements that are purely self-referential.

[25] Pluralistic conceptualization is distinct from *conceptual pluralism*, which is the view that there may be multiple *kinds* of conceptual structures (see Laurence and Margolis 1999). The pluralism in my own view describes what I call persistent parallel conceptual networks that are simultaneously active for any one instance of their use (this will be discussed later). These views are not mutually exclusive, but at present more work needs to be done to determine if these models can interact in any meaningful way. At the very least, pluralistic conceptualization is hospitable to models that allow for the dynamic recombination of conceptual networks. The extent to which these networks constitute different *kinds* of structure, however, is an issue that is not covered in this paper.

colored by the conceptual capacities that we possess. We do not merely see the cat, we see her *as* a cat, a visual state that depends on conceptualizing her in a certain way."[26] Such an example demonstrates the conceptualization that takes place during perceptual experiences (in this case, vision) attuned to a single object (the cat). Even without the lexical term assigned, when one is in the state of experiencing a cat, conceptualization is in operation, presenting the animal as a discrete, animate living thing navigating an environment.

3.1: Theories, Perspectives and Pluralistic Conceptualization

I would like to focus now on Kim's "A Psychologically Plausible Logical Model of Conceptualization," which incorporates the *theory-theory* (the view that conceptual structured is arranged according to a superordinate mental theory)[27] into a larger system as a way of dissolving the opposition between logical (or formal) and psychological views of concepts.[28] Specifically, I will focus on the notion of *perspective* that the author develops to describe how theories and concepts are arranged and deployed. My goal is to extend this structural feature of concepts and integrate it into *pluralistic conceptualization*.

Recall that in the case of the *theory-theory*, concepts are structured and utilized according to an overarching mental theory. For Kim, a perspective is postulated in combination with theoretical structures to account for context sensitivity (among other things) that in many cases directly affects conceptual modification and change. On this view, an agent may have perspective P composed of theories $T_1 \ldots, T_n$ that together govern the relations between concepts.

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[26] Weiskopf, Daniel. "Observational Concepts." *The Conceptual Mind.* The MIT Press, 2015. 223–248. Print.
[27] See "The Theory-Theory of Concepts", by Daniel Weiskopf, *The Internet Encyclopedia of Philosophy*.
[28] Hong-Gee Kim, "A Psychologically Plausible Logical Model of Conceptualization." *Minds and Machines* 7: 249-267, 1997.

The perspective itself functions as "a mental model of objects and the relation among them"[29] allowing the agent to flexibly adopt a new perspective that could contain a new set of theories and thereby different relations among concepts. As an example, Kim describes a man in a statue shop. Normally, some default perspective about animals is evidently operating, but when he enters the statue shop (where there are wooden and stone animal statues), he adopts a new perspective containing a new set of theories. This set of theories changes the way concepts about material (stone, wood) are related to animals (penguin, lion), where the larger animals are made of stone and the smaller made of wood. The point is to show that adding something like a perspective to a *theory-theory* view of concepts allows for flexibility in how a conceptual system can be arranged and rearranged according to theories that are modified by context.

fig. 2

S_1
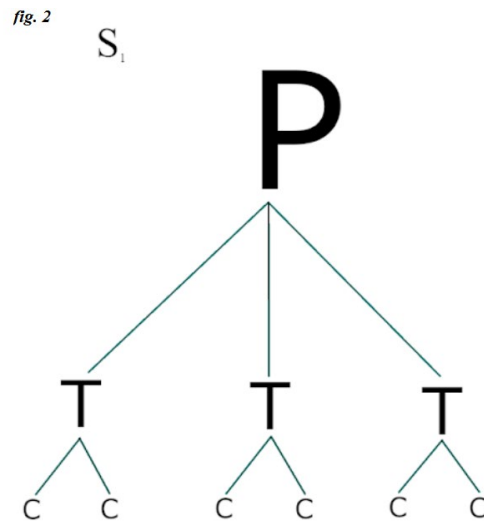
The figure above (an arrangement I have termed S_1) shows the relationship between perspectives (P), theories (T) and concepts (C) according to Kim's model. A perspective functions in this way as something like a theory of theories, directing their utilization in a

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[29] Ibid., p. 259

16

specific context. For any given perspective, the arrangement of concepts and their relations can shift in adapting to a new situation. This flexibility of conceptual arrangements fits well with a view of conceptualization as pluralistic. What might operate as a perspective in one context is open to reconceptualization and reconfiguration in another. The context-dependent arrangement of S_1 as a perspective may later change, where S_1 itself becomes a concept organized under some new theoretical directive.[30] Through conceptualization, situational demands can be addressed by dynamically cutting across any perspective-theory-concept arrangement. The underlying issue here, however, is whether theories and perspectives are themselves concepts. If conceptualization is truly a pluralistic ability, then it seems to follow that any information (including theories and perspectives) which can be treated as a concept (or reconceptualized in the case of S_1) is in fact a concept. I consider this to be a defining feature of a pluralistic view of conceptualization.

Thus far, I have been attempting to illustrate how pluralistic conceptualization might operate. By positing the concept of a *perspective*, Kim's work describes the flexibility present in conceptualizing abilities that are sensitive to context. This idea captures at least one salient feature that requires conceptualization to be articulated as a pluralistic ability. For any context, the operative P-T-C arrangement might simultaneously relate to or imply another P-T-C arrangement. A context-dependent organizing concept (again, what Kim calls a *perspective*) functions with primacy because of the unique situational relationship arising between the context and the concepts it requires. The diagram below illustrates this property, where a subordinate concept in S_1 (in this case, C3) becomes the grounding or organizing concept in some other

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[30] Say, for instance, if the perspective calls for taking note of things in which grandmother was involved. This novel perspective could also be a concept, which would require importing the conceptual elements under S_1 into the new operational demands of S_2. In such an example, I am treating a perspective like a 'master' concept, and we might say that a perspective is just any hierarchical arrangement of concepts according to some dominant concept necessitated by context.

perspective, creating a secondary arrangement (S_2). Because concepts can be said to exist in a network, conceptual primacy dictating the arrangement is always partial, relying on subordinate concepts which can simultaneously exist as superordinate in another parallel arrangement S_n.

fig. 3

S_1

P

T_1 T_2 T_3

C_1 C_2 C_3 C_4 C_5 C_6

S_2

P $_{(C3)}$

$T_{(C5)}$ $T_{(C1)}$ T_4

C_7 C_2 C_8 C_4 C_9 C_6
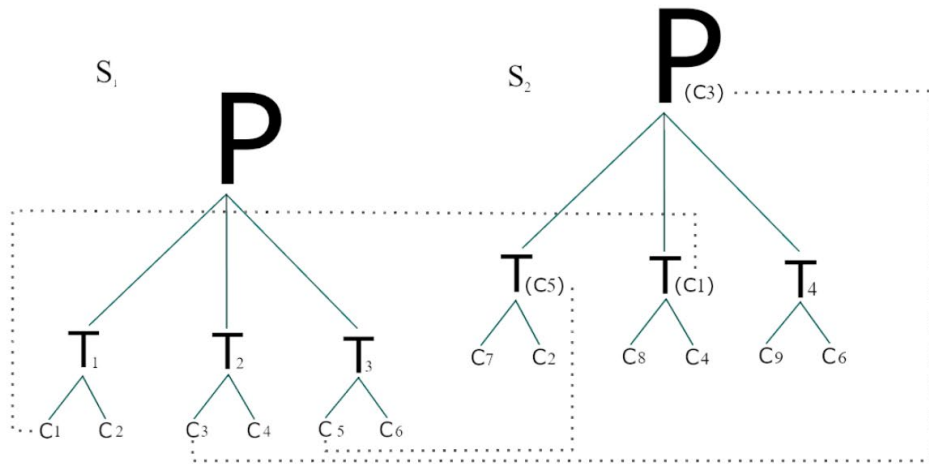
Notice that in S_2, the intermediate level of theory (T) receives conceptual content (C5, C1) from S_1. This represents upward conceptual movement, though it is possible for concepts operating with primacy to be collapsed downward, and in fact contextual demands often require this. As a demonstration, consider the following modification to Kim's example: imagine that I am in the process of planning my activities for a given day and must choose between going to the lake or going to the statue shop. In deciding what to do, I use my imaginative capacities to simulate what each activity might be like. The dry-run simulations are still operating under the superordinate task of making a decision, but the simulations themselves require their own unique P-T-C configurations to be interpreted and used - first in the simulation, and later in the decision making process. In simulating what it might be like to be in the statue shop, I recall the perspective mentioned in Kim's example. Such a case might rely upon a prior memory of having

18

been to the statue shop, or it might not; even if I have never been in such a shop, it is feasible I could imagine various kinds of statues (animal or otherwise) composed of differing materials.

There is one further point to be made regarding the figure above. S_1 and S_2 as well as their combination arise in response to a context. I have already mentioned that perspectives can be concepts, (by way of our having concepts *of* them) but it also appears to be the case that contexts are represented conceptually. If this is true, then contexts are subject to conceptualization, and must thereby fall into their own kinds of P-T-C arrangements. In response to context, we therefore have perspectives which are activated by other perspectives. Put pluralistically, concepts operating with primacy are called up or necessitated by preceding hierarchies. This kind of description posits that contexts are not ambient or environmental, but are very much conceptual; their interpretation depends on one having generated an interfacing concept that is arranged according to some preceding P-T-C hierarchy.

3.2: Conceptualization, Memory, Imagination

At several points in this paper I describe pluralistic conceptualization as operating in tandem with two other primary cognitive abilities, namely memory and imagination. Indeed, it is necessary for a pluralistic model that these three systems interact in a dynamic way. Moreover, the interaction of these systems does not need to occur in just one direction; if imagination is utilized by conceptualization, the simulated or imagined content becomes conceptualized and influences the conceptualizing process itself. The recursivity of this process seems feasible between imagination and conceptualization, but memory does not appear to fit in exactly the same way. There is, however, good evidence to suggest that memory is not intended to record static pictures of the past, but instead functions as a far more dynamic capability in line with the

generative fluidity found in imagination and conceptualization. Felipe De Bridgard's work provides just this sort of account.

De Brigard builds his case for memory as part of a "larger system that supports not only thinking of what was the case and what potentially could be the case, but also what could have been the case."[31] This kind of imaginative and counterfactual capability of memory is demonstrated by the phenomenon of misremembering. Typically, we think of misremembering as a failure on the part of our recollection. Of course, this notion is predicated on the idea that remembering is precisely what memory is for, and it is this claim to which De Brigard objects. Skipping over some of the empirical data cited as evidence, I will be concerned primarily with De Brigard's constructive efforts in positing what he believes to be the true role of memory and the kinds of systems it takes part in.

A key idea shown in the article is the role imagination plays in remembering. The *imagination inflation* effect[32] occurs when people "falsely remember an event as a result of having imagined what it would have been like to experience it prior to being asked to recall it."[33] Such an effect points to the interrelatedness of these two abilities. Furthermore, other experimental evidence shows that misremembering is not a pathological trait[34] but is a good indication of a normal, healthy brain.

De Brigard suggests that to understand memory's function, we must adjust our analysis towards understanding its mechanistic role function.[35] This kind of examination (what De

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[31] Felipe De Brigard, "Is memory for remembering? Recollection as a form of episodic hypothetical thinking." *Synthese*, (2013)

[32] Ibid.

[33] Ibid.

[34] In fact, De Brigard cites evidence which shows that certain cognitive pathologies can sometimes even *increase* the accuracy of memory.

[35] De Brigard, "Is memory for remembering? Recollection as a form of episodic hypothetical thinking."

Brigard calls *functional analysis*) understands memory to be a "subroutine" and thus in explaining its function we must understand its role within the confines of a larger, more fundamental cognitive system. The directive of functional analysis and the implications it has for De Brigard's thesis is precisely where pluralistic conceptualization finds traction. The strong interaction[36] of memory and imagination require a kind of conceptualization that is flexible and pluralistic. It must be able to reconfigure conceptual networks without compromising the potential and partially active adjacent P-T-C arrays (recall the relationship between S_1 and S_2 in figure 2). The constructive and generative features at work here are also operating in memory. Through a functional analysis approach, De Brigard's example demonstrates how this works: after witnessing a car accident, what we recall factively is constrained by what our attention was attuned to during the event. The constraint in this case means that other details were lost, but upon recollection, memory works to fill in the gaps:

> The act of recollection becomes the act of reconstructing disperse encoded information. However, given that not all the relevant information was effectively encoded, this reconstruction is more like trying to rebuild a dinosaur out of its fossilized remains (Neisser 1967) than trying to put together a jigsaw puzzle of which you have all the pieces. Memory, therefore, must be the sort of mechanism that cannot only bind together information that is distributed across neural networks, but must also be able to fill the gaps left by the missing pieces (McClelland 1995).[37]

If memory is therefore operating in this constructive way, a pluralistic conceptualizing mechanism must also be at work over and above (or at least parallel to) the recollective processes, continuously reconfiguring conceptual arrangements so that they are available to

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[36] What I mean to describe by strong interaction is just a kind of interaction that has the feature of mutual influence. Similar to or perhaps identical with pluralistic conceptualization, what we remember is often a function of our imagination just as much as what we imagine may be a function of what we remember. I also describe this relationship as recursive.

[37] De Brigard, "Is memory for remembering? Recollection as a form of episodic hypothetical thinking."

memory and imagination. More simply, if memory and imagination interact constructively,[38] a

pluralistic model of conceptualization becomes plausible. Using De Brigard's example, the

fossils of the dinosaur, representing perceptual details of the event (embodied by concepts) are

arranged according to some operating theory. In this context, the hierarchy of concepts might

have several levels, but the exact configuration shifts according to the goal of the subject. No

node in the network can be fully discrete or irreducible. There must be nested networks existing

simultaneously (again, recall figure 2) providing their own background for any given context-

dependent P-T-C arrangement. For De Brigard's example, this would be represented by the

constituent concepts undergirding each element required by the contextual demands. Concepts in

this case are only situationally discrete by virtue of their activation within a particular P-T-C

arrangement. Each attempt to decompose constituent concepts will only yield more constituent

concepts, and more parallel conceptual influences. Recall my estimation of mapping a

conceptual flow from the earlier example with assigned content, where LC_1 and LC_2 are

synthesized by conceptualization to produce recognition in LC_3. Every interactively discrete

concept yields its own substructure of dependencies.

Pluralistic conceptualization accounts for this malleability and simultaneity of

conceptual networks and substructures whose nodes, consisting of concepts, are never

completely isolated or discrete. Thus, conceptual meaning is generated primarily by the

relationships between concepts and the different networked paths that can be created between

them. Whatever is contained by a concept as its content must always already be represented

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[38] And, in addition to the idea of strong interaction. Constructive features of interactivity suggest strong interaction in the sense that the influence between capabilities is recursive; the output of one process is the input of the other, and vice versa.

conceptually, and is therefore subject to the same networking process of our conceptualizing abilities.

3.3: Examples of Pluralistic Conceptualization and Further Analysis

To illustrate the collapse of multiple categories of mental representation into single conceptual units (e.g. the combination of sense perceptions with memory) consider the following example. Imagine that Mary often travels to her grandmother's house, and thoroughly enjoys the trip. Staying true to the analysis as pre-lexical, we will say that Mary has not developed an ability to speak a language, but nevertheless is able to conceptualize the experience as being one which involves a pleasant drive through the forest, the warm aroma of something baking in the oven, the feeling of being spoken to kindly, etc. The several kinds of experience involved in "going to grandmother's house" are bundled through conceptualization in such a way that an emergent meaning is assigned to "going to grandmother's house" as a whole that is not represented by any of the constitutive elements individually. This pluralistic description of conceptualization posits that in addition to giving us an efficient way of categorizing and referencing what appears as immediately unified,[39] pluralistic conceptualization also describes the combination of dynamic and complex experiences (including, again, those involving imagination and memory) which together construct subsequent novel concepts presented phenomenologically through conceptualization as an interface.

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[39] What I mean here are objects that present themselves as being discrete by virtue of their being experienced. The conceptualization of a cat that allows one to see it *as* a cat is a simple case where, typically, instances of experiencing the organism will possess a kind of feature-regularity (e.g. four legs, tail, specific vocalization, cute, etc). Conversely, the feature-regularity of "going to grandmother's house" is *generated* because there is no immediate unity present in the concept itself; in other words, we cannot help but experience a cat as a discrete object, whereas "going to grandmother's house" is presented here as something which must be constructed from elements that are not, on the surface, connected or unified by virtue of their being experienced.

In Mary's network of concepts, there is one arrangement organized by the experience as a whole (the experience of going to grandmother's house). For Mary, calling upon this memory is not merely an act of recollection as such (recall that memory is not only for remembering). Rather, in recalling the experience, conceptualization can be described in a certain sense as identifying and coordinating the particular arrangement of concepts representative of "going to grandmother's house." This includes both reference to the constituent concepts (tree, travel, house, family member, etc) in addition to recognizing the experience in its entirety as simultaneously a memory and a conceptual unit; it's not the case that during recollection Mary identifies and remembers only the constituent concepts. Were this true, it is not plausible to say that memories could be discretized and differentiated. It must in some way be required that conceptualization produces more complex unitary elements which identify memories as having a pluralistic conceptual identity. Put differently, memory operates through conceptualization to give identity to collections of lower-order conceptual experiences. I mean to suggest by lower-order the idea that for any given P-T-C arrangement, there are concepts operating with primacy and others that are subordinate. In a case of recollection, the emergent conceptual identity of a memory is superior over its lower-order concepts. If I am in a particularly pensive mood and decide to look back over my life (an experience that will include the recollection of many different memories) and am asked subsequently to recall *that* particular experience, then the memories themselves become the lower-order constituent concepts under a P-T-C arrangement that is operating under the superordinate concept of something like "a memory of experiencing many memories." This complex stacking of memory makes sense on a view of conceptualization that is pluralistic. The pluralism here is working on two levels: first, in giving memories both their content and recognitional status *as* memories (without being reduced to constituent

concepts), and second, by presenting one P-T-C arrangement without eliminating the possibility

that some other P-T-C arrangement may be activated simultaneously, reconfiguring the primacy

assignments. Imagine after this pensive recollection, someone asks me to identify the *best*

memory occurring in this sequence of remembering. In such a case, *best* is now the

organizational principle that dictates specific conceptual arrangements without blocking those

other arrangements that are either simultaneously or potentially activatable. Conceptualization

described in this way generates the proper interface for this task, individuating and assigning

identity to situationally discrete units (the memories) so that I may choose one - in this case the

best.

fig. 4

M1

M2—Mn—Cn
         Cn
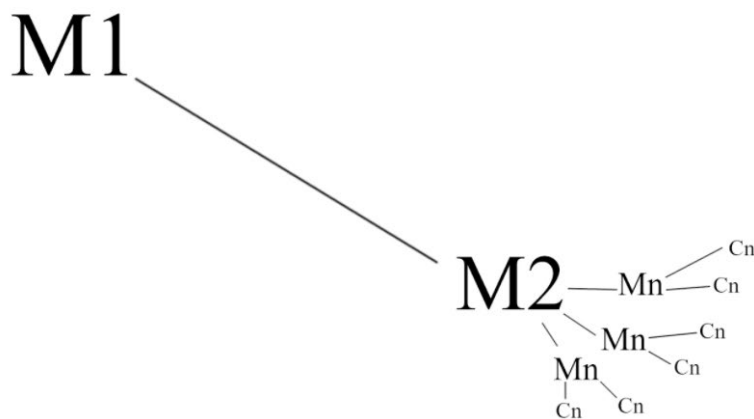
\ Mn—Cn
     Cn

Mn
| \
Cn Cn

Figure 3 above is a diagram of the example provided earlier where, in a pensive mood, I

reflect on a memory of experiencing many memories. The definitions are thus: M1 represents the

memory of having many memories; M2 represents just that experience itself; Each Mn

represents one of those memories recollected in M2; finally, Cn represents the enumerative

subordinate concepts comprising every Mn. To give the example some formal structure: I am

asked a question which results in experience M1 (to recall M2) and judge which Mn was best.

My claim is that because steps M1 M2 Mn require hierarchical structure to be recognized by the

subject of this experiment, they must also necessarily (and more fundamentally) require temporal, conceptual individuation. Without this process, the subordinate concepts constituting the more complex recollective concepts would not be recognizable. This last point directs us to an earlier description of recognitional structure, and it is precisely that notion I would like to utilize here. Whatever the nature of the information underlying concepts, it would not be interpretable phenomenologically without the addition of a conceptual overlay or interface discretizing (if only partially) the deliverances of experience. By invoking experience, I do not mean to imply a strict empirical notion. Rather, I am trying to get at a more general kind of experience that does not favor any one particular view. This could potentially include experiences sourced in either a physical or mental event. It must be noted that under this general definition of experience, those in the category of *a priori* (such as the recognition of equivalence between *triangle* and *three-sided polygon*) would not be counted. This is because even in the rational *a priori* realm, we are already working in conceptual terms by virtue of recognition having taken place. If we wanted to make such an example fit, we would have to add some nuance by positing the existence of something like a non-empirical yet pre-conceptual rational ability that could detect whatever informational state precedes *a priori* recognition.

To make this less theoretical, consider the following example. One can imagine walking through a garden where a cat is encountered. Perhaps it's the very first time you have seen this kind of animal, and as a first-encounter, concepts such as 'living thing' or 'animal' might be activated as you observe the scene. Even without the lexical terms assigned, one will readily identify the cat as alive, animated, and so on. The activated concepts allow for our recognition of the cat, the surrounding area, and any other experiential information we are aware of or recall later. Together, memory, imagination and conceptualization generate and employ the concepts

associated with the experience, and when we reflect on this memory, new concepts may likely be generated. In connection with memory and imagination, conceptualization functions not only to generate novel concepts from perceptual experience (among other kinds), but also to generate concepts from other concepts (which may at once function as both a theory and concept). In this way, conceptualization acts upon itself in a continuous manner. Moreover, these subsequent concepts do not need to be focused on the cat, but can redirect our attention to other features of the conceptualized memory. Through this very same process, similarities or elements are picked out of the experience and used analogically which have the potential to function as tertiary sources of conceptualized content and relations.

Pluralistic conceptualization can also function in the other direction: perhaps my goal becomes to find another animal like the one encountered. Here, again, imagination and memory are used in tandem with conceptualization; one may recall the cat appearing in a certain environment, and adopt the strategy of finding similar locations in an attempt to locate another cat. The identification of location and environment as important is itself a conceptualized notion of otherwise meaningless physical space. Likewise, one could imagine seeing another kind of living creature in a similar area, and in this sort of simulation, it seems to be required that the location is propositionally recognizable as similar or analogous to the kind of location experienced in the past. Thus, we see conceptualization operating in this example as an ability that provides a highly flexible, cognitive taxonomy of experiential content (including both internal and external elements) which can be later utilized in the formation of new concepts and conceptual networks.

3.4: Summary

The examples, figures and explanations I have provided so far are an attempt to demonstrate the nature of a pluralistic conceptualization and its theoretical capabilities in describing its target phenomena. What I intend to have gestured towards in this work is a highly dynamic, flexible and adaptive interpretive process. Such an ability has the function of manipulating reconfigurable, non-discrete conceptual elements existing in multi-layered networks whose connections fluctuate, shifting as required according to varying contexts, conceptual primacy arrangements and perspectives. Pluralistic conceptualization is, additionally, a capacity fundamentally interlinked with the central cognitive abilities of memory and imagination; theoretically, no two of these systems could function without the third component.

The goal for this section was to posit an initial stage of development in the construction of a pluralistic model of conceptualization. While the model itself is described as comprehensive, the account given here is not; there is much work to do in several areas not fully addressed in this first pass. For example, considerable research is still required to give a more complete outline of how concepts may interact. The nature of recognitional structure also requires further, more concrete development, specifically on pre-conceptual information, its properties and the exact mechanism by which it becomes conceptualized.

IV. CONCEPTUALIZATION AND THE POSSIBILITY OF SUBJECTIVE EXPERIENCE

Thus far, I have attempted to develop a model that describes a generative and pluralistic conceptualizing ability. Critical to this project is the integration of *recognition* into what it means to conceptualize information. What I would like to do now is explore a significant implication that I believe this model and a recognitional definition of concepts necessitate. Before we can begin in this analysis however, I would like to look more closely at what exactly subjective experience is, particularly in comparison to the notion of consciousness. This is because differentiating the two concepts will become important for the work ahead. What I will work towards developing below is a specialized definition of subjective experience that places emphasis on the experiential content requirements instead of the metaphysical possibility of an enduring personal "I"-type subject. Working with this definition, the analysis will turn to the relationship between a pluralistic conceptual ability and subjective experience itself.

4.1: Subjective Events

Consciousness is often treated as synonymous with sentience or awareness, and in its default interpretation appears to imply the presence of a subjective state; the claim *x is conscious* relies firstly on there being an x (in the sense of a possessor of consciousness)[40] and secondly that the experience occurring for (or to) x has a phenomenal character. According to this

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[40] This should be interpreted as standing for the physical object in which we find the material systems of consciousness. This is not to say the material systems *are* consciousness, but rather that at the very least a relationship is marked between some particular material system and a correlated presence of consciousness. This point can be extended: consider the fact that we, of course, cannot *see* consciousness. We can however, through experience, come to find evidence of conscious operation.

formulation, subjective experience is included under what it is to be conscious. With that in hand, I would like to make the following distinction in order to demarcate between consciousness and subjectivity.

For subjective experience to take place, there must be a subject for which the phenomenal structure occurs. But what exactly is meant by 'subject'? What I do not want to attach here to the concept of a subject is the idea of personal identity.[41] Instead, the nuance I am working towards should be noticed in a certain feature of our subjective experience, namely that whether we attend to our experience or not, we never become aware of or feel as though we are simultaneously in the midst of multiple instances of subjectivity. In other words, although the qualia of subjective experience can include discretizeable elements (e.g. objects xyz in some field), the subjective event as a whole seems to proceed in a unified way over time; it is never as though my immediate temporal experience is simultaneous with any other, and the same is true also for the experience taken as a whole. A *subject* in this context identifies these unified features present in phenomenological content for some duration of time. Comparatively, identity (in the numerical sense) is the differentiation between multiple subjective events (or instances of this kind of subjectivity). In this way, a subject can also be understood as a particular state of experience that satisfies the above requirements without denoting a stronger personal form of identity. Further, a subjective event should not be viewed as a *component* of consciousness, but rather as an identification of specific conditions preceding a conscious state which are both physical (regarding the kinds of experiential content)[42] as well as structural (regarding the

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[41] However, we might say that a personal "I"-type subjectivity is directly implied by a unitary stream of experience, at least in a reflective, logical sense.

[42] In reference to experiential content, physical identifies cognitive systems whose input can be traced back to some sensory input, i.e. conversion from wavelength to auditory experience. Recall as well that the notion of manifold I apply here describes an underlying conceptual whole that can be discretized in various ways, constituting various structures. The salient feature is that there are no complete 'mappings' between a set of concepts (or a set of just one) and the more fundamental manifold undergirding them. In other words, for any experience, there are a

unificatory and manifold properties of subjective events). Thus, built on a recognitional view of concepts, a subjective event does not begin with or rely on a robust awareness of a thinking "I". Instead, this restricted form of subjectivity describes a manifold and temporally determined unification of experiential content. Moreover, the definition of subject I describe here appears to have fewer ontological parameters; x is a subjective event if it satisfies the structural and experiential requirements mentioned above, in which phenomenological content is experienced as unified and conceptually irreducible.[43]

Notice that this definition affords at least no philosophical possibility of personal identity; the theoretical subject I articulate in this section does not attempt to provide an explanation for the continuity of or endurance between subjective events. This is not to say that my definition - along with the model it is part of - together exclude the possibility of personal identity. Nevertheless, with a focus on the "material" of subjective events, (what I consider its experiential and structural features) it is possible that what I have developed thus far is ultimately committed to a non-dualist position, where personal identity and consciousness are taken to be an elaborate sum of physical processes. To investigate this issue further, an expanded analysis would be needed which focuses on the relationship between consciousness and what I have defined as subjective events. Clearly, such questions are well beyond the aims of this paper. For now, it is enough to understand that while subjective events must be a fundamental part of consciousness, I do not see them as identical with consciousness, and thus they should be viewed as ontologically distinct.

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multiplicity of ways it can be conceptually arranged and interacted with (discretizations), however none of these concepts individually in composition retain the possibility of constituting a 1:1 correspondence with a preceding conceptual 'raw material', whatever that might be.

[43] Again, that there is an experiencer is an implication. The kind of content discussed in this section is qualia or phenomenological content, which implies that there is something for which the experience occurs. My work here attempts to define subjective experience not in terms of the postulated existence of an implied experiencer, but in terms of the nature and structure of the phenomenological content itself.

I have posited that on my definition of subjective events, they are necessary but not sufficient for consciousness. This theoretical distinction is my attempt to avoid potential metaphysical commitments present in equations between consciousness and subjective experience. Though I have admitted above that my focus on the materials of subjective (or possibly conscious) processes might imply a reductionist attitude, I try to separate out subjective events in order to have a way of talking about material processes that does not invoke a concept of personal identity or consciousness proper. More precisely, the philosophical value of a sterile subject - an "I"-less subject - lies in the possibility of analyzing the conditions that surround subjectivity without committing oneself to the identification of those processes as subjectivity. If, for example, we were to use the term consciousness in place of subjective events, then in my examination of the materials of subjective phenomena I will have already smuggled in a notion of personal identity. This error without analysis forces an uncomfortable conceptual proximity between personal identity and the processes which evidently constitute it.

4.2: Isomorphism and Recognitional Structure in Subjective Events

In this section, I will attempt to frame and articulate what I believe is a significant implication of the theoretical structures I have posited thus far. Going forward, it is important to keep in mind the salient features described in the previous sections. Namely, concepts according to this theory are recognitional, interactive, and defined by an ontologically pluralistic structure.

An example was provided earlier in this analysis in which conceptualization is called a kind of formatting. Throughout section 4, it will be helpful to think in these terms, where the theoretical entities at play are information, encoding and subjective events as they are described in section 4.1. In this arrangement, you may notice a certain structure forming along the lines of

32

my example between digital and analog information. With computation as the obvious theme, I recognize that the analogy between a computer and the mind is not a perfect one. Nevertheless, I believe there is enough correlative traction to warrant its use. In fact, even if we lack an accepted theory of consciousness (and default, as many do, to a physicalist position understanding cognition *as* consciousness), the relationship between computation and cognition might still prove to be a productive site of theoretical exploration.

Cashing in on the metaphor, imagine that you are a computer programmer who has been tasked with developing the control software for use in autonomous vehicle navigation. To be successful at such an endeavor, one would presumably need a way to communicate environmental information so that the algorithms internal to the control program are able to generate a decision or decision set. It is at this precise point in the example where I believe we are likely to find the most insight regarding computation and cognition; what we should pay attention to here are the dynamics of relation, and in particular, the nature of information as it is communicated between or within systems.

In the context of experience, cognition and computation, information can refer to several things. In one situation, we call what our perceptual systems transmit a kind of information (which applies also in the example above). In another, we are ready to give this title to experiential content itself as a type of information. Unfortunately, the trajectory of such distinctions may result in an unsatisfying return to a subject/object or internal/external dichotomy. In spite of this worry, however, it is important to address an issue that arises between the concept of information given to us by physics, and the possibilities afforded by the model I have been developing thus far.

The issue is thus: information in physics depends on there being an observable state. This is to say that information always corresponds to, or is derivable from, a given state. Recall, however, that I have described subjective events as manifold, thus a 'state' in the context of subjective experience does not have stable parameters in which it can be observed; it is not reducible or descretizable to individuated chunks, and as articulated earlier, no conceptual structure is capable of explanatorily exhausting the manifold underlying it. In other words, state S_1 at time $T_1 \neq$ State S_1 at time T_2 precisely because T_2 cannot be differentiated from T_1 without producing S_3 at T_3, S_n at T_n, and so on. The result of this theoretical construction is a limiting of what can be accurately referred to as information in the context of subjective experience. This observation implies that what is available to be called information - namely, the unified qualia of subjective experience - is relegated to identifying only in particular this or that disjunct subjective event. Differentiation within a subjective event - a discretization of its content - is the ontological work of a pluralistic conceptualization. This presents an issue in how we should understand use of the term *information* within the framework of such an ability. If pre-conceptual (or potentially conceptual) content is truly manifold in structure, and what count as observable states are either robust conscious experiences at maximum or subjective events at minimum, then any discretization of subjective material cannot aptly be called an observation in this sense. Put differently, because conceptual experiences do not completely map onto the greater conceptual manifold from which they are sourced, the fittingness of a term like observation is suspect. Each instance of subjective experience is novel in a way that resists relating it in a similar manner to an underlying conceptual whole.

In physical systems, structure preservation is achieved through maps that are *isomorphic*, where a 1:1 correspondence exists between each element. Conversely, for reasons discussed

above, conceptual content bears a different relationship to what precedes its formation in the processes of our conceptual apparatus. I have referred to this preceding element as conceptual because of the kind of content that ultimately results from it. For each conscious experience, there is a complex and dynamic conceptual structure behind our recognition of it as such. The preceding conceptual manifold can be formatted in ways which exceed the parameters of an isomorphic relationship. Crucially, what occurs at the site of conceptual generation cannot only be a conversion between two kinds of information. This is why I describe conceptualization as a generative ability. If the relationship between pre and post-conceptual information did in fact retain the possibility of isomorphic mappings, the logical result would be an exhaustible, pre-conceptual substrate; a kind of information that bears a structure-preserving relationship with our own phenomenological content. We can imagine in less abstract terms how this does not comport with experience. The dynamic interaction of memory and imagination that constitute a higher-order conceptual ability can produce an indefinite series of successively novel conscious events. In terms of analogy: we can return to an old home, but the experience will be only a partial map to its counterpart in our memory. Moreover, recognitional structure is itself a generated feature that is part of the conceptualizing process. Recall figure 1, where we see a sketch of the conceptualization of lexical concept LC_3. In this example, LC_3 does not only stand for itself, but within the conceptualization process also stands for itself *within a framework*.

The nuances of conceptualization I have tried to illustrate thus far center around the idea of encoding. Returning to our robotics example above, what we face is the problem of information transmission between what are evidently two distinct systems. An external environment must somehow be *represented* in terms which can be algorithmically processed (in the case of computation). In the case of conceptualization, our analysis of information has

demonstrated in part that what we experience as a conceptually rich world is not purely the result of structure-preserving information conversion. Again, recall the example earlier in this section in which we are tasked with programming an autonomous navigation system. If our aim is to develop a program that is efficient at pathfinding and obstacle avoidance, then it becomes necessary to detect these paths and objects. By some mechanism, an "internal" system must be made aware of and thereby interpret another kind of information that is not available within the system itself. Taking inspiration from our own perceptual systems, we might begin to build out programs capable of interpreting visual or auditory information. What is key for the analogy is this: in answering the challenges of detection, it would not be possible to directly "show" the system what should be detected, as this would require a visual apparatus to already be in place. In order to "show" the system anything, work must first be done to construct the preceding terms of interpretation that directly create the possibilities of meaning. In programming, perhaps this takes the form of a language (e.g. java, python, etc.); for the mind, it is conceptualization. Responsible for the interpretive and recognitional formatting or structuring of pre-conceptual information, the conceptual ability we possess constructs these terms of interpretation.

This brings us to a central observation about the relationship between a pluralistic conceptualizing ability and subjective experience. The content of a subjective event, specifically a unified qualia, is able to count as such only by virtue of its recognitional structure. In other words, without an ability that formats this information and generates a recognition of that content as what it is,[44] subjective events are not possible. Without these basic unified elements present in subjective events, a more robust consciousness (whatever that may be) would likewise not be possible. As an experiment, we might try to imagine what it would be like to have an experience

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[44] The distinction here identifies what in programming would be the difference between a programming language and the code itself, the actual symbols of that language.

without recognitional structure, though it would be fruitless. If concepts are such that they function in a way similar to what is described here, then without recognitional structure there would be no possibility of experience at all.

The mysterious experiential quality that is at the foundation of our concept of consciousness involves a specific kind of phenomenal content. In the context of subjective events, this content is defined by its subject-oriented unification, which implies an observation or experience separate from the content itself. This experienced difference (or distance "between" a subject and the content of subjectivity) is the essential feature of conscious experience, and it is the result of conceptual structure that allows for such an experience to be possible.

V. CONCLUSION

Much of the analysis in this paper is speculation about the nature of concepts. In the conclusion to section 3, I note that my attempts to describe a pluralistic definition of concepts should be viewed as a first pass or an initial stage in development. This perspective should be extended to the rest of the work here; my goal has primarily been to posit an early prototype of pluralistic conceptualization and examine the implications that such a model might have on how we see concepts functioning within our experiences of cognition. To this end, my use of concepts from set theory and physics should likewise be viewed as illustrative of how we might more accurately understand the operation of a pluralistic conceptual system.

In this work, I have tried to describe what is essentially a holistic and fundamentally generative system that is responsible for the kind of experiences we have. While it is necessary in some sense to describe concepts as arranged in multi-layered deep networks,[45] I have additionally claimed that they should be more accurately seen as a single interface with a higher-order ability. This ability provides the perceived discretized structure of our experiential content whether that is encountered subjectively in thought or objectively through interaction with physical materials. Given this conceptual system and its capabilities, the notion of conceptual space[46] I describe as structurally excessive becomes necessary for a pluralistic view; conceptual format as recognition is generated on top of or in addition to the discretized elements forming

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[45] This is necessary by virtue of the fact that quite a lot can be explained if we engage in a discourse that treats concepts as particular units, however interconnected.

[46] I call what precedes conceptualization "conceptual space" because it retains the potential to become conceptually structured. This could also be described as pre-conceptual space.

any one conscious experience. Conceptualization emerges in this model as a central capacity responsible not only for the possibility of subjective experience, but for its discretized structure and our recognition of it as such.

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