

CONCEPTS, ATTENTION, AND THE CONTENTS OF CONSCIOUS VISUAL EXPERIENCE

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY OF
HAWAI'I AT MĀNOA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF

DOCTOR OF PHILOSOPHY IN
PHILOSOPHY

MAY 2018

By Amit Chaturvedi

Dissertation Committee:

Arindam Chakrabarti, Chairperson
Roger T. Ames
Masato Ishida
Jonardon Ganeri
Scott Sinnott

ACKNOWLEDGMENTS

This dissertation has been made possible first and foremost through the dedicated and patient support of my teachers, dissertation committee members, and faculty at UH-Mānoa. I am grateful to Scott Sinnett, Masato Ishida, and George Tsai for their involvement in my committee and dissertation defense. Ron Bontekoe has been a steadfast advocate on behalf of myself and many other graduate students during his time as graduate and department chairs.

My Sanskrit teachers have contributed greatly to this dissertation by enabling me to discover new insights from classical texts. Rama Nath Sharma instilled in me what will be a lifetime love for Sanskrit language. His guidance prepared me to undertake a summer course of intensive Sanskrit study through the American Institute of Indian Studies, for which I received financial support from the Watumull Foundation. My teachers at the AIIS program, Madhura Godbole and Meenal Kulkarni, in turn prepared me for more extensive study at Jagadguru Ramamandacharya Rajasthan Sanskrit University and Karnataka Sanskrit University, with the support of the Freeman Foundation and the Jagdish P. Sharma Memorial Scholarship. I am immensely grateful to Prof. Veerananarayana Pandurangi of Karnataka Sanskrit University and Prof. D. Prahladachar of Poornaprajna Samshodhana Mandiram for patiently teaching me several texts related to my dissertation research.

I owe special debts of gratitude to three of my teachers, each of whom has given me a model of exemplary scholarship and humanity to strive toward. Roger Ames has unfailingly supported my career from the very earliest stages, and opened my mind to new ways of doing Chinese and comparative philosophy. It has been a great privilege to receive Jonardon Ganeri's

generous feedback on my dissertation – his work best embodies the sort of cross-cultural philosophy that this dissertation attempts to practice. Most of all, I am indebted to Arindam Chakrabarti, to whom I have owed, directly or indirectly, most every philosophical insight contained in this dissertation. The central ideas of this work originate from an idea for a term paper he gave me a decade ago, which sparked a slow-burning fire in my mind that he has stoked continuously ever since. His unmatched combination of philosophical creativity and clarity will never cease to inspire me. To him, I dedicate the following artless *gurustuti*:

य एव सिंहनादेन मोहारिन्दमयन्ति हि ।
सर्वशास्त्रेशिता येषां स्वाम्यवच्चक्रवर्तिनः ॥
यत्तेजोमयबुद्धेश्च स्फुरत्प्रज्ञास्फुलिङ्गकाः ।
मन्मनस्यल्पविद्याग्निं मन्दमभिसमैन्धत ॥
ये मे चित्तभ्रमं दृष्ट्वा यथा धूमस्य दर्शनात् ।
वैदग्ध्यमपि निर्निन्युस्तान् गुरुन्नौमि सर्वदा ॥

Finally, I am deeply grateful to my parents and family for their patient support all these years; and to Nada for being an inexhaustible source of joy, and for reminding me of what is most important.

ABSTRACT

The basic question motivating my dissertation is whether it is possible to consciously perceive objects in the world without possessing any concepts for those objects. Standard phenomenological and epistemological approaches to the issue of non-conceptual perceptual content have presumed that concept-possession entails mastery of a concept's linguistic and inferential usage. I depart from these approaches by developing a naturalized account of perceptual concepts, one which is further informed by theories of perception in the Nyāya tradition of Indian philosophy. Perceptual concepts on a revised conceptualist account can be understood as attention- and memory-based capacities for predicating sensory features to objects. With this account in place, I draw upon recent scientific models of visual processing to argue that essentially non-conceptual, pre-predicative perceptual contents do not phenomenally appear in conscious visual experience.

To make plausible the idea that perceptual contents can be both conceptual and non-linguistic in nature, I demonstrate in Chapters 1 and 2 how perceptual contents can have a compositional, predicative structure in the absence of linguistic formatting. Similarly, I advance several criteria for perceptual concept possession in the absence of explicit linguistic or inferential mastery. I further support my revised account of perceptual concepts by drawing upon insights from Buddhist and Nyāya philosophers, developed in their centuries-long debates over the relation between perception, concepts, and language.

In Chapter 3, I then offer a reconstructive reading of Immanuel Kant and the Navya Nyāya philosopher Gaṅgeśa, which extracts from their theories of perceptual concepts and

apperception a thesis to the effect that intentional, object-directed perceptual representations must be conceptually structured in order to have a subjective phenomenal character. Kant and Gaṅgeśa broadly agree on a set of reasons why we lack any phenomenological evidence for the existence of perceptual states with exclusively non-conceptual content. I take these reasons to be pointing toward several conditions responsible for the integration of perceptual contents into a subject's unified conscious experience.

The fourth chapter reframes my reading of Kant and Gaṅgeśa in naturalized terms, by demonstrating how phenomenally accessible perceptual contents arise through the conceptually modulated activity of attention and visual memory. I show how a unified theory of perceptual attention and conceptualization undercuts the phenomenological intuitions underlying both classical Buddhist and contemporary defenses of non-conceptualism, and further resolves several dilemmas facing recent theories of consciousness.

Lastly, the fifth chapter shifts to a discussion of classical Chinese epistemology and psychological studies of perceptual expertise, in order to further characterize perceptual concepts as capacities for allocating attention which we can actively and skillfully exercise in experience. Ultimately, a theory of perceptual concepts as attentional skills allows us to understand perceptual experience itself as an activity which is both skillfully absorbed and permeated with rationality.

Table of Contents

Acknowledgments.....	ii
Abstract.....	iv
Chapter 1: Perceptual Content as Non-Linguistic but Conceptual.....	1
1.1 Setting the Bar for Perceptual Concept Possession.....	3
1.1.1 Restrictive Views of Concept-Possession: Peacocke and McDowell.....	4
1.1.2 Noë's "Vacuous" Conceptualism.....	8
1.2 Non-Conceptual Contents: Scenarios and Propositions.....	14
1.2.1 The Incoherence of State Non-Conceptualism.....	17
1.2.2 Propositional Content is Non-Essentially Non-Conceptual.....	20
1.3 The Propositional Structure of Perceptual Content.....	24
1.4 Perceptual Concept Possession.....	29
1.5 Conclusion.....	34
Chapter 2: Language and Concept-Laden Perception in Classical Indian Philosophy.....	36
2.1 Language and Conceptualization in Indian Buddhist Philosophy.....	39
2.1.1 Dignāga – Perception is Essentially Non-Conceptual, and Concepts are Essentially Linguistic.....	41
2.1.2 Vasubandhu – Non-Linguistic Conceptualization is Inherent to Perceptual Awareness.....	43
2.1.3 Dhamakīrti – Non-Linguistic Creatures Have Implicitly Linguistic Concepts.....	49
2.2 Classical Nyāya Views on the Non-Linguistic Nature of Perception.....	54
2.2.1 Vātsyāyana – All Perception is Non-Linguistic (<i>Avyapadeśya</i>).....	54
2.2.2 Jayanta Bhaṭṭa – Non-Conceptual and Concept-Laden Perceptions Share the Same Contents.....	59
2.2.3 Vācaspati Miśra – Non-Conceptual Perceptions Are Non-Propositional....	67
2.2.4 Concept-Laden Perception Can Be Propositional and Non-Linguistic.....	71
2.3 Conclusion.....	73
Chapter 3: Concepts and Conscious Perceptual Content: A Revised Nyāya/Kantian Approach...76	
3.1 Introduction – Phenomenal Character and Non-Conceptual Perception.....	76
3.2 Navya Nyāya on the Contents of Non-Conceptual and Concept-Laden Perception...81	
3.2.1 Pre-Gaṅgeśa Views on the Purported Phenomenology of Non-Conceptual Perception.....	88
3.2.2 Gaṅgeśa on the Attentional Inaccessibility of Essentially Non-Conceptual Perception.....	92
3.2.3 Nirvikalpaka Pratyakṣa as Subpersonal Perception.....	101
3.2.4 Chadha's Kantian Reading of Navya Nyāya on Perception and Concepts	105
3.3 Kant on Concepts and Conscious Perceptual Experience.....	116

3.3.1 Conscious Subjective Character and the Unity of Apperception.....	122
3.3.2 Objections From Kantian Non-Conceptualism.....	131
3.3.3 Responding to the Kantian Version of Essentialist Content Non- Conceptualism.....	137
3.4 Conclusion: Apperception, Attentional Access, and Consciousness.....	151
Chapter 4: Undercutting Buddhist Non-Conceptualism.....	155
4.1 The Buddhists' Essentialist Non-Conceptualism.....	158
4.2 The Phenomenological Intuitions of Buddhist Non-Conceptualism.....	166
4.3 Concepts, Attention, and Conscious Visual Experience: Clues from Gaṅgeśa.....	174
4.4 Attention and Memory in the Stages of Visual Processing.....	187
4.5 Conclusion – A Naturalized Nyāya Conceptualism.....	193
Chapter 5: Concepts and Attention in Skillful Perception and Action.....	194
5.1 Perceptual Knowledge in Classical Chinese Epistemology.....	198
5.2 Dreyfus's Non-Conceptualism.....	211
5.3 Montero and the Conceptual Character of Expertise.....	216
5.4 The Revised Conceptualist Response to Dreyfus: Concepts, Attention, and Memory in Expert Intuition.....	220
5.4.1 Memory and Expert Intuition.....	222
5.4.2 Attention and Automaticity.....	226
5.5 Concepts, Memory, and Attention in Perceptual Expertise.....	235
5.6 Against a Dreyfusian Account of Perceptual Expertise.....	245
5.7 Conclusion: A Final Objection.....	261
Conclusion – Summary and Implications.....	264
Works Cited.....	272

Chapter 1

Perceptual Content as Non-Linguistic and Conceptual

Perceptual non-conceptualism—the view that it is possible for one to perceive an object without needing to possess any concept of what one perceives—holds a great deal of intuitive plausibility. It seems uncontroversial that perceiving the world is much different from thinking or talking about the world. I might describe to you in vivid terms the brilliant sky of last evening's sunset, but my description is no match for actually seeing the sunset for yourself. No matter how precise or evocative my description would be, it could not possibly convey to you every detail of the scene—every shade of color in the sky, or every contour of the clouds—which I perceived effortlessly. Indeed, my own conceptual vocabulary seems too limited to describe my experience of the sunset, and my thinking at the time of how I would describe what I am seeing to you was a different activity than the seeing itself. What's more, creatures like human infants and a wide range of non-human animals would be totally unable to understand my description of the sunset, and yet we would presume that they would have still have an acute sensory awareness of the same scene. These sorts of phenomena have been taken by philosophers—both in recent times and over a thousand years ago in India—as supporting evidence for the existence of non-conceptual mental states, especially understood as conscious perceptual experiences whose occurrence is independent of a perceiver's possession of relevant concepts, and whose representational content is different in kind from the contents of conceptual thoughts.

In this chapter, I want to challenge the intuitive force that classical and contemporary advocates of perceptual non-conceptualism have taken such phenomena to have, by questioning some of their underlying presuppositions concerning the relation between language, concepts,

and perception. Shedding light on these presuppositions is crucial because, as a negative notion, non-conceptual content can only be understood against a background understanding of what concepts and conceptual content are. I claim that many defenders and opponents of perceptual non-conceptualism alike have prematurely restricted the terms of debate by assuming that concepts are inextricably linked with language, and that concept possession is bound up with the exercise of linguistic and higher-order cognitive capacities. Instead, I suggest that an alternative theory of concepts which admits the existence of abilities for non-linguistic discrimination and categorization would enable us to give a revised account of conceptual content in perception.

More specifically, I will argue that the conceptual abilities implicated in perceptual experience should be construed as capacities for identifying an object through the visual predication and classification of that object's properties. I will further claim that the exercise of such abilities for perceptual classification need not in every case be verbally mediated. A suitably capacious understanding of concepts will thus allow that conceptual abilities do not necessarily amount to linguistic abilities, and that perceptual content can be conceptually structured independently of being linguistically structured. To ward off the charge that such a capacious conceptualism would be unfairly shifting the goalposts of the non-conceptual content debate, I follow the lead of several contemporary non-conceptualists in holding that the thesis of perceptual non-conceptualism is only viable if non-conceptual content is viewed as being essentially different in kind from conceptual content. This gives us a principled way to demarcate the logical space between non-conceptualist and conceptualist views, and allows the account of perceptual concepts I am proposing to be counted as a legitimate, non-trivial version of conceptualism. I do not deny the existence of non-conceptual states as such; however, I will

argue in later chapters that we are not directly aware of perceptual states with non-conceptual content in conscious visual experience.

1.1 Setting the Bar for Perceptual Concept Possession

The debate over the existence of non-conceptual content courts the possibility of being merely terminological and hence trivial, as the dividing lines between conceptualist and non-conceptualist positions can shift according to the different theories of concepts and mental content that these positions respectively adopt. Take, for instance, the issue of concept possession: The criteria used for judging whether a subject possesses the concepts needed to articulate the content of some mental state will determine whether that content counts as being non-conceptual or conceptual in nature. Adopting too relaxed a standard for concept possession will unfairly co-opt non-conceptual content as being conceptual, thus making the conceptual/non-conceptual distinction meaningless and the debate between the two camps philosophically uninteresting (Smith 2002: 111; Toribio 2007: 449; Roskies 2008: 649). In the case of perception, such an overly relaxed standard would hold that a subject possesses a concept for some property *F* just if it can perceptually discriminate *F*s from non-*F*s. So on this relaxed account, if a perceiver's representation of a straight line is different than its representation of a curved line, then that is all it takes for us to attribute the perceiver with a concept of straightness that accounts for its ability to discriminate between the two objects, and to thereby undergo perceptual states with different representational contents. However, proponents of non-conceptualism would claim that, in taking every instance of perceptual sensitivity to different objects in the world to require the antecedent possession of relevant concepts, a relaxed standard for concept possession has defined the possibility of non-conceptual content out of existence.

Instead, they will point to the vast range of instances where non-human animals, as well as non-adult and adult humans alike, demonstrate the ability to perceptually represent their environment in the obvious absence of any higher-order cognitive or linguistic abilities. While the rudimentary ability to distinguish *F*s from non-*F*s may be a necessary condition for possessing a concept of *F*, it is by no means sufficient (Toribio 2008: 353).

1.1.1 Restrictive Views of Concept-Possession: Peacocke and McDowell

In considering whether or not the representational content of perception must be structured or specified by concepts possessed by the perceiver, both conceptualists and non-conceptualists have typically restricted the attribution of concepts to only those subjects who can rationally employ them in inferential/linguistic thought. Christopher Peacocke (1992) has defended the existence of non-conceptual content by way of offering a broadly Fregean theory of concepts and concept possession, according to which the possession of a certain concept entails that a thinker grasps what it is for something to be that concept's semantic value, i.e., what it is for a propositional thought containing that concept to be true. Peacocke's theory of concepts is broadly Fregean because it holds that concepts, as semantic constituents of propositional contents, serve to determine the semantic value and cognitive significance of those contents.¹ The concepts contained in a propositional expression capture the manner in which that expression represents its referents or extensions. Concept possession, then, allows a thinker to understand what an expression is about, and further to form judgments about the expression's truth or falsity.

¹ Of course, Peacocke takes the meaning of the term "concept" to be distinct from Frege's technical usage of "concept" (*Begriff*) (Peacocke 1992: 2). For Frege, concepts are functions that map objects onto truth-values. An "unsaturated" predicative expression, such as "___ is a horse," refers to a concept, or an abstract function that, when filled with an object-referring term like "Seabiscuit," yields the truth-value True (Frege 1960). Peacocke's understanding of concepts, however, draws from Frege's notion of sense (*Sinn*). Rather than themselves being the referents of predicative expressions, concepts instead align with an expression's sense or mode of presentation. See Gunther 2003: 6-14 for further discussion of concepts *qua* Fregean senses.

Thinkers hence manifest their possession of a concept in their ability to take different propositional attitudes to contents containing that concept. The taking of such attitudes stands as a rational activity because of the link between concept possession and semantic value. It is in grasping a concept's semantic value—i.e., what determines the truth of an expression containing that concept—that a thinker's belief-forming practices are guided by normative considerations. In other words, our mastery of a concept will enable us to recognize the circumstances where we have good reasons to adopt one attitude over another. These circumstances which "primitively compel" the adoption of certain attitudes can be inferential or perceptual in character. For example, a thinker who possesses the logical concept of conjunction would be compelled to make an inferential transition from the premises, "Pigeons are birds; Quails are birds" to the conclusion, "Pigeons and quails are birds," and would be disposed to make a transition in the opposite direction to eliminate the conjunction. As for perception, someone who possesses an observational concept would be able to form an appropriate belief based on a perceptual presentation of the relevant object. For instance, someone who grasps the concepts *man* and *bald* would take a passing perceptual confrontation with a bald man to provide good reason to believe "That man is bald." Were a perceiver to also have a mastery of the concept *spy*, she would not find that her perceptual experience licenses her to believe "That spy is bald" (Ibid.: 126). Of course, Peacocke and other non-conceptualists will hold that ultimately one need not possess the relevant concepts to experience a perceptual representation of the bald man.

While opponents of non-conceptualism would argue that the formation of beliefs on the basis of perceptual experience is possible only if the representational content of perception is conceptual in character, they have similarly understood concept possession to entail a capacity on the part of a perceiver for appreciating the reasons that justify one's epistemic judgments.

John McDowell has argued that perception is part of an overall process of "active empirical thinking," whereby a rational agent is obliged to self-consciously reflect on how one's thoughts cohere with experience. The concepts which may be passively employed in structuring the contents of perceptual states are of a piece with those actively employed in judgments; indeed, one would not properly possess a perceptual concept if one did not also have the capacity to use that concept in judgments independently of its immediate sensory context. In exercising the ability to form judgments and thereby draw the contents of perception out of their sensory domain, perceivers evince a background understanding that the contents of perception represent states of affairs which can obtain independently of their immanent sensory experience.

McDowell gives the example of making empirical judgments based on the perception of color:

"No one could count as making even a directly observational judgment of colour except against a background sufficient to ensure that she understands colours as potential properties of things....

The necessary background understanding includes, for instance, the concept of visible surfaces of objects and the concept of suitable conditions for telling what colour something is by looking at it" (McDowell 1994: 12). To understand perceptual contents as having normative significance within a whole web of concepts and thought-contents is to thus recognize their place in what McDowell, following Wilfrid Sellars (1991: 169), calls "the logical space of reasons," where relations between beliefs may be formed according to considerations of justification or coherence. McDowell additionally holds that the space of reasons maps onto "the space of concepts." The only sort of contents eligible for having normative significance are those which are conceptually structured, and so the norm-governed activity of rational thought that takes place within the space of reasons will thus involve the exercise of one's conceptual capacities.

Finally, the twin spaces of reasons and concepts are for Sellars and McDowell inseparable from

language; as Sellars states, "I wish to emphasize... the denial that there is any awareness of logical space prior to, or independent of, the acquisition of a language" (Ibid.: 162). Through the acquisition of a language and the initiation into a linguistic community—developments which occur in tandem with the acquisition of conceptual capacities—knowers can participate in the discursive practices of articulating reasons for their beliefs and evaluating the reasons of others. In fact, the ability to express language claims about the world makes possible the appreciation of reasons as such; McDowell explains, "It is the ability to say how things are that enables one to hold a circumstance with a tendency to influence one's motivations at arm's length, so as to be able to ask oneself whether it constitutes a reason for doing what it inclines one to do" (McDowell 2006).

With a high standard of concept possession being presumed as a starting point for the non-conceptual content debate, it is no surprise that the conceptualist position has faced serious challenges in accounting for how the content of perceptual experience could be conceptual for those perceivers who, due to their evident lack of linguistic and inferential capacities, would fail to possess the concepts required for articulating that content. One response by the conceptualist may be to reaffirm the necessary involvement of conceptual/linguistic capacities in perceptual experience, and thereby accept that non-linguistic perceivers do not have genuinely contentful perceptual representations. McDowell has previously taken this tack: Glossing Kant's dictum that sensory intuitions without concepts are blind, he claims that the perceptual experience of non-conceptual animals cannot purport to be "an awareness of a feature of objective reality" (Ibid.: 54). These animals lack the ability to conceive of themselves as being located in an objective spatial world wherein objects are perceived in relation to, but as still existing independently of, one's egocentric perspective. Without the ability to self-consciously conceive of the relation

between perception and reality in this way, perceivers would fail to have an "'outer experience' of features of their environment" in a strict sense; their experience would be unable to disclose things in the world as being "thus and so," and hence would not rationally support judgments about the world's being thus and so (Ibid.: 50).

1.1.2 Noë's "Vacuous" Conceptualism

However, there can be alternative brands of conceptualism which, while still taking the possession of conceptual capacities to be a necessary condition for having perceptual experience, take issue with the overly restrictive understanding of concepts being presumed by conceptualists and non-conceptualists alike. For instance, Alva Noë has criticized the tendency on both sides of the non-conceptual content debate to "overintellectualize" the prospect of conceptual involvement in perceptual experience. To be sure, Noë is advocating for a kind of conceptualism because he also takes perception to entail an understanding of how our experience presents the world as being, such that one must in some sense have concepts for the features and states of affairs that are presented (Noë 2004: 181). Yet, he moves away from the view that the concepts involved in perceptual understanding are of the sort found in self-conscious judgments about the content of experience, and whose possession requires an explicit grasp of their semantic value and rational relations to other concepts. Although non-human animals may apparently lack the kinds of linguistically mediated conceptual and inferential capacities required by McDowell for having contentful perceptual experience, it does not follow that such perceivers do not exercise any concepts at all. By abandoning a "much too exalted conception of our own conceptual skills," we can come to recognize that conceptuality is a matter of degree. On the lower end of the spectrum, we may still find perceiving and thinking creatures who, through their own form of

practical rationality and intentional behaviors, display at least a situational awareness of the normative constraints being placed upon them by their experience of the world (Ibid.: 187).

Identifying the sources of our misguided reluctance to attribute non-human animals and infants with the possession of conceptual and inferential skills, Noë points to the flawed notion that concept possession must require a thinker to know the criteria which govern and justify a concept's application; in fact, we often correctly apply concepts in judgment without being able to articulate our reasons for doing so. Additionally, philosophers have taken an overly simplified view of what it is in the first place to make use of a concept in thought and experience, assuming that concept application must take the form of an "explicit deliberative judgment" (Ibid.: 186). Perceptual experience is not akin to judgment or belief, a fact illustrated by the persistence of certain perceptual illusions in spite of our knowing them to be illusions. Nonetheless, there are more fundamental conceptual capacities which enter into experience not through being applied in a judgment, but through serving as preconditions for having experience in the first place. The most basic of these capacities, according to Noë's "enactive" approach to perception, are the sensorimotor skills upon which our ability to perceive the world crucially depends. On this account, perceptual experience acquires content due to the perceiver's skillful bodily engagement with its environment, and its implicit practical knowledge of how bodily movement gives rise to changes in sensory stimulation. To cite just one example, Noë argues that the perceptual experience of shape depends on our implicit grasp of how the perceived shape varies as our perspective on an object varies; this grasp, he claims, constitutes "our grasp of what it is for something to be *presented as* cubical, or spherical", and thereby demonstrates our rudimentary possession of the observational concept *cube* or *sphere* (Ibid.: 198). Thus, having more broadly construed concepts as a range of practical skills brought to bear in understanding how experience

presents the world, Noë suggests that sensorimotor skills are themselves a kind of simple concept, in which case all perceptual experience would depend on at least a primitive form of conceptual understanding (Ibid.: 184). As the most fundamental sort of observational concept, sensorimotor skills form the basis of our ability to perceptually represent objects and their properties as being given in a certain way, thus granting our experience with world-directed intentional content. Just as we would not have a visual experience "as of" an anteater if we did not to some degree understand the concept *anteater*, we would also not have a visual experience "as of" the world were we to lack the simple concepts involved in sensorimotor understanding (Ibid.: 184, 187).

But Noë's revisionary conceptualism has invited the charge by non-conceptualists like Robert Hannah and Monima Chadha that it can only offer a "vacuous" theory of concepts. They consider a theory of concepts to be vacuous if it identifies all mental content with conceptual content by resorting to the following sort of argument:

- 1) All mental content is normative and rule-governed.
- 2) Only conceptual representations can be normative and rule-governed.
- 3) Therefore all mental content must be conceptual, and nothing will ever count as real mental content unless it is conceptual. (Hanna & Chadha 2011: 205).

Hanna and Chadha's main complaint against the vacuous theory of concepts is that it rules out the possibility of non-conceptual mental content from the outset, making a genuine debate between non-conceptualists and conceptualists impossible (Ibid.: 206). If we ought to preserve a legitimate distinction between non-conceptual and conceptual content, we should then recognize that the sort of sensorimotor knowledge which Noë posits as being the root source of our contentful perceptual experience is instead "inherently pre-reflective, non-propositional, non-

epistemic, and situated—in a word, essentially non-conceptual" (Ibid.: 207). For Hanna and Chadha, such characteristics capture the way in which the semantic structure and psychological function of essentially non-conceptual content is necessarily distinct from the structure and function of conceptual content (Ibid.: 188). But by taking sensorimotor knowledge to be conceptual in character, Noë commits himself to a vacuous form of conceptualism, which Hanna and Chadha find especially ironic in light of his own insistence that sensorimotor knowledge cannot be analyzed in propositional terms (Noë 2004: ch. 3). While Noë has in places acknowledged the existence of mental representations that are purely non-conceptual (e.g., Noë 1999: 262), he nonetheless denies that such representations have intentional content. Because intentional content for Noë involves a conscious experience "as of" an object, or of an object as seeming to be a certain way, he claims that experience can only present things as being a certain way if one possesses the concepts relevant for appreciating what that way is. Hence, we are able to have conscious perceptual experience of objects and properties in the world because our experiences is linked to conceptual capacities for judgment and discrimination; as he explains, "Experiences are not takings or judgments, but they are internally related to takings and judgments, and it is incoherent to suppose that there could be experiencers who could not grasp thoughts about how they experience things as being" (Ibid.: 259). Of course, Noë further lowers the threshold for what counts as grasping a thought about experience by viewing sensorimotor skills to be conceptual capacities, the exercise of which through our bodily engagement with the environment itself stands as a kind of thoughtful activity (2004: 205). Thus, Noë's understanding of intentionality puts him at odds with non-conceptualists, who would take his denial of non-conceptual representations as having intentional content to be an outright denial of the possibility of non-conceptual representations. All mental states, non-conceptual or otherwise, have

representational content insofar as that content is intentional and object-directed. Because Noë unduly restricts intentional content to experiences for which one is able to entertain thoughts about its content, his vacuous conceptualism prematurely rules out the core thesis of non-conceptualism, i.e., there is "representational content [that] is neither solely nor wholly determined by a conscious animal's conceptual capacities, and that at least some contents are both solely and wholly determined by its non-conceptual capacities" (Hanna and Chadha 2011: 185).

Still, we can continue to revise the conceptualist position in a way that retains some of the core insights of Noë's model, without thereby upholding a vacuous theory of concepts that would trivialize the non-conceptual/conceptual distinction. The conceptualist account I propose is one which construes the concepts implicated in visual experience as perceptual categories that are individuated by a perceiver's capacities for identifying an object through the visual classification and predication of the object's properties. Affirming with Noë that concept possession is a matter of degree, I also claim that the application of perceptual concepts in experience need not involve an explicit deliberative judgment reflectively formed by a perceiver in self-conscious appreciation of a concept's semantic value. Despite lacking the ability to articulate how concepts figure into content of one's experience, or to explicitly draw that content into inference, a perceiver might still demonstrate the possession of certain concepts through its flexible behavioral responses to the environment. These responses can begin to suggest the way in which a perceiver experiences an object as being, since the appropriateness of the perceiver's response will depend on how it has classified that object as belonging to a category of things which ought to solicit such a response, with the identification of that object's category

membership itself depending on which properties have been attributed to the object by the perceiver.

Therefore, I suggest that in order to capture the manner in which conscious visual experience presents objects to perceivers, we should acknowledge that concepts are involved in granting the representational content of visual experience with a propositional, predicative, object-property structure. Concepts may be employed in structuring conscious perceptual content without the perceiver's explicit awareness or control; as I will argue, by the time an object enters into the stream of perceptual awareness such that one could consciously judge, "That object is *F*," the visual system has already carried out a conceptually modulated process of object identification and classification. With regards to non-conceptual content, I depart from Noë's account by accepting that there can be perceptual content which is both non-conceptual and intentionally object-directed, thereby avoiding a vacuous form of conceptualism. However, another central thesis of my account is that perceptual states with non-conceptual, pre-predicative content are found only in the subpersonal and preconscious stages of visual processing, and hence cannot be directly accessed in conscious visual experience. In the remainder of this chapter, I will further explicate how perceptual states can have conceptual content that is propositional in structure without a perceiver necessarily having linguistic mastery over the concepts involved in structuring that content. In subsequent chapters, I examine how the conceptual structure of certain perceptual contents is related to their presence in conscious visual experience.

1.2 Non-Conceptual Contents: Scenarios and Prot propositions

Now, it might appear as though the form of conceptualism I am proposing would still render the non-conceptual/conceptual distinction merely terminological, since there is an apparent overlap between the propositional perceptual content that I claim is conceptually structured even in the absence of a perceiver's linguistic/inferential mastery over the relevant concepts, and the "protpropositional" content that Peacocke counts as non-conceptual precisely because it can be represented by a perceptual state in the absence of the linguistic/inferential mastery that he takes to constitute possession of a concept. Peacocke explains that a protproposition contains objects, properties, and relations themselves, whereas a proposition contains concepts of those entities. An experiential state has protpropositional content when it "represents the property or relation in the protproposition as holding of the individual or individuals it also contains" (1992: 77). Thus, representations of protpropositions are non-conceptual, as the representation's content is fixed by the objects themselves and not by the concepts that one would need to possess in order to entertain a propositional thought about those objects.

Protpropositional content is thought by Peacocke to supplement a more fundamental layer of non-conceptual content known as "scenario content." Briefly, a perceptual representation with scenario content maps out a visual scene through specifying the location of sensory features at minimally discriminable points in perceptual space. With the origin and axes of the map being fixed in spatial relation to the perceiver's body rather than to objects in the real world, this perspective-dependent visual scenario is filled out by determining at each point the presence of rudimentary sensory features such as texture, hue, saturation, brightness, degree of solidity, orientation, and motion. Peacocke refers to the way in which a scenario fills out the space around

the perceiver as a "spatial type" that can be instantiated by the world itself, in which case a representation with scenario content is correct when the scenario's way of spatially locating sensory features in a visual scene maps onto how those features are actually located in the space around the perceiver. Scenario content is also non-conceptual because its point-by-point specification of features like color and shape is not constrained by the concepts that a perceiver possesses, nor are concepts constituents of this sort of representational content. Accordingly, Peacocke's notion of scenario content lends support to the central non-conceptualist argument from "fineness of grain," an argument first expressed in recent times by Gareth Evans, though anticipated in spirit centuries earlier by the Indian Buddhist logicians Dignāga (6th cent.) and Dharmakīrti (7th cent.).² To Evans's question, "Do we really understand the proposal that we have as many colour concepts as there are shades of colour which we can sensibly discriminate?" (1982: 229), the non-conceptualist answer is negative—perception can discriminate sensory features at a level of fine-grained detail that outstrips a perceiver's capacity to fully conceptualize that detail, in which case perceptual states have non-conceptual content.

But Peacocke posits the existence of protopositional content because scenario content alone cannot account for certain elements of perceptual experience, such as our experience of Gestalt shifts. It is possible for two perceivers to share the same scenario content-based spatial map of sensory features, and still perceive the same object differently; not only that, it is possible for a single perceiver to perceptually experience the same visual scenario as switching between the presentation of different objects. Peacocke cites Mach's well-known example of a figure that can be seen either as a diamond or as a tilted square (fig. 1.1):

2 I will examine the Buddhists' formulation of the fineness of grain argument in chapter four.



Fig. 1.1 - Mach's (1957) square/diamond

We can experience the figure differently as being a diamond or a square even though, at the level of scenario content, the spatial configuration of sensory features remains constant. Peacocke therefore claims that the difference between the two ways of experiencing the figure must arise at the level of protopositional content, where objects, properties, and relations themselves are represented. Specifically, the difference between the square-type and diamond-type experiences owes to a difference in the properties of shape and relations of symmetry that they respectively represent: we experience the figure as a diamond when we perceive the figure as symmetrical about the bisector of its angles, whereas we experience the figure as a square when we perceive the figure as symmetrical about the bisector of its sides. While being distinct from scenario content, protopositional content is again non-conceptual because it represents properties like *square*, and relations like *symmetrical about*, without requiring that a perceiver have mastery over the concepts of squareness or symmetry. Rather, there is a converse dependence of concept possession on non-conceptual content, in that our protopositional experiences of the straightness of a square's lines, the rightness of its angles, etc., are what give us good reasons to apply the observational concept in forming the judgment, "That's a square." A protopositional content's correct representation of a square will thus ensure that the object of conceptual thought will actually be a square (1992: 74-80).

1.2.1 The Incoherence of State Non-Conceptualism

I will address the apparent overlap between non-conceptual protopositional content and what I claim is conceptually/propositionally structured perceptual content, and thereby dispel the threat of triviality looming over the non-conceptualist/conceptualist debate, by first examining how clarification of the debate has revealed two possible interpretations of the non-conceptualist's thesis. According to Richard Heck, the claim that perception is non-conceptual may be viewed as pertaining to either the content of perception or the relation that perceptual states bear to a perceiving subject. The "content view" asserts that perception is non-conceptual because the representational content of perception is different in kind from the content of conceptual states like beliefs and judgments. On the other hand, the "state view" holds that a perceptual state is non-conceptual when a perceiver stands in a concept-independent relation to it due to not possessing the concepts that would characterize its content. As a result, the state view does not admit that there is an essential difference between the content of perception and conceptual thought—it is possible to have a concept-independent or concept-dependent relation to the same mental content. Of interest here are the claims by certain non-conceptualists that state non-conceptualism is not a viable option for defending the existence of non-conceptual content. Even as he is laying out the distinction, Heck voices his suspicion that the state view is "indefensible—even incoherent, if coupled with the claim that the contents of beliefs are conceptual" (2000: 486 fn. 6).

Validating Heck's suspicion, José Luis Bermúdez illustrates how an incoherence arises particularly when the content shared by non-conceptual and conceptual states is characterized in Fregean terms, that is, as a complex of concepts toward which we can take various propositional attitudes in light of our possessing those concepts. It makes sense to attribute subjects with a

belief on the assumption that they possess the relevant concepts—for instance, we would think that someone could legitimately hold the belief "The piano is out of tune" only if they had some notion of what a piano is and what it would mean for it to be out of tune. If we especially admit that concept possession is a matter of degree, then we can understand how, through the exercise of their respective conceptual capacities, the same belief could have a different cognitive significance for a novice piano student and an expert piano tuner. The concepts possessed by a thinker serve to mediate the relation that the thinker has to the propositional content of their belief, a relation which conditions how the thinker represents the world as being. However, if the representational content of perception is also understood in a Fregean manner, then the state view of non-conceptualism would be committed to saying that a perceiver, who does not possess any of the concepts which are contained in the content of a perceptual representation, thereby stands in a "concept-independent" relation to a complex of concepts. For Bermúdez, such a view "makes the idea that perception is a relation to a complex of concepts becomes [*sic*] completely mysterious" (2007: 67). Put another way to sharpen the incoherence, if we understand concepts as cognitive abilities that are employed whenever a subject entertains some mental content that contains those concepts, then Fregean state non-conceptualism would entail that a perceiver, in entertaining the content of a non-conceptual state, would have to exercise cognitive abilities which it does not possess (Toribio 2008: 360). This incoherence facing the Fregean account can only be removed by admitting that a subject's concept-independent or concept-dependent relation to some mental state is indicative of a difference in the kind of content that state has, in which case state non-conceptualism would actually entail content non-conceptualism (Ibid.).

Additional problems face the state view if we instead take the shared content of perception and thought to be Russellian propositions, which are structured out of worldly

objects, properties, and relations themselves. On a Russellian account, propositions have "coarse-grained" content, in that two mental states could not represent the same objects, properties, and relations arranged under the same sort of structure, and still differ in content. Russellian content hence stands opposed to Fregean content which is individuated in a "fine-grained" manner, that is, with respect to the modes or guises under which they present objects, properties, and relations.³ However, some non-conceptualists have argued that framing the shared content of perception and belief in Russellian terms prevents us from recognizing any essential respect in which non-conceptual content differs from conceptual content, in which case the collapse of the non-conceptual/conceptual debate into triviality seems inevitable. Even if we cache out perceptual content as a complex Russellian proposition comprised of many objects, properties, and relations, such a content could still be captured by a thought with a similarly complex content, so that there would be no difference in kind between the two contents (Speaks 2005: 365-6; Toribio 2008: 354-5). Michael Tye has defended a Russellian account of perceptual content as a form of content non-conceptualism, since he distinguishes the coarse-grained non-conceptual content of perception from the fine-grained conceptual content of thought. Still, he admits that the fineness of grain (meant here in the sense of its determinacy of detail) found in visual experience could still be presented conceptually in demonstrative judgments based on that experience (2006: 525 fn. 17). Hanna and Chadha worry that such an admission "gives the game away" for the Tye's account as a form of content non-conceptualism—"For Tye," they explain, "has thereby explicitly admitted that his robustly non-conceptual content could still be *conceptually presented*. This means that any robustly non-conceptual content could *also* be a

3 It should be pointed out that this sort of fineness of grain relative to whether or not a content is individuated by Fregean senses is to be distinguished from the fineness of grain purportedly characterizing the representational content of perception, which discriminates the world at a level of detail far surpassing our conceptual abilities. Tye wants to argue that non-conceptual content is coarse-grained in the former sense of grain and fine-grained in the latter sense; see Tye 2006: 519-20.

proper part of the content of a whole mental act or state that *also* contain [*sic*] a set of corresponding Fregean senses for specifying just those Russellian contents" (2009: 195).

A deeper criticism of the Russellian approach to content is that it cannot adequately capture how the content attributed to some mental state should reflect how that subject grasps the world as being.⁴ Josefa Toribio explains, "If content attribution did not reflect the way the subject grasps the world as being, and if how the subject thus grasps the world were not connected to the subject's discriminative abilities, content attribution couldn't explain the subject's intentional behavior," which would ultimately lead to the explanatory uselessness of representational content itself (2008: 353). Fregean content, with its distinction between sense and reference, is more straightforwardly sensitive to the way a subject grasps the world as being—even though *a* is actually identical to *b*, a subject might not realize that identity because its thought of *a* could have a different sense than its thought of *b*. On the other hand, the presentational aspects of objects that are captured by Frege's notion of sense would not be included within coarse-grained representational content, since a Russellian proposition only includes objects, properties, and relations themselves. We would then be hard-pressed to explain how two subjects could perceive the same object and still form different perceptual beliefs by just citing the Russellian content of perception alone.

1.2.2 Protopositional Content is Non-Essentially Non-Conceptual

Peacocke's characterization of protopositional content seems to avoid the problems facing the Fregean- and Russellian-based state views of non-conceptual content. Being

4 The same criticism is applicable to those who would apply a possible worlds semantics to perceptual content; as Bermúdez puts it, "The notion of perceptual content is supposed to reflect how the distal environment perceptually appears to the perceiving subject. But what could it possibly mean to say that the distal environment perceptually appears as a set of possible worlds?" (2007: 67).

constituted by objects, properties, and relations themselves, rather than by concepts of those objects, protopositional content differs in kind from conceptual content, and therefore avoids the dilemma of entailing a concept-independent relation to conceptual content. Nonetheless, Peacocke does not consider protopositional content to be purely coarse-grained.

Protopositional content is also able to capture the particular way in which a perceiver represents the world, because included within the content are also non-conceptual modes of presentation or "manners of perception" (1989: 303). Peacocke explains, "We will not do justice to the fine-grained phenomenology of experience if we restrict ourselves to those contents which can be built up by referring to the properties and relations which the perceived objects are represented by the experiences as possessing. We must, in describing the fine-grained phenomenology, make use of the notion of the *way* in which some property or relation is given in the experience" (2000: 240). The perception of ambiguous figures like Mach's square/diamond helps illustrate for Peacocke the difference between the way in which a property like shape is perceived and the way an object is actually shaped; in the case of Mach's figure, the square and diamond have the same way of being shaped, i.e., of occupying space, and yet there can be two phenomenally distinct perceptual experiences of the same shape. Introducing a non-conceptual/visual mode of presentation into protopositional content serves to capture the distinct ways in which the same sets of objects, properties, and relations can be perceived. These modes or manners of perceptual presentation are analogous to the Fregean senses found in conceptual content, but they are considered by Peacocke to be distinct—and hence non-conceptual in nature—because they don't abide by Frege's criterion for distinguishing senses. In brief, two senses have a different cognitive significance if a thinker who understands both can still doubt that they refer to an identical thing. Peacocke (1989: 307) illustrates the difference

between manners of perception and Fregean senses with the following intuitive example: You look at both a line and a bar on a wallpaper pattern, and they appear to have the same length; accordingly, the line and bar are, with respect to length, perceived in exactly the same "manner." Yet, you could nonetheless suspect that the line and bar are not actually the same length—perhaps you think that you might notice a few moments later that something else in the wallpaper appears to be the same length as the bar but not the line—and so you form the perceptually demonstrative judgment, "This line's length is not actually the same as that bar's length." Now, if manners of perception were equivalent to the modes of presentation found in conceptual judgments, then the judgment of suspicion would not be possible, since according to Frege's criterion, if one could doubt that the length of the line is identical to the length of the bar, then the respective modes of presentation for the two lengths must not be identical. But, the two lengths are perceived as being identical, so their modes of perceptual presentation must be different than those modes which are contained in the content of the demonstrative judgment (Ibid.: 357).

However, I would suggest that protopositional content also succumbs to the sorts of difficulties facing the different state views of non-conceptual content, such that it ultimately should not be accepted by the content non-conceptualist. Hanna and Chadha's rejection of Russellian content as essentially non-conceptual would seem to extend *a fortiori* to protopositional content: if Russellian content cannot be essentially non-conceptual because it could be captured by a conceptual state whose content also contains a corresponding Fregean modes of presentation, then protopositional content should be similarly disqualified, since its quasi-Fregean manners of perception should be even more amenable to being specified in conceptual thought. Indeed, Peacocke's example of judging the line and bar to be different than

how they are perceptually presented does not overturn the many instances in which a perceptual demonstrative judgment captures and accords with the way in which objects are perceived. Furthermore, the example itself does not conclusively show that manners of perception must be distinct from the modes of presentation found in perceptual demonstrative judgments. When faced with the clear perceptual appearance of the two objects as being equal in length, one's judgment that the line and bar are not the same length would reflect some other reason for suspicion that is found outside one's perceptual experience. The judgment of suspicion would not then be a genuinely perceptual judgment, and so the example would not actually illustrate that manners of perception are different than the modes of presentation found in genuinely perceptual judgments (Fernández Prat 2002: ch. 6.4). At best, it could show that perceptual modes of presentation are different than non-perceptual modes of presentation, which only serves the non-conceptualist's point on the prior assumption that conceptual contents are non-perceptual, an assumption which is precisely at dispute for conceptualists.

Moreover, it is questionable whether, when applied to protopositional content, Peacocke's account of perceptual manners of presentation adequately captures the subjective/phenomenal aspect under which an object and its properties are grasped by a perceiver. Although Peacocke holds that the properties of an object and the way those properties are perceived are distinct constituents of protopositional content, his explanation of why we perceive Mach's figure as a square or as a diamond ends up just citing an objective feature of the figure, namely its symmetry about its bisectors or angles, as the reason for why we perceive one shape or another. But, since the symmetry relation is an objective feature of the figure, we would need to find another way of accounting for the manner in which that symmetry is perceived. If Peacocke would again cite an objective feature of the figure to explain why the symmetry is

presented as being about the bisectors of the shape's sides, such as the way in which the symmetry of the figure's bisectors is presented as being rotated in a certain direction, then yet another property of the object would need to be introduced to explain the way in which that rotation is perceived, and so on. Thus, if the manners of perception present in protopositional content are only cashed out in terms of the objective features of an object, then there would be an infinite regress of ways in which those features are perceived (Jacob 2012: 57-58). Peacocke won't be able to stop the regress by claiming that the modes of presentation needed for the objective features can be somehow sourced from scenario content—protopositional content is introduced precisely because scenario content alone cannot determine our experience of the square/diamond figure as presenting one shape or another. Yet, completely excising modes of perceptual presentation from protopositional content would raise for Peacocke's account the same difficulties that were posed by content non-conceptualists for Tye's Russellian view—not only would protopositional content fail to be sufficiently different in kind from conceptual content, but it would also fail as an account of representational content, since it would not capture the distinct way in which a perceiver grasps the world as being.

1.3 The Propositional Structure of Perceptual Content

Given the inability of protopositional content, along with the various forms of non-conceptual content posited by state views in general, to be characterized as essentially non-conceptual, we might instead frame the difference between conceptual and non-conceptual states in terms of the propositional/predicative or non-propositional/pre-predicative nature of their respective contents. The non-propositional character of non-conceptual content has been cited as capturing several of the ways in which perceptual content differs in kind from the content of

thought. For instance, the content of perceptual states lacks the requisite propositional structure needed to satisfy the Generality Constraint posited by Evans (1982) as a necessary condition for any mental state to count as having conceptual content. According to Evans, conceptual/propositional thought possesses a compositional structure that allows a subject to understand new thoughts by recombining the components of previously understood thoughts. So, for example, if on the basis of understanding the thoughts, "The chair is brown" and, "The floor is white," a subject is also able to understand what it means to think, "The chair is white," and, "The floor is brown," then we can consider the subject to possess the concepts *chair*, *brown*, *floor*, and *white* that enable it to entertain these thoughts and comprehend their contents.

Perceptual content, however, purportedly lacks such a compositional structure, and so cannot be considered to be conceptual. Instead, perceptual content has been taken by non-conceptualists to be iconic and imagistic, rather than propositional, in nature. As with pictorial representations like maps or photographs, perceptual representations are not decomposable into semantically significant constituents in the way that propositions are (Fodor 2007, Heck 2007). In other words, whereas the thought "I see the yellow square" must be "canonically" decomposed into the semantically central constituents "I," "see," "yellow," and "square," the actual perceptual image of the yellow square has no canonical method of decomposition. While there is only one correct way to subdivide the semantic parts of the sentence "I see the yellow square"—the meaning would not be recoverable if one thought "see the" was a proper semantic unit of the sentence—there is no incorrect way to subdivide the parts of a perceptual image (Laurence & Margolis 2008: 302). Instead, there are an indefinite number of ways in which an image could be decomposed into component parts, because iconic content is holistic. Being a mere spatial array of sensory qualities, there is no way to "carve up" or individuate parts of the array according to

whether they are semantically more significant or not. Unlike in the sentence, "I see the yellow square," where "square" is a more semantically central part the sentence's content than "the," the parts of the square-image are all equally images of the square-parts—no part of the image is any more central in determining the representation's image-content. The yellow square could be decomposed into two adjoining images of yellow rectangles, or could be further decomposed into a grid of minimally discriminable points/pixels of yellow. The image itself, however, does not require that it be understood as being representation *as of* a yellow square, or *as of* two adjacent yellow rectangles, etc.—such a "representation *as*" would only arise through a concept-guided interpretation of the image.

I would argue, on the other hand, that the characterization of perceptual content as imagistic or pictorial is not adequate, and that the structure of conscious perceptual representations is ultimately propositional—and hence conceptual—in nature. Now, there is an obvious sense in which perceptual content fails to satisfy the Generality Constraint. Part of the upshot of a conceptual content's compositional structure is that it enables a thinker to form new thoughts by recombining the content's constituent elements in an indefinite number of ways with other relevant concepts in its possession. This indefinite recombining of thought contents mirrors the generative capacity of language, in which grammatical sentences can be decomposed and recombined to produce an infinite number of novel grammatical sentences (Fodor & Pylyshyn 1988: 34; Bermúdez 1998: 92). Perceptual content, on the other hand, is not considered to be indefinitely generative, given that it lacks the sorts of syntactic and semantic features which bestow conceptual content with a language-like combinatorial structure. In addition, perception lacks the abstractness and context-independence that facilitate the theoretically unbounded recombinative capacities of thought and language. Nonetheless, to grant that perceptual

representations are non-linguistic is not to accept that they have no compositional structure at all. Though lacking the unbounded productivity of thought sufficient for fulfilling the Generality Constraint, perception still satisfies a necessary condition of the Constraint by sharing with thought and language the feature of systematicity, or the ability to entertain semantically related representations through the reordering of their constituent elements.⁵ Jerry Fodor and Zenon Pylyshyn illustrate systematicity in the case of thought and language: "What does it mean to say that thought is systematic? Well, just as you don't find people who can understand the sentence 'John loves the girl' but not the sentence 'the girl loves John,' so too you don't find people who can *think the thought* that John loves the girl but can't think the thought that the girl loves John" (1988: 39).

Yet, as Michela Tacca suggests, we can find similar demonstrations of systematicity within perception as well; for instance, the ability to see a red vertical bar to the left of a green horizontal line entails the ability to see a green vertical bar to the left of a red horizontal line (2011: 6). (Mohan Matthen (2005a: 80) points out that the same sort of entailment should also be evident when we try to mentally reproduce such visual scenes in imagination.) Both of these perceptual representations share the same basic sensory features but differ according to how those features are conjoined, which thus suggests, contra the pictorial model, that perceptual content is compositional in structure. The pictorial account of perception would deny that perceptual content is systematic because, in having a holistic character and failing to have any canonical decomposition, visual representations seem to lack a structure that is constituted by primitive elements. Tacca, however, points to empirical accounts of perceptual processing which have shown how visual representations of objects are in fact constructed through the binding

⁵ It is worth noting that Hanna and Chadha do not ultimately accept the failure to satisfy the Generality Constraint as being a sufficient condition for a content's being essentially non-conceptual; see Hanna & Chadha 2011: 193-5.

together of primitive sensory features that are separately specified by corresponding patterns of neuronal activation (2011: 3-7).⁶ Just as the constituents of sentences or thoughts remain the same as they are syntactically reorganized, the sensory constituents of visual representations remain the same even as they are spatially reorganized—in the example above, the same sense feature *red*, with its attendant pattern of neuronal activation, is present in both visual scenes while being placed at different locations in each scene (Ibid.: 8). What's more, this process of feature binding grants visual representations with a predicative structure that amounts to more than the mere conjunction of sensory elements. Take the previous example of seeing a red bar next to a green line versus seeing a green bar next to a red line: if the visual system just detected the joint occurrence of the features *green*, *red*, *line*, and *bar*, it would be unable to distinguish between these two different scenes. For these scenes to be perceived differently, then, sensory features must be tied to their respective bearers, which is to say that they must be attributed (veridically or non-veridically) to objects. We can thereby consider perceptual content as akin to other sorts of propositional contents in being composed of both referential and descriptive elements; the former are involved in directly picking out an object, while the latter serve to classify that object by identifying the features it possesses (Matthen 2005a: 78). Thus, by virtue of its systematic recombability and predicative structure, perceptual content evinces a type of compositionality that is analogous to the content of thought and language. This commonality in structure between perceptual and higher-order cognitive content may ultimately make it easier to

6 We should clarify that the sort of visual representation that involves feature integration occurs at an intermediate stage in the perceptual process, intermediate in the sense that it follows after an early stage of vision where the presence of sensory features are separately registered, and precedes a later stage of visual object identification and recognition. Perceivers have conscious awareness only of representations formed at the intermediate and late stages of vision. Hence, the kind of perceptual content I defend as being compositional is the kind that is found in conscious visual experience. Scientific accounts of these stages of visual processing, and their relation to visual phenomenology, will be discussed in chapter four.

understand how representational contents can be shared or communicated between the brain's perceptual and cognitive systems (Tacca 2011: 9).

1.4 Perceptual Concept Possession

The propositional nature of perceptual content invites a further comparison with higher-order cognitive content, in that entertaining both forms of propositional content requires grasping the concepts which constitute the proposition. In the case of visual perception, those concepts stand as the variety of low-level and high-level perceptual categories involved in detecting the presence of an object's features through encoding perceived stimuli as belonging to a certain type. This view of perceptual concepts aligns with what Matthen terms the "Sensory Classification Perspective," understood as the conjunction of two major theses defended at length in his work (see Matthen 2005a, 2005b). First, sensory systems operate by sorting and assigning perceived external objects according to classes (the "Sensory Classification Thesis"). Second, the conscious phenomenal appearance of a sensory feature serves to indicate how a sensory system has classified a stimulus as falling under a certain category (the "Sensory Signaling Thesis")—as Matthen explains, "A thing looks blue because once the sensory system has assigned it to that colour-class, it signals that it has done so by tagging it with a blue 'look'" (2008: 392-3). Within this perspective on perceptual content, the sensory features which figure in the phenomenal appearance of a perceptual representation are considered to be concepts that are fundamentally similar to the concepts found in the propositional content of sentences. As Matthen writes, "Like the concepts that we use in linguistic communication, sense-features have extension. Blue is repeatable; more than one thing can visually seem to be blue; more than one thing can seem visually to be any given shade of blue" (2005a: 80).

Of course, though sensory concepts resemble linguistic concepts in the way they figure as constituents of compositional/propositional content, perceptual content is not identical with linguistic content. Likewise, the criteria for possessing perceptual concepts will both parallel and diverge from the possession conditions of linguistic concepts. Matthen suggests that a perceiver could be said to visually grasp a sensory feature if its response to that feature can be subjected to operant conditioning, whereby a perceiver learns to respond to stimuli in a new way through positive or negative reinforcement. In the case of primitive representational systems like thermostats or bacteria, their rigid responses to stimuli cannot be altered by operant conditioning, so that attributing these systems with a grasp of the concepts constituting their representational contents would be superfluous for explaining their rudimentary behavior. Matthen gives an example of what a test of perceptual grasp might look like: "Suppose that some creature – a butterfly, say – is rewarded with sugar-water when it tastes from a yellow dish, but not when it tastes from a blue dish (which contains unflavored water). Suppose that *as a consequence* it comes to try out yellow dishes in preference to blue dishes. Then scientists are inclined to say that it senses the difference between *yellow* and *blue*. They do not draw this conclusion when a creature simply responds differentially to these colours, but only in ways that cannot be modified by operant conditioning" (2005b). We might further suppose that the butterfly would still prefer to try out the water in yellow dishes even if it is now served in dishes of shapes and sizes different from the original. Hence, in developing this sort of novel and flexible behavioral response to perceived stimuli, the butterfly not only demonstrates that it extracts the class or feature *yellow* out of visually available information, but also that it retains a memory-trace of the feature which modifies its responses to subsequently encountered yellow things (Ibid.).

Matthen's account of perceptual grasp in terms of the identification and retention of sensory features tallies well with the account of perceptual concepts proposed by Albert Newen and Andreas Bartels. Responding to the disparate and largely skeptical literature on whether animal minds possess concepts, they offer necessary and sufficient conditions for the attribution of concepts to animals who display a minimal level of behavioral complexity. They write, "Conceptual representation systems must have at least three features: (1) the capacity to identify and reidentify objects and properties, (2) the (relative) independence of stimuli, and (3) the fact that an adequate level of abstraction is involved in the classification (a classification that is not only based on the simple stimulus generalization, which is characteristic of nonconceptual representations, but involves class formation). This implies the existence of minimal semantic nets" (2007: 295). To explain each feature in turn: Concepts enable the identification and re-identification of objects through the classification of them as having a certain property. Two conditions need to hold if a perceiver is to identify an object under the certain concept, such as *red*: first, a perceiver must be able to represent the same property of redness across different instantiations of red, and second, a perceiver must represent an object as having properties other than redness. If the former condition is not satisfied and the perceiver can only recognize the redness of only one kind of object, then it could not be said to perceptually grasp *red* as such, or classify things as being red. The latter condition is necessary to distinguish identification under a concept from the mere detection of a feature, and conceptual classification from simple stimulus generalization. A rudimentary device that simply differentiates between the presence and absence of red light displays a capacity for stimulus generalization, or discrimination that is responsive to a single basic stimulus—yet, the function of this device can be explained without assuming that it possesses any concepts (Ibid.: 286-7). To surpass mere stimulus generalization

of a single property, a perceiver must be able to perceptually identify an object as having more than one property, which further suggests that their perceptual representations can have a systematic, compositional structure characteristic of conceptual content.

Relative stimulus independence requires that a perceiver's responses are not rigidly tied to one kind of stimulus; rather, it is possible for many different stimuli to produce the same behavior. The necessity of stimulus independence is meant to capture the intuition that "a conceptual representation can be used in a novel situation with a variety of stimuli" (Ibid.: 297). (The sort of stimulus independence typical of perception-based conceptual representations is qualified as "relative" to contrast it with the "strong" stimulus independence—i.e., the indefinite recombining and productivity—of higher-order thought (Ibid.: 298-9)). Newen and Bartels suggest that the behavioral flexibility which relative stimulus independence makes possible can be discerned through testing whether a neutral stimulus or cue can trigger a response that evinces the perceiver's identification of a certain perceptual feature; for instance, an animal could respond correctly to a stimulus that cues the selection of a red object from amongst a group of variously colored objects. The notion of a minimal semantic net expresses the intuition that conceptual categories are at least partly interconnected, so that understanding the intensional features of some concept will involve understanding a minimal set of other concepts. For instance, having a concept of red would require that one could also represent some other contrastive color. In addition, red would have to be perceptually grasped as being an instance of the category *color*, as opposed to other determinable categories such as *shape*, *material*, and *location*. A perceiver could be tested as to whether it recognizes the similarity or dissimilarity of a certain feature with respect to a certain determinable category (Ibid.: 297).

Finally, in contrast to those theories which link concept possession with linguistic mastery, Newen and Bartels specify that each of the proposed criteria for perception-based conceptual representations can be satisfied in the absence of linguistic competence or the use of linguistic symbols. Accordingly, they write, "Theories of perception-based concepts can explain a level of representation that is more elaborate than perceptual discriminations and more basic than language(-like) representations" (Ibid.: 302). To be sure, there is a great deal of empirical research that establishes close links between linguistic competence and what perceptual psychologists refer to as categorical perception, i.e., the phenomenon whereby the categories possessed by a perceiver influences perceptual discriminations towards heightening (and processing faster) the differences between objects belonging to different categories, and diminishing the differences between objects of the same category.⁷ Several studies have shown the categories bestowed by the vocabulary of one's own native language as affecting how we perceptually categorize objects. Indeed, cross-linguistic differences in vocabularies have been found in some cases to cause differences in color perception. For instance, Winawer et al (2007) notably found that speakers of Russian, who express the color category of blue by using two basic color terms for either light blue or dark blue shades, were faster than English speakers in discerning the difference between dark and light shades of blue, and slower in matching shades of blue that both fell under the one of the two lexical categories. For English speakers, all the shades were classifiable under a single term "blue," and so they did not display the same categorization effects.

⁷ Goldstone & Hendrickson (2009) give some illustrations of categorical perception. For instance, our perception of rainbows is a striking example of categorical visual perception. Color categorization in visual processing is responsible for why we perceive rainbows as distinct bands of color even though the frequencies of light present in the rainbow vary smoothly from top to bottom. Further examples can be found in speech perception, where the phoneme categories of a listener's natural language can greatly increase or decrease the ability to discriminate the physical differences between two speech sounds.

Nonetheless, there is also evidence of categorical perception effects that emerge from categories which are not associated with verbal labels, and which occur without recruiting language-processing areas. Different studies have detected the presence of categorical color perception in non-linguistic infants and non-human animals, while others have found that, for human adults, the left hemisphere's propensity for perceptual categorization may underlie both language-driven and language-independent categorical processing (see Holmes & Wolff 2012; Collins & Olson 2014 for further discussion). It seems, then, that categorization is a fundamentally perceptual activity, and retains its perceptual character even as it is recruited and shaped by the subsequent acquisition of linguistic concepts.

1.5 Conclusion

In this chapter, I have argued for two basic claims. First, perceptual contents can be conceptually structured without being linguistically structured. Second, the possession conditions for perceptual concepts are different than the conditions for possessing lexical concepts. These claims are at the core of the revised conceptualism being defended in this dissertation. The second claim differentiates my account from both overly and insufficiently restrictive accounts of concept possession, while the first claim sets the account against essentialist forms of content non-conceptualism. We have seen why state non-conceptualism ultimately must resort to the content view, and why the content view ought to be cast in essentialist terms. With the lines of the debate thus drawn, a revised conceptualism stands to give a more plausible explanation of how perceptual representations can be both non-linguistic and conceptual in nature, and how perception grounds the intelligent behavior of human and non-human perceivers alike.

In the next chapter, I will show how thinkers in the Nyāya tradition of classical Indian philosophy also came to acknowledge the possibility that perceptual states can be concept-laden and non-linguistic. These thinkers further suggested that concept-laden perceptual states arise through the joint activity of attention and memory, a view which I incorporate into my revised conceptualist account in order to later establish in subsequent chapters the links between concepts, attention, and the contents of conscious visual experience.

Chapter 2

Language and Concept-Laden Perception in Classical Indian Philosophy

In this chapter, I will examine the precedent for my revised version of conceptualism which was set especially by the theories of non-conceptual and concept-laden perception found in the Nyāya tradition of Indian philosophy. More than a thousand years before coming into scrutiny by philosophers and psychologists in the West, the existence and nature of non-conceptual content were subjects of sustained debate among the various schools of classical Indian philosophy. Underlying both Indian and contemporary philosophical perspectives on non-conceptual content is a shared preoccupation with questions relevant to our discussion of language, concepts, and perception: Is linguistic understanding an essential element of conceptual cognition, so much so that they are equivalent? Are linguistic and/or conceptual categories able to adequately capture the content of perception, or is that content ultimately ineffable? Could linguistic/conceptual capacities play any causal role in the generation of perceptual content? If so, would it be possible for non-linguistic and linguistically competent perceivers to share the same perceptual content? A survey of some of the answers given by Indian philosophers will be instructive for a number of reasons. As I will show, Nyāya philosophers developed an account of non-linguistic and concept-laden perceptual cognitions that anticipates in many respects the revised conceptualism I am advocating here. While many classical Indian philosophers, together with many modern analytic philosophers, view concept possession as entailing a cognitive grasp and linguistic mastery of a concept's semantic value, the Nyāya tradition—along with certain Buddhist philosophers—eventually came to articulate a naturalistic account of concept possession which prioritized the employment of attention- and memory-based capacities involved in generating conceptually structured perceptual cognitions.

I will also show how the Nyāya understanding of non-conceptual content started to evolve from a basic state view—according to which perception is non-conceptual if a perceiver does not possess a verbal label for a perceived object—to a sophisticated content view that takes non-conceptual states to not only have a different kind of intentional structure than concept-laden states. While the very first Nyāya thinkers, or Naiyāyikas, implicitly recognized that perceptual content could be both non-verbal and predicative, it was not until later in the tradition that linguistic structure was more clearly differentiated from predicative or qualificative structure. Predicative perceptual content is in principle linguistically expressible without being reducible to linguistic content.

A similar shift takes place for the Nyāya theory of concept possession. In developing the earlier view that knowledge of a word's semantic value is a prerequisite for entertaining concept-laden (i.e., language-laden) perceptual states, authors like Vācaspati Miśra (10th cent.) came to elaborate a complex causal account of the roles that mental factors such as attention and memory play in synthesizing perceptual inputs to form concept-laden, propositionally structured cognitions. Though this causal model was at first intended to show how a perceptual cognition could be associated with a linguistic expression and still retain its sensory character, the abiding acknowledgment by Naiyāyikas that language is not responsible for generating perceptual cognitions led them eventually to extend concept-laden perceptions, and the causal processes underlying their production, to even non-linguistic perceivers. Accordingly, we can view the exercise of attention- and memory-based capacities for perceptual identification as taking the place of linguistic competence in grounding the Nyāya explanation of how a perceiver may come to perceptually grasp sensory features as predicating/qualifying an object.

The concept-laden perceptions postulated by Nyāya are propositional in nature despite the fact that classical Indian philosophy never posited the existence of propositions, i.e., abstract entities which are the bearers of truth values and are shareable across attitudes like belief and doubt. Instead, the basic

unit of analysis for Nyāya logic and epistemology is a cognition, or *jñāna*.¹ In the Nyāya scheme, cognitions are transitory awareness-episodes belonging to a conscious self, and are generated by reliable sources or instrumental causes of knowledge (*pramāṇa*), the four accepted sources of knowledge for Nyāya being perception, inference, testimony, and analogical comparison. Every cognition is intentionally directed towards some object (*viśaya*), and cognitions become veridical cognitions or knowledge (*pramā*) when they accurately represent their objects. More specifically, a cognition corresponds with reality when its qualificative structure matches that of the object—a cognition which presents object *a* as *F* is veridical when *a* is in fact *F*. According to the Navya ("Neo") Nyāya tradition, the basic form of a qualificative cognition (*viśiṣṭajñāna*) is structured into three parts: a qualificand (*viśeṣya*), qualifier (*prakāra*), and the relation between qualifier and qualificand (*saṃsarga*). Each of these three parts of a qualificative cognition is meant to directly pick out a substantive object (*dharmin*), a property possessed by that object (*dharma*), and the relation between the property and object (*sambandha*), respectively.² Qualificative cognitions are linguistically expressible in a sentential form, but key components of the cognition's qualificative structure will go unmentioned in an ordinary sentence (Matilal 1968: 18).³ For instance, the qualificative cognition one has upon seeing a cow could be expressed by the sentence "This is a cow"—or by just the utterance of the single word "cow" (*gaur iti*)—but what the expression does not directly capture is that the cognition itself takes as its objects the particular cow, the general property *cowhood* (*gotva*), and the relation of inherence that binds cowhood to the particular cow. Indeed, it is because the cow is presented to the cognition as being qualified by cowhood that it is seen as being a cow rather than some other sort of

1 See Matilal 1986: ch. 4.2 for a discussion of how the notion of *jñāna* differs from the Western epistemological notion of belief.

2 In chapter two, we will discuss an added element of qualificative content, namely the guises or modes (*avacchedaka*) under which the qualificand, qualifier, and relation may be presented in a cognition.

3 The qualifier-qualified structure of cognitions is logically distinct from the grammatical subject-predicate structure (*uddeśya-vidheya-bhāva*) of sentences, and the topic-comment structure (also understood as *uddeśya-vidheya-bhāva*) of inferential and verbal cognitions—see Matilal 1968: 14 and Shaw 2010.

entity. Hence, although the content of qualificative cognitions is neither identical with linguistic sentences or abstract propositions, it is nonetheless analyzable into the compositional, object-property structure that is typical of propositional content (see also Mohanty 1966: 27-29).

In the remainder of this chapter, we will examine the philosophical context in which early Nyāya thought came to identify qualificative, propositional structure as the defining feature of conceptual cognitions, i.e., *savikalpaka jñāna*, and account for the presence of such structure in the content of perceptual states. But first, I will take a detour through Buddhist theories of concepts, language, and perception, in order to set the context for later developments in Nyāya. The Yogācāra thinkers Dignāga and Dharmakīrti defended a form of essentialist content non-conceptualism which claimed that perceptual contents are non-propositional, pre-predicative, and linguistically inexpressible. Their distinguishing between the contents of non-conceptual and conceptual states would be adopted by subsequent Nyāya thinkers. I will also show how Dignāga and Dharmakīrti departed significantly from the state non-conceptualism of earlier Abhidharma thinkers like Vasubandhu. Though Vasubandhu ultimately could not draw a tenable distinction between non-conceptual and concept-laden states of awareness, he and other Ābhidharmikas gave a more sophisticated account of how attention and memory are involved in pre-linguistically conceptualizing perceptual contents. Later Nyāya thinkers like Vācaspati would take on the idea that perceptions could be pre-linguistic and still conceptually structured by the activity of attention and memory, while also departing from earlier Nyāya views that did not sharply distinguish between non-conceptual and concept-laden states at the level of content.

2.1 Language and Conceptualization in Indian Buddhist Philosophy

Just as Indian philosophers understood cognitions (*jñāna*) to be propositional without positing the existence of abstract propositions, they also took concepts (*vikalpa*) to be involved in propositional thought without considering them to be abstract, mind-independent constituents of thought-contents.

For every school of classical Indian philosophy, concepts are distinctly mental entities, or are tied to distinctly mental processes. Deriving from the verb root *kṛp*, which can mean “to form, fashion, construct, arrange, invent, or imagine,” the words “*vikalpa*” and the related word “*kalpanā*” captured for many these schools the imaginative, constructive, and fabricating nature of mental activity. Accordingly, the earliest sustained discussions of *vikalpa* and *kalpanā* were taken up by Buddhist philosophers; for them, concepts are fictional entities that the mind ignorantly constructs and superimposes onto our direct perceptual experience of reality, perpetuating the mental/linguistic proliferations (*prapañca*) and delusional attachments that are the source of our entrapment in the misery-filled cycle of rebirths (*saṃsāra*). Whereas pure perceptual or meditative awareness puts us into contact with a reality (*paramārtha-sat*) constituted by a dynamic flux of bare, momentary, and utterly unique particulars (*svalakṣaṇa*), conceptual constructions inevitably distort this reality by hypostatizing momentary particulars into persisting objects, and imaginatively attributing to them abstract class-characteristics (*sāmānya-lakṣaṇa*). Given that language traffics in these fictional generalities, concepts and language were thus seen by Buddhists to be integrally related: Conceptualization extracts out of the flux of experience stable referents for language to designate; the designations of language in turn contribute to the reification of these referents by providing categories under which entities are to be classified according to their imagined similarity and dissimilarity with other referents; linguistic classifications drive the further proliferation of mental concepts and discriminative thought that bifurcate the world into those things which do and do not fall under a concept; and these mental concepts, by grounding our identification of particular objects as the kind of thing which may satisfy some practical interest, give rise to intentional actions and obsessive desires that defile the mind (*karma-kleśa*).⁴ Ultimately, linguistic/conceptual constructions proliferate to such a degree that they

4 This condensed picture of the Buddhist model of linguistic conceptualization is drawn from Williams's (1980) synoptic survey of early Abhidharma and Madhyamaka Buddhist accounts. He importantly qualifies this picture: "The vocabulary and stages of the production of conceptual diversification and construction are by no means unambiguous; terms with slightly different nuances of meaning are sometimes used interchangeably and even the orders of occurrence

give rise to a separate level of pseudo-reality, wherein the entities we take to be real in fact owe their existence to our linguistic/conceptual conventions (*prajñapti-sat*).

2.1.1 Dignāga – Perception is Essentially Non-Conceptual, and Concepts are Essentially Linguistic

Since language is deeply involved in the mental construction of propositional cognitions with a predicative object-property structure, and since we do not directly perceive real entities as having such a structure, the Buddhists therefore came to understand the distinction between conception and perception in terms of a distinction between propositional/linguistic cognitions and non-propositional/non-linguistic cognitions. Aptly enough, the laconic definition of perception given in the *Pramāṇasamuccaya* by Dignāga (6th cent. CE), the founding thinker of the Buddhist epistemological tradition, is: "*pratyakṣam kalpanāpoḍham*"—"Perception (*pratyakṣa*) is devoid of conceptualization (*kalpanā*)" (*PS* 1.3c). As for the conceptualization which perceptual cognitions lack, Dignāga claims that *kalpanā* amounts to the "connection of a name, genus, etc. [with a cognized object]" (*nāmajātyādiyojanā*). Dignāga's auto-commentary (*PSV* 1.3d) elaborates this statement by referencing five types of words: arbitrary proper names (*yadṛcchā-śabda*), generic nominal terms (*jāti-śabda*), adjectival trope terms (*guṇa-śabda*), verbal terms (*kriyā-śabda*), and substance terms (*dravya-śabda*). Words of each type are used to linguistically designate an object that appears as qualified or distinguished (*viśiṣṭa*) by the purported denotation of the word. In the case of genus terms, for instance, an object that is qualified by a universal cowness is called "cow" (*gaur iti*); in the case of trope terms, an object that is distinguished by a white color trope is called "white" (*śukla iti*).

However, because Dignāga denied the realist metaphysics of the Nyāya and Vaiśeṣika schools, who considered universals, tropes, actions, and substances to be among the types of real existents to

are reversed. This is principally because we are not dealing with a chronological process of falsification but rather with an unraveling of a complex situation in terms of objective and subjective poles, names for events and names for (pseudo) entities" (26). We will have occasion in chapter four to directly examine the sophisticated causal model of perceptual and conceptual awareness given in later Yogācāra Buddhism.

which our words can refer (*padārtha*), he therefore claimed that words such as names, genus terms, and so on do not actually designate any real entities in the world. Consequently, our use of predicative expressions to identify and refer to objects does not stem from our experience of those objects as actually being qualified or distinguished by universals, tropes, etc., as the realists would have it. Instead, an object is distinguished by nothing more than the non-referring terms themselves (*arthasūnyaiḥ śabdair eva viśiṣṭo 'rtha ucyate*), such that the very act of connecting or applying these terms to an object is what subjects it to conceptual/linguistic predication and classification.

In a later interpretation of Dignāga's definition of *kalpanā*, the Buddhist philosophers Śāntarakṣita and Kamalaśīla (8th cent.) took special efforts to interpret the compound "*nāmajātyādiyojanā*" in such a way that wards off the mistake of understanding the phrase "connection of a name, genus, etc. [with a cognized object]" as implying that, apart from linguistic proper names, there are real, non-linguistic entities like universals, tropes, actions, and substances that can also be connected with an object.⁵ In Śāntarakṣita's final analysis, the definition of *kalpanā* should instead read, "[The connection] of a name [with a cognized object] by means of a genus, etc." (*nāmno jātyādibhiḥ seyam*) (TS 1225cd, 370). That is to say, conceptualization involves the application of a name to an object, where that name can come in the guise of a term for a genus, trope, etc.⁶ Hence, since every act of conceptually attributing a feature to an object is concomitant with the application of a word to that object,⁷ and since such features are not ontologically related in any way to real objects, Śāntarakṣita and Kamalaśīla argued that there there would be no conceptual construction—i.e., no propositionally

5 These efforts by Śāntarakṣita and Kamalaśīla are also directed at squaring Dignāga's definition of *kalpanā* with one of the definitions offered by Dharmakīrti (7th cent.), which takes *kalpanā* to be a "cognition which is characterized by linguistic expression" (*abhilāpinī pratītiḥ kalpanā*) (PVin 1.4).

6 In fact, even proper names themselves are applied in the manner of a genus term. The denotation of a proper name such as "Dittha" is actually the fictional Dittha-hood that the man named Dittha is thought to possess throughout his whole life. Proper names have to be taken as referring to such fictional generalities because they are unable to uniquely capture the real object itself which is different at each moment—cf. TSP 1227, 371: "ye 'pyete ditthādayaḥ śabdā yadrcchāśabdatvena pratītās te ... pratikṣaṇabhedabhinnam asādhāraṇabhedena vastu gamayitum aśaktāḥ...."

7 TS 1233ab, 372: "jātyādiyojanā śabayojanāvyabhicāriṇī"; TSP 1230-1233, 371-2: "... śabdāyojanayā sarvā yojanāvyāptā...."

structured cognition that identifies objects according to their distinguishing features—in the absence of the predicative relation between object and feature that is supplied by language.⁸

2.1.2 Vasubandhu – Non-Linguistic Conceptualization is Inherent to Perceptual Awareness

Yet, Buddhists prior to Dignāga had a more nuanced understanding of conceptualization as not essentially linguistic, acknowledging that conceptualization can be subtly operative even in perceptual experience, and need not coincide with the actual utterance or possession of a linguistic term. Abhidharma Buddhist accounts pointed to *saṃjñā* (Pāli: *saññā*)⁹—one of the four constitutive elements (*skandha*) of the mind—as the faculty responsible for conceptually identifying and categorizing the inputs of sensory and mental consciousness (*viññāna*). Representing the Sarvāstivāda Abhidharma tradition, Vasubandhu (4th cent.) defines *saṃjñā* as consisting in the grasping a sign, or *nimitta*, a notion which the commentator Yaśomitra glosses as a "particular state of an object, such as blueness, the grasping of which amounts to discrimination."¹⁰ That is to say, the discrimination of an object's *nimitta* or characteristic feature enables the object to be distinguished as being in a certain state, and consequently allows us to identify the object through using a verbally expressible predicative judgment.

8 cf. TSP 1230-1233, 371-2: "*jātiguṇakriyādravyaḥkṛtānāyām api kalpanāyām parair abhyupagatāyām nāmayojanaiva kalpanā / tathā hi—jātyādivyavacchinnam vastu nāmaiva viśiṣṭam grhyate, anyathā hi svātantryeṇānekapadārthagrahaṇavadyojanābhāvāt katham kalpanā bhavet, tataśca mūkam eva jagat syāt.*" "Even though conceptualization is admitted by others to be the connection of a genus, trope, action, and substance, conceptualization is just the connection of a name. Accordingly, an object which is distinguished by a genus, etc. is grasped as qualified by a name alone. Otherwise, [if the connection of a genus, etc. with an object were not accepted to be just the connection of a word] then due to the absence of a connection—as with independently grasping several different objects—how would there be any conceptualization? In that case, the world would be dumb." On this last point, Toru Funayama clarifies, "In this context, conception as that which connects a name is a basis to distinguish a variety of things in the world" (1992: 85-86).

9 Whereas the word "*saññā*" as it occurs in the Pāli Nikāyas is often translated as "perception," several scholars have pointed out that the term instead captures the mental functions of recognition and conceptual identification (see Kuan 2008: 13-14). As Rupert Getchin illustrates, "A *saññā* of, say, 'blue' then becomes, not so much a passive awareness of the visual sensation we subsequently agree to call 'blue', but rather the active noting of that sensation, and the recognising it as 'blue'—that is, more or less, the idea of 'blueness'" (1986: 144). Further discussion of *saññā* as a component of all conscious sensory experience can found in Del Toso 2015 and Ganeri 2017.

10 AK 1.14, 10: "*saṃjñā nimittodgrahaṇātmikā*"; AKBV 1.14, 41, : "*nimittam vastuno 'vasthāviśeṣo nīlatvādi tasyodgrahaṇam paricchedaḥ.*" Examples of *nimittas* given by Vasubandhu include "blue, yellow, long, short, female, male, friend, enemy, pleasant, unpleasant, etc." (AKB 1.14, 10).

In speaking of a predicate as an object's sign or characteristic mark, Abhidharma thinkers thus recognized that we form and articulate such judgments on the basis of an object's perceptual appearance¹¹; Williams explains:

The pre-verbalised perception of a blue patch is thus perceived as blue on the basis of an abstraction from a number of individual momentary flashes of blue, which is thereby verbalised not due to the identification of the patch of blue but rather its identification as having blueness, that is, the quality of being blue. The *saṃjñā* 'x (is) blue' does not identify this blue patch as having this particular case of blue but rather verbalises the membership of this blue patch in the class of blue. The *nimitta* is thereby a sign of class membership, and the articulation of a perception is only possible on the basis of class-inclusion. (1980: 16)

For the early Ābhidharmakas, then, it would seem that an object is judged as falling under some class because the object perceptually appears as belonging to that class, and hence that perceptual classification can precede linguistic classification.

In accounting for the pre-verbalized perception of an object as belonging to a class, Vasubandhu held the view that all conscious sensory awareness is accompanied by a rudimentary yet inherent form of conceptualization (*svabhāva-vikalpa*; *AKB* 1.33), which stems from the presence of a weak form of *saṃjñā* in each of the five types of sensory awareness.¹² Vasubandhu identified this inherent conceptualization accompanying all sensory awareness with *vitarka*,¹³ a type of thought (*caitta*) that is concomitant with sensory awareness and responsible for initially directing the mind toward a perceived object.¹⁴ *Vitarka* was standardly described in Sautrāntika and Yogācāra texts as "mental discourse that

11 Cf. the description of *nimitta* in Dhammapāla's commentary on Buddhaghosa's *Visuddhimagga*: "The sign [i.e., *nimitta*] is the mere appearance of formations, as if graspable entities... and which, owing to perception of unity in continuity and mass, it is assumed to be temporarily enduring or permanent" (Ñānamoli 2010: 656, cited in Williams 1980: 16).

12 Cf. Yaśomitra (*AKBV* 1.14, 42): "*na hi pañcavijñānasamprayoginī saṃjñā paṭvī*."

13 *AKB* 1.33, 22: "*svabhāvavikalpo vitarkaḥ*." See Dhammajoti 2007: 105-107 and Jaini 1959: 83-88 for discussion of the differences between Vaibhāṣika and Sautrāntika accounts regarding whether the *vitarka* and *vicāra* which accompany every thought are distinct in kind or only in degree.

14 Among the vivid analogies he uses to illustrate the difference between *vitarka* ("initial thought") and *vicāra* ("sustained thought"), Buddhaghosa compares the application of *vitarka* to sensory awareness with the first striking of a bell, upon

inquires [about an object]";¹⁵ according to one gloss by Sthiramati, that inquiring takes the form of determining, "What is that?"; the mental discourse consists in "narrating" an object.¹⁶ A fuller description of *vitarka* is given by the author of the Vaibhāṣika text *Abhidharmadīpa* (6th cent.): "*Vitarka* is characterized by a grossness of thought; a second name for it is 'conception'; it conceptually discriminates types of *nimitta* belonging to an object; its function is stirred up by the wind of *saṃjñā*; it is the cause of the activity of the five gross sensory awarenesses."¹⁷ In K.L. Dhammajoti's words, *vitarka* evidently causes sensory perception in the sense that "it makes the main contribution in such a rudimentary discrimination as regards the object's appearance (*nimitta*) that constitutes the grasping of an object by a sensory consciousness" (2007: 109). Thus, the picture of *svabhāva-vikalpa* emerging from these descriptions of *vitarka* is that of an inchoate, proto-linguistic classification embedded in perceptual awareness, which serves as a precursor to the outright identification of an object under a name in a verbal judgment.

Vasubandhu (*AKB* 1.33, 22) nonetheless claims that sensory awareness is non-conceptual (*avikalpaka*) despite its concomitance with inherent conceptualization, because apart from the weak presence of *saṃjñā* in perceptual awareness, there is also the absence of two further forms of conceptualization, namely determination (*abhinirūpaṇā-vikalpa*) and recollection (*anusmaraṇa*). These more robust forms of conceptualization specifically belong to mental awareness (*manovijñāna*) not originating from the five sense organs, even though the faculties of understanding (*prajñā*) and memory (*smṛti*) from which they arise are also concomitant with every sensory awareness. Determination is distinguished from its sensory counterpart in virtue of its dependence on language (*nāmāpekṣā*). Understanding or judgment enters into sensory awareness in the form of *vitarka*¹⁸ as a

which arise reverberations of thought that sustain the mind's preoccupation with the object (see Ñānamoli 2010: 136).

15 Cf. *ABKV* 2.33, 57: "*atra pūrvācāryā āhu. vitarkaḥ katamaḥ ...paryeṣako manojalpaḥ....*"

16 *TrBh* 14, 89: "*paryeṣakaḥ kim etad iti nirūpaṇākārapravṛttaḥ jalpo 'rthakathanam.*"

17 *ADV* 2.3.123, 81: "*vitarko nāma cittaudāryalakṣaṇaḥ saṃkalpadvīṭīyanāmā viṣayanimittaprakāravikalpī saṃjñāpavanoddhataṅgavṛttiḥ audārikapañcavijñānakāyapravṛttihetuḥ.*"

18 *AKBV* 1.33, 74: "*cetanāprajñāviśeṣa eva vitarka....*"; "*Vitarka* is a particular instance of volition or understanding."

first indeterminate and generic grasping of an object and its features, whereas *abhinirūpaṇā* amounts to an examination and analysis through which one can determinately identify an object and say, "It is that."¹⁹ As for memory, it in some way enables conceptual determination, given that identifying an object as belonging to a certain class requires mentally pinning down an ultimately momentary object long enough to examine it and compare with other instances of a property that may not be presently perceived. Accordingly, memory is defined by Vasubandhu (*AKB* 2.24, 54) as the retention of a cognitive object (*ālambana-asampramoṣaḥ*). Yet, there is also a dependence of memory on the faculty of understanding (*prajñā*) responsible for perceptual and non-perceptual determination, in virtue of which the same word "*smṛti*" is used by Abhidharma Buddhists to express both the memory of a previously experienced object as well as the practice of mindfulness in meditation, which involves attentively (and/or verbally) taking note of an object just as it is observed.²⁰ These retentive and attentive functions of memory were also thought by Sarvāstivāda-Vaibhāṣika Buddhists to be operative in each moment of sensory awareness; indeed, Saṃghabhadra (4th cent.) argues that the retaining and attentive fixing/noting of a perceived object makes it possible for the mind to subsequently recollect that object.²¹

19 Ibid.: "*kasmād abhinirūpaṇāvikalpa ityucyate. tatra tatrālambane nāmāpekṣayābhipravṛtteḥ. 'rūpaṃ vedanā anityaṃ duḥkham' ityādyabhinirūpaṇācca.*" With *abhinirūpaṇa* occurring at the level of mental awareness, we can understand its function as tied to the operation of *vicāra*—see *ADV* 2.3.123, 81: "*vicārastu cittasaukṣmyalakṣaṇo manovijñānapravṛtṭyanukūlaḥ*"; "*Vicāra* is characterized by a subtlety of thought; it is conducive to the activity of mental consciousness." Paralleling the definition of *vitarka*, *vicāra* is understood as "mental discourse that reflectively examines" (*ABKV* 2.33, 57: "... *pratyavekṣako manojalpaḥ*...." In *TrBh* 14 (p. 89), Sthiramati brings out the recognitional aspect of *vicāra*, stating that it amounts to reflective mental discourse in light of its determining a previously known object through a cognition of the form, "It is that" ("*pratyavekṣako manojalpa eva. 'idaṃ tad' iti pūrvādhigatanirūpaṇāt.*")

20 *AKB* 6.15, 342: "*smṛtir anayopatiṣṭhata iti smṛtyupasthānaṃ prajñā yathādr̥ṣṭasyābhilapanāt.*" "One applies mindfulness by means of this [understanding]—thus, the application of mindfulness is understanding, because of the mental notation/verbal expression of [an object] as it is observed." Vasubandhu gives this explanation of the dependence of *smṛti* on *prajñā* as a contrast to how the Vaibhāṣikas understood *prajñā* to be dependent on *smṛti*. According to them, understanding is the application of mindfulness in the sense that *prajñā* functions with respect to an object through employing the force of *smṛti* ("*smṛtibalādhānavṛttitvāt*"). Yaśomitra clarifies the Vaibhāṣika stance: "If *smṛti* fixes upon a cognitive object then *prajñā* thusly discerns it"; "*yadi hi smṛtir ālambanaṃ dhārāyatyevaṃ prajñā prajānātīti*" (*AKBV* 6.15, 530). For further discussion of how Buddhists variously conceived the relation between *prajñā* and *smṛti*, as well as an investigation into the ambiguous usage of *abhilapana* to mean attentive mental notation and/or verbal expression, see Cox 1992.

21 See Cox 1992: 84.

The same line of thought can be drawn with respect to the presence of conceptual determination and identification (*saṃjñā*) in sensory awareness; as Williams suggests,

The Sarvāstivādin point in talking of a weak *saṃjñā* even in immediate sensual apprehension is that if I apprehend a bare blue patch then inasmuch as the strong *saṃjñā* 'x (is) blue' is possible so in my previous apprehension I must have not only apprehended a blue patch but also somehow known (non-verbally) that *x* is blue. Inasmuch as all cognition must involve some conceptualisation in order for further conceptualisation to take place, so the effective opposition is between verbalisation and non-verbalisation, and not between *saṃjñā* and non-*saṃjñā*.

(1980: 18)

Thus, even with the distinction between non-verbalized and verbalized states providing Vasubandhu and early Sarvāstivāda Ābhidharmakas some basis for distinguishing non-conceptual states from conceptual states, their acknowledgment that conceptual identification plays a role in every instance of perceptual awareness indicates that they could not be offering an account of what we are calling essentially non-conceptual perceptual content, since there would be an overlap in psychological function between perceptual and mental awarenesses given the presence of conceptualization in both. As a result, we should conclude that their defense of non-conceptualism would court the possibility of making the "non-conceptual/conceptual" distinction merely terminological.²²

22 In fact, Vasubandhu (*AKB* 1.33, 22) and Yaśomitra (*AKBV* 1.33, 75) evidently anticipated such a charge, and responded with a linguistic evasion. Despite there being at least one type of conceptualization inherent to each sensory awareness (*svabhāvavikalpa*), sensory awareness is still considered to be non-conceptual (*avikalpaka*) in the same way that a one-legged horse is still called "legless" ("*yathā ekapādako 'śvo 'pādaka iti*"). It is worth noting that the same sort of tactic was also used in the converse manner by the school of Viśiṣṭādvaita Vedānta, which denied the existence of non-conceptual/non-predicative perceptions while nonetheless categorizing some perceptions as being *nirvikalpaka*. According to them, all cognitions have a qualificative structure; even *nirvikalpaka* perceptions identify an object by means of some qualifier or distinguishing characteristic, and so are experienced as taking the form "This is of such a kind" (*idam ittham iti*). Later, after perceiving some more instances of the same kind of object, one can realize that the particular configuration of distinguishing features encountered in one's first *nirvikalpaka* cognition of the object are actually common properties indicative of the object's class character (see *ŚrBh* 1.1.1, 29). That being so, Vedānta Deśika acknowledges the use of the word "non-qualificative" to be a bit of hyperbole, akin to using the word "penniless" to describe someone who is merely not affluent. The Viśiṣṭādvaitin's appropriation of the term "*nirvikalpaka*" is meant to deny the view put forth by other schools that so-called non-conceptual perception must have non-qualificative content. Though, to avoid the looseness of terminology that results from using the privative term "non-conceptual" to refer to cognitions whose lack of conceptualization is just a matter of degree, *nirvikalpaka*

At the same time, we can also appreciate how the early Ābhidharmakas offer a Buddhist alternative to Dignāga's extreme brand of perceptual non-conceptualism. Keeping the complexities of the Abhidharma account in mind allows us to thereby reinterpret a canonical statement found in the Sarvāstivāda text *Vijñānakāya* of Devaśarman (2nd cent. BCE), which was often cited by Buddhists as an authoritative source for their respective views on non-conceptual perception: "The visual consciousness can only apprehend a blue colour (*nīlam*), but not "it is blue" (*no tu nīlam iti*). Mental consciousness can also apprehend a blue colour. [But] so long as it is not yet able to apprehend its name, it cannot apprehend "it is blue". When it can apprehend its name, then it can also apprehend "it is blue."²³ As we have seen, the early Sarvāstivāda Buddhists gave a nuanced account of memory- and attention-based conceptualization operative in sensory awareness. With conceptual identification being present even in non-verbalized perceptual awareness, the appropriation of this statement by Dignāga and his followers in support of their definition of perception as devoid of conceptualization should therefore be found unwarranted.²⁴ In so judging, we would be in agreement with the Madhyamaka Buddhist Candrakīrti (7th cent.), who criticized Dignāga for relying on the textual authority of a statement whose original purport he has misinterpreted. According to Candrakīrti, rather than being

perception is instead more precisely defined by Viśiṣṭādvaita Vedānta as a cognition which is produced by the sense organs independently of any memory-traces left by previous cognitions—SS 4.32, 543: "*katham tasya nirvikalpakaśabdavācyaṭvam. vivakṣitavikalpābhāvamātrāt; alpadhane daridravyavahāravat. nanu kalpanābhāvatāratamyāt vyavahārānīyatīḥ syāt; na ca vyavasthāpakam lakṣaṇam dṛśyate; tatrāha tasmāditi. aviśiṣṭaviśayaṃ pratyakṣam nirvikalpakamiti paroktāsambhavādītyarthaḥ. saṃskāranirapekṣedriyajanyā matirnirvikalpeti lakṣaṇasiddhernoḥkadoṣa iti bhāvah.*"

- 23 Translated in Dhammajoti 2008: 108. Cf. *AKBV* 1.33, 74: "*katham avikalpakāḥ ityucyanta iti. cakṣurvijñānasamsargī nīlam vijānāti no tu nīlam iti vacanāt.*" Cf. also *AKB* 3.30, 144, which cites a variant form of the statement in a discussion of the particular type of "contact" (*sparśa*) between an object, a sense-organ, and awareness that accompanies mental consciousness; in the case of mental consciousness, the contact will involve the mind taking a name (*adhivacana*) as its object, or will involve the mind cognizing a perceived object with reference to its name: "*yathoktam 'cakṣurvijñānena nīlam vijānāti no tu nīlam manovijñānena nīlam vijānāti nīlam iti ca vijānāti' iti*". In a discussion of *sparśa*, Poussin (1991: 520 n. 246) cites the canonical statement and parenthetically adds, "One should explain that without doubt one should understand by *cakṣurvijñāna* [in the canonical statement] the *vijñāna* with the *caittas*, *sparśa*, etc., which necessarily accompany it."
- 24 *PSV* 1.3: "*abhidharme 'pyuktam - cakṣurvijñānasamaṅgī nīlam vijānāti no tu nīlam iti....*" Cf. *TSP* 3, 12, where Kamalaśīla takes the apparent inability of visual awareness to know blue by the expression "It is blue" as thereby demonstrating that perception lacks conceptualization, since such an inability stands opposed to a conceptual cognition that is shot through with language: "*tathāhi cakṣurvijñānasamaṅgī nīlam vijānāti no tu nīlam iti.... 'no tu nīlam' ityanena nāmānuviddhārthagrahaṇapratikṣepāt kalpanārahitatvam.*"

introduced for the purpose of describing the defining characteristics of perception, the statement is actually meant to demonstrate the insentient nature (*jaḍatva*) of the five sensory awarenesses (*pañca-indriyavijñāna*).²⁵ To paraphrase the illuminating explanation of Candrakīrti's line of thought given by Mark Siderits (1981: 155), the insentience of sensory awareness refers to the fact that awareness (*vijñāna*) alone is not sufficient for producing a full cognition of an object; rather, every instance of cognition necessarily arises through the cooperation of many mental factors (*caitta*), including conceptual identification (*saṃjñā*).²⁶ Consequently, it would be inappropriate to posit a distinct kind of perceptual cognition which is totally devoid of conceptual identification.

2.1.3 Dhamakīrti – Non-Linguistic Creatures Have Implicitly Linguistic Concepts

As for the Buddhist logicians who followed Dignāga, while they were more clearly positing a form of essentially non-conceptual content in taking perception to be totally devoid of even rudimentary conceptualization and linguistic structure, they also acknowledged the possibility that some conceptual states might also appear to be non-linguistic in nature, particularly those belonging to creatures who display no linguistic mastery or ability for verbalization. In such states, there might not be any explicit application of a name to an object, which is what Dignāga primarily took *kalpanā* to consist in. Therefore, in order to exclude even those seemingly non-linguistic conceptual states from counting as perception, Dharmakīrti offered in his *Nyāyabindu* another definition of *kalpanā*:

"Conceptualization is that awareness in which there is a phenomenal representation which is fit for association with words."²⁷ The commentator Dharmottara (8th cent.) explains that the association with

25 *PP*, 25.17-19: "*caḥsurvijñānasāmaṅgī nīlaṃ jānāti no tu nīlamiti cāgamasya pratyakṣalakṣaṇābhidhānārthasyāprastutatvāt, pañcānāmindriyavijñānānām jaḍatvapratipādatvācca nāgamādapi kalpanāpoḍhasyaiva vijñānasya pratyakṣatvamiti na yuktametāt.*"

26 See *AKB* 2.24, 54 for a list and discussion of the ten mental factors found in every moment of conscious awareness: "*vedanā cetanā saṃjñā cchandaḥ sparśo matiḥ smṛtiḥ / manaskāro 'dhimokṣaśca samādhiḥ sarvacetasi //*" "Feeling, volition, conceptual identification, desire, contact [of sense-organ, object, and awareness], understanding, memory, attention, resolve, and concentration exist in every cognition."

27 *NB* 1.5, 25: "*abhilāpasamsargayogyapratibhāsā pratītiḥ kalpanā*"; cf. Dharmottara's gloss in *NBT* 1.5, 25: "*abhilāpena saṃsargaḥ—abhilāpasamsargaḥ.... abhilāpasamsargāya yogyo 'bhidheyākārābhāso yasyām pratītau sā tathoktā.*" The

words here involves the uniting in a single cognition of a nameable object with a name, with both appearing as part of the cognition's graspable, objective content.²⁸ Yet, in stating that a cognition is conceptual if it simply is "fit" for being associated with words, Dharmakīrti's definition will count as conceptual even those cognitions in which a word and object do not appear as associated; in that case, even a newborn infant (*aharjāta-bālaka*), who obviously has no mastery of language, and is specifically ignorant of the linguistic conventions (*avyutpanna-saṅketa*) that govern how certain words are supposed to signify and name certain objects, could have conceptual cognitions (*NBT* 1.5, 26).

To the question of how we can determine whether a non-linguistic cognition is nonetheless capable of being associated with words, Dharmottara answers by essentially offering the same kinds of criteria for the attribution of conceptual capacities that are proposed by Newen and Bartels: Again, a subject has conceptual representations if it has (1) the capacity to identify and re-identify objects and properties, and if its representations display (2) relative stimulus-independence, as well as (3) an adequate level of classificatory abstraction. Dharmottara's adoption of these criteria is evident in his treatment of the newborn infant example. In the absence of a scientific understanding of infant reflexes, he reasoned that a newborn would not know to stop crying and place its mouth on a breast it is seeing for the first time were it not for a recognition, based on its previous experience in past lives, that this presently perceived breast is identical in kind with that past breast which was a source of

anonymous author of *NBT* (1.5, 25) also asserts that Dharmakīrti's intent in offering a new definition of *kalpanā* was to preserve the strictly perceptual nature of sensory awareness, since previous Vaibhāṣika and early Yogācāra accounts of *kalpanā* attributed conceptualization with a pervasive influence throughout all cognition: "*tathā hi - vaibhāṣikā indriyavijñānaṃ vitarkavicāracaitasikasamprayuktaṃ kalpanāmicchanti. | yogācāramatena ca tathāgatajñānamadvayaṃ muktvā sarvajñānaṃ grāhyagrāhakatvena vikalpitaṃ kalpanā. jātyādisaṃsrṣtaṃ tu manojñānaṃ kalpanetyanye kathayanti. abhilāpetyādinā śabdasaṃsrṣṭasya vikalpasya grahaṇaṃ nāgamapariṣāhitānāmiti darśayati. teṣāṃ grahaṇe satīndriyavijñānasya pratyakṣatvānupapatteḥ.*" "The Vaibhāṣikas accept that sensory awareness is associated with the mental factors of *vitarka* and *vicāra*. According to Yogācāra thought, excepting the Tathāgata's awareness which is non-dual, *kalpanā* amounts to every cognition being divided in terms of grasped and grasper. Others [i.e., Dignāga] explain that *kalpanā* is a mental cognition that is associated with a genus, etc. With the expression 'words' and so on, [Dharmakīrti] shows his acceptance of conception as connected with words, not of the traditional accounts. That is because of the implausibility of sensory awareness's being perceptual if there is an acceptance of those [accounts]." For relevant citations of Vaibhāṣika and Yogācāra texts, see Funayama 1993: 63, n. 49.

28 *NBT* 1.5, 25: "*abhilāpasamsargaḥ—ekasmin jñāne 'bhidheyākārasyābhidhānākāreṇa saha grāhyākāratayā milanam.*"

nourishment.²⁹ For Dharmottara, the infant obviously displays the capacity for re-identifying different instances of the same type of object, where the type in question is also sufficiently abstract—not only is it identifying a previously and presently perceived physical object as being the same, but it would also be abstractly classifying that object as a source of nourishment, or as perhaps having the general property of *iṣṭa-sādhanatā*, i.e., the property of fulfilling what is desired.³⁰ Moreover, the infant's cognition displays stimulus independence: Unlike perceptual content, which is causally fixed according to the presence of a stimulus in the environment, the phenomenal content of a conceptual cognition is not rigidly fixed (*aniyata-pratibhāsa*) to, and hence arises independently of, an immediately present object (*asannihita-viṣaya*). That is because conceptualization involves synthesizing prior and subsequent perceptions of an object, and—especially for believers in the momentariness of reality—previously perceived objects are no longer present.³¹ Though, it is because conceptual representations

29 Later Buddhist texts (e.g., *TSop*, *DhPr*, *MTaBh*) clarify that our knowledge of a non-linguistic infant's conceptual cognitions is based on an inference from an effect (*kārya-hetu*) to its cause. Here, the effect is the infant's intentional activity, e.g., its advancing toward the mother's breast and avoidance of her finger or other body parts which wouldn't provide nourishment. (*TSop*, 278: "*kutaḥ punar bālakasya kalpanā siddheti cet. tatkāryasya pravṛttyādilakṣaṇasya pradārśanāt. tathā hi bālako 'ṅguryādiparihāre stanādaḥ pravartate.*") For any non-linguistic creature, we can infer from their evident behavior of taking desired objects and giving up undesired objects that their action is the effect of a conceptual cognition. (*MTaBh*, 20: "*vikalpakāryād iṣṭāniṣṭopādānaparihārāt. dṛṣṭam cedam kāryam bālamūkādaḥ, ṭpsitārthasvikaraṇam anīpsitārthatyajanaṃ nāma.*") In drawing this conclusion about the infant, we are relying on a general rule that states, "Whatever rule-governed intentional activity there is which belongs to a living being, that activity is preceded by conceptual cognition"; this rule is exemplified by the intentional activity of linguistically competent agents, whose motivating cognitions would presumably be more obviously associated with linguistic expression. (*DhPr*, 49: "*yā niyamavaṭī pravṛtṭiḥ kvacitprāṇināḥ, sā vikalpapūrvikāḥ. yathā vyutpannasanketavyavahārasya annādiviṣayā pravṛtṭiḥ. niyamavaṭī ca taditaraparihāreṇa stanādaḥ pravṛtṭir bālakasyeti kāryahetuḥ.*")

30 Newen and Bartels's point that sufficiently abstract classification entails the presence of a minimal semantic net, i.e., an understanding that the intensional features of conceptual categories are connected with the features of other categories, could be congruent with the Buddhist theory of concept formation as exclusion of others, or *anyāpoha*. We will review some of the details of this complex theory in chapter four, but the basic idea is that our concepts pick out objects like cows not by capturing some real common property like cowhood. Rather, individual cows are classed together through a mental act of excluding everything other than what are not those cows; they are thus conceptually represented as "not non-cows." In that case, we could perhaps say that our concepts would be intensionally interconnected in terms of the networks of exclusion they cast in relation to each other.

31 *NBT* 1.5, 27: "*pūrvadrṣṭāparadrṣṭam cārthamekīkurvad vijñānamasannihitaviṣayam, pūrvadrṣṭasya asannihitavāt. asannihitaviṣayam cārthanirapekṣam. anapekṣam ca pratibhāsaniyamahetor abhāvād aniyatapratibhāsam. tādrṣam cābhilāpasamsargayogyam.*" "A cognition which unites what is previously and subsequently perceived into one object has as its content what is not present, because what is previously perceived is not present. A cognition which has what is not present as its content does not depend on an object. Due to the absence of a cause for the restriction of its phenomenal content, the independent cognition has a phenomenal content which is unrestricted [by any presently perceived object]. Such a cognition is fit for association with words."

are not rigidly fixed to a perceived object that a creature can respond to a stimulus by undertaking some intentional activity.³²

Still, having granting that non-linguistic creatures can have conceptual cognitions in the absence of any overt linguistic competence, Yogācāra Buddhists nonetheless reverted back to their belief that conceptualization and language are inseparably related, leading them to claim that even the linguistically innocent conceptualization of infants must be linguistic in both nature and origin. Evidently for Śāntarakṣita, to say that a conceptual cognition is merely capable of being associated with words did not thereby imply that there are conceptual cognitions which are not actually characterized by any connection with words. According to him, "That [cognition] which is fit for the connection of a word with an object, even when there is no usage of words in the form of 'tree' etc., arises as if accompanied with linguistic expression."³³ He further makes clear that conceptual cognition does not exist prior to a connection with linguistic expression, as though there is first a non-linguistic cognition with conceptual content that then gives rise to linguistic expression.³⁴ The cognition of a linguistic

32 Indeed, the Yogācāra Buddhists presume that all intentional activity (*pravṛtti*) is preceded by conceptualization, and specifically by a conceptual process of "determination" (*adhyavasāya*). Briefly, the Buddhists will claim that conceptualization necessarily precedes intentional action for two basic reasons. First, given the theory of momentariness, the object one perceives and then desires to obtain will not exist at the time one actually obtains it; hence, in order to motivate a practical effort towards obtaining an object which, strictly speaking, will not exist by the time one acts, conceptualization is needed to establish a continuity between the object perceived in the present and the object to be obtained in the future. Second, while Yogācāra Buddhists supported idealism and denied the existence of external objects, they admitted that no ordinary person would ever be practically motivated to act if a desired object were known to exist only as an internal image in the mind. Hence, conceptualization motivates action by also superimposing an external appearance onto that which only has a mental existence. For further discussion of how the Buddhists understood the relation between conceptualization and action, see Dunne 2004: 298-309, McCrear & Patil 2006, Patil 2009: ch. 5, and McAllister 2011.

33 *TS* 1215, 367: "*śabdārthaghaṭanāyogyā vrkṣa ityādirūpataḥ / yā vācāmaprayoge 'pi sābhilāpeva jāyate //*" Having accepted in *TS* 1214 Dharmakīrti's concise definition of *kalpanā* as *abhilāpinī pratītiḥ*, Śāntarakṣita seems in this verse to be alluding to Dharmakīrti's other definition of *kalpanā* as *abhilāpasamsargayogya-pratibhāsā pratītiḥ*. Śāntarakṣita could thus be understood here as establishing not only the compatibility of the two definitions, but also the primacy of the concise definition over the expanded definition.

34 *TS* 1214b-d, 366: "... *abhilāpinī pratītiḥ kalpanā klptihetutvādātmikā na tu.*" "*Kalpanā* is a cognition characterized by linguistic expression, but it does not have the nature of being the cause of verbal expression, etcetera." The translation of *klpti* as "verbal expression" follows Funayama (1993: 62), who himself is following Kamalaśīla's gloss of *klpti* as meaning *vyapadeśa*, or verbal designation, while noting that the precise meaning of the term is uncertain; see *Ibid.*, n. 46. Kamalaśīla (*TSP* 1214, 366-7) explains that the word "etc." is intended to include the Abhidharma notions of *vitarka* and *vicāra*, as well as the early Yogācāra notion of conceptualization as generating a subject-object dualism, his point being that the new definition of *kalpanā* offered by Dharmakīrti ought not to be associated with previous Buddhist accounts.

designation (*vyapadeśa*) would be causally dependent on the presence of predicable attributes such as a universal or trope quality, etc.; but since no such attributes actually exist, their presence in the content of a conceptual cognition must itself be a product of linguistic designation.³⁵ When it comes to newborn infants, then, the conceptual cognitions that we infer them to have on the basis of their skillful intentional behavior must ultimately be tied to language as well.

In fact, although the Buddhists on the one hand could be seen as proposing a theory of innate concepts which precede the later acquisition of fully linguistic/conceptual abilities, they nonetheless took those conceptual cognitions which are present at the time of the infant's birth to originate from, rather than simply precede, an acquaintance with language; that is to say, infant conceptualization arises due to the persistence of memory traces produced by the repeated acquaintance with words and their referents in previous lives.³⁶ In explaining Śāntarakṣita's statement that even the rule-governed activity (*iti-kartavyatā*) of an infant is due to the conceptualization which stems from these memory traces, Kamalaśīla approvingly cites the view of Bhartṛhari, a 5th century linguistic theorist and member of the so-called "Grammarians" school (*vaiyākaraṇa/sābdika*), who took all purposive action (*artha-kriyā*) to be based in language.³⁷ Having specified the linguistic origin of infant conceptualization, Kamalaśīla then goes on to describe the linguistic character of its content:

"Manifesting an object which exists only internally as if it were external, and which is distinguished by

35 TSP 1214d, 367: "*klptihetutvaṃ jātyādīnāmiti boddhavyam, yato jātyādiviśeṣam antareṇa na vyapadeśo 'sti.*" Kamalaśīla is apparently responding to those Buddhists who might have taken Dignāga's definition of *kalpanā* as *nāmajātyādiyojanā* to imply that aside from proper names, there are real universals, tropes, events, and substances whose predication to objects by conceptual cognition would serve to cause subsequent linguistic expression (*klpti-hetu*). (Cf. DhPr, 47: "*yadi jātyādiyojanātmikā kalpanā. sā jātyādyabhāvādeva na sambhavati.*") This would be another erroneous Buddhist understanding of *kalpanā* in addition to the Abhidharma and Yogācāra views suggested by the term "etc." in Śāntarakṣita's verse. Śāntarakṣita and Kamalaśīla seem to address those Buddhist realists about universals in TS(P) 1219-1221; see Funayama 1993: 70-76, and Franco 1984.

36 TS 1216, 367: "*atītabhavanāmārthabhāvanāvāsanānvayāt / sadyojāto 'pi yadyogāditikartavyatāpaṭuḥ //*"; see Kamalaśīla's gloss in TSP, Ibid.

37 VP 1.113, 187: "*itikartavyatā loke sarvā śabdavyapāśrayā / yāṃ pūrvāhitasaṃskāro bālo 'pi pratipadyate //*" See also Bhartṛhari's *Vṛtti* (Ibid., 186-7): "*samāviṣṭavācām ca svajātiṣu bālānāmapi pūrvāśabdāveśabhāvanāsaṃskārādhanāntāsu tāsvarthakriyāsvanākhyeyaśabdānibandhanā pratipattirutpadyate.*" "Knowledge regarding purposive actions, which is based on incommunicable words, arises also on the part of infants who are endowed with the language of their own species, due to their possession of memory traces of a past endowment with words."

a sound that takes the form of faint syllables, that conceptualization arises also for newborn infants, by means of which they later become competent for grasping linguistic conventions."³⁸ Finally, if we can establish the deep connection between conceptualization and language at the level of infant cognition, then the existence of such a connection should be all the more evident when it comes to our own cognition; as Śāntarakṣita claims, "It is impossible to deny that the conceptualization which is clearly made known at the time of thought, imagination, etc., is as if shot through with words."³⁹ In speaking of conceptual cognitions as "shot through" or "penetrated" (*anuviddha*) by words, Śāntarakṣita is directly quoting a well-known verse by Bhartṛhari that encapsulated the Grammarian's account of language as being operative in all cognition: "There is no awareness in the world which is devoid of a connection with language; all cognition appears as if shot through with language."⁴⁰ Of course, given their account of direct perceptual awareness as being free from the fictional abstractions of language, the Buddhists would dispute the universal scope of Bhartṛhari's claim.⁴¹

2.2 Classical Nyāya Views on the Non-Linguistic Nature of Perception

2.2.1 Vātsyāyana – All Perception is Non-linguistic (Avyapadeśya)

Nyāya thinkers also took exception to Bhartṛhari's view of language as permeating all cognition; we can trace their opposition to such a view back to how perception is defined as a reliable source of

38 TSP 1216, 367: "sā punaḥ sanmūrchetākṣarākāradhvaniviśiṣṭam antarmātrāvīparivartinam artham bahirivādarśayanti teṣāṃ samupajāyate, yayā paścātsaṅketagrahaṇakuśalā bhavanti." See also TSop 278.4-6.

39 TS 1217, 368: "cintopprekṣādikāle ca viśpaṣṭaṃ yā pravedyate / anuviddheva sā śabdair apahnotuṃ na śakyate // "

40 VP 115, 188: "na so 'sti pratyayo loke yaḥ śabdānugamādrte / anuviddhamiva jñānaṃ sarvaṃ śabdena bhāsate // " For more on the complex relation between Bhartṛhari and the development of the Buddhist epistemological school, see Herzberger 1986

41 Cf. *MTaBh*, 21-2: "ata evoktam 'śābyāṃ buddhāvarthasya pratyakṣa iva pratibhāsābhāvāt nāsti kalpanāyāḥ arthasākṣātkāritvam' iti etena yaduktam pareṇa ['na so 'sti....'] tannirastam. tathā hi—ghaṭe purovartini uccāryamāṇe tatsamīpavartibhūtalādijñānam uccāraṇarahitam anubhūyata eva. na ca tathā tatra śabdānugato 'sti.'" "So it is said, 'Conceptual cognition does not have the property of producing a direct awareness of an object, since in a linguistic cognition, there is no phenomenal representation of an object like there is in perception [which does produce a direct awareness of an object]'; therefore, what said by another [i.e., the above cited verse by Bhartṛhari]... is rejected. For example, When [the word 'pot'] is being uttered in the presence of a pot, a cognition of the nearby ground etc. that is free from the utterance [of words such as 'ground'] is still experienced. And so in that case, there is no association with language."

knowledge in the root text of the tradition, the *Nyāyasūtra* of Gautama (2nd cent.): "Perception is a cognition which is produced from the contact of a sense-organ with an object, and which is non-linguistic, non-erroneous, and determinate in nature."⁴² Of central importance for our discussion is how the tradition variously understood the qualifier "non-linguistic," or *avyapadeśya*, which can also be literally translated as "not to be linguistically designated." Vātsyāyana (5th cent.), author of the primary commentary on the *Nyāyasūtra*, explains that the inclusion of the term "*avyapadeśya*" in the sūtra's definition of perception is meant to deny the thesis that our ability to verbalize a perceptual cognition implies the linguistic nature of perceptual cognition itself. He fashions the proponent of such a thesis as reasoning in the following way: As many objects as there are, there are names for them; it is by means of these names that there is a clear notion of an object (*artha-sampratyaya*),⁴³ and it is due to this notion of an object that we can use words to express it. Now, we find that even our cognition of a sensory object is accompanied by the name of that object; for instance, cognitions of sensory qualities like color and smell take the verbal form "This is a color" (*rūpam iti*), or "This is a taste" (*rasa iti*). And since objects are cognized in association with their names, we are further able to use those names to speak about and designate the cognitions themselves; that is, in verbally reporting that one is aware of some object, one would indicate that awareness through employing the words that designate the object of that awareness. In the same way that we have a clear notion of an object through its association with words, then, we may get a clear notion of the awareness itself through its association with a name, such that the awareness can be linguistically designated and communicated to others. In sum, we therefore find at every level that our cognition is inseparably associated with language, and is hence verbal in nature (*śabda*).⁴⁴

42 *NS* 1.1.4, 197: "*indriyārthasannikarṣotpannajñānam avyapadeśyam avyabhicāri vyavasāyātmakam pratyakṣam.*"

43 Cf. *MBh* 14, 5: "*yenocāritena sāsnālāṅgūlakakudakhuraviṣāṇinām sampratyayo bhavati sa śabdaḥ.*"

44 *NBh* 1.1.4, 197-8: "*yāvadārtham vai nāmadheyaśabdāstairarthasampratyayaḥ, arthasampratyayācca vyavahārah. tatredamindriyārthasannikarṣotpannamarthajñānam rūpam iti vā, rasa ityevaṃ vā bhavati, rūparasaśabdāśca viṣayanāmadheyam. tena vyapadiśyate jñānam—rūpamiti jānīte, rasa iti jānīte. nāmadheyaśabdena vyapadiśyamānam sat śabdaṃ prasajyate.*"

This Śābdika, pan-linguistic argument as presented by Vātsyāyana is characterized slightly differently in the commentary of Vācaspati Miśra (10th cent.), who points out that the Grammarian is actually making a kind of idealistic argument to establish the identity of objects with their names. We can presumably reconstruct the argument in the following way: If an object and its name were not identical, then we would be aware of an object apart from its name; but no object is ever cognized as separate from its name; so the object must be identical with its name.⁴⁵ The Śābdika draws additional evidence for the identity of name and object from the fact that statements of identity in Sanskrit involve putting two nouns into apposition by giving them the same case inflection. Hence, when one says in Sanskrit, "The object is called 'cow'"—"gaur' iti artha iti"—the case agreement in the sentence between the name "cow" (*gauḥ*) and some object being mentioned (*arthaḥ*) signifies that there is a co-referentiality (*sāmānādhikarāṇya*) between the two terms, which is to say that we are speaking of the same thing when the sentence mentions the object and when it mentions the object's name.⁴⁶ This case agreement between name and object also shows that the name is not merely the means by which a distinct object is known. By contrast, we wouldn't expect grammatical agreement when mentioning sensory objects and the sense-organs that are the means of knowing them, since they are obviously not identical; if we were to say in Sanskrit, "He sees the color with his eyes," the words "eyes" and "color" would take different case endings to distinguish their respective roles as instrument and object.⁴⁷ Finally, Vācaspati cites one more argument given by the Grammarian, to the effect that a cognition of an object is enhanced or diminished in clarity depending on the clarity with which an accompanying word is cognized. For example, a musical expert who knows the names of musical notes may be able to more clearly discern the differences between each note in a given musical phrase, whereas a novice

45 *NVT* 1.1.4, 220: "sarve 'rthāḥ sarvathā sarvadā sarvatra nāmadheyānvitāḥ. nāsti so 'rtho yaḥ kadācit kvacit kathañcit nāmadheyena viyujyate. tadanena nāmadheyatādātmyam arthānāṃ pratijñānte.

46 *Ibid.*: "arthā pratīyamānā nāmadheyairupetāstatsāmānādhikarāṇyenāvagamyante gaurityartha aśva ityārtha iti."

47 *Ibid.*: "na copāyatayā sāmānādhikarāṇyaṃ ghaṭate. na hi cakṣurādisāmānādhikarāṇyaṃ rūpādyanubhavati."

listener who doesn't know the names for the notes might only hear a indistinct jumble of sounds. For the Śābdika, then, this specific dependence of object on name is further proof that they are identical.⁴⁸

In thus explaining how the qualifier "*avyapadeśya*" is intended to refute the Grammarian view that even perceptual cognition is linguistic in nature, early Nyāya thinkers came to evince their support for a kind of state non-conceptualism about perception—which, to remind of the arguments given above, is an ultimately untenable form of non-conceptualism and so would not stand as an obstacle to the revised conceptualism I am proposing. This support can also be implicitly found in the views of Vātsyāyāna and Uddyotakara (7th cent.), even though they made no mention of a distinction between non-conceptual and conceptual cognitions. Nor did they give any indication of adopting the controversial position of Vācaspati that the qualifiers "non-linguistic" and "determinate in nature" in Gautama's definition of perception are actually meant to distinguish between two types of perception—non-conceptual (*nirvikalpaka*) and conceptual (*savikalpaka*)—rather than apply equally to all instances of epistemically valid perceptual cognition. Perhaps the distinction between non-conceptual and concept-laden perceptual cognitions was not drawn by Vātsyāyana because, in writing prior to Dignāga's account of perception as strictly non-conceptual, he would not have been impelled to separately defend the existence and epistemic validity of concept-laden perceptual cognitions in the way that post-Dignāga Naiyāyikas were. Nonetheless, Vātsyāyana's treatment of perception as non-linguistic set a precedent for the subsequent development in early Nyāya of state non-conceptualism regarding perceptual cognition. Again, the state view of non-conceptualism holds that a mental state is non-conceptual if a subject's relation to a representational content is not mediated by concepts, which is to say that the occurrence of a non-conceptual state does not depend on whether a subject possesses the concepts relevant for articulating the state's content. Though, since it does not draw the non-

48 Ibid.: "*kiṃ ca gavādiṃ śaḍjādiṣu ca śabdāpakarṣe 'rthapratyayāpakarṣāt tadutkarṣe tvarthapratyayotkarṣāt pratyayasya ca pratyetavyotkarṣādihīnotkarṣatvāt nāmadheyotkarṣeṇārthasyotkarṣaḥ arthasya tādātmyaṃ gamayati.*" Cf. VP 111, 182: "*śaḍjādibhedah śabdena vyākhyāto rūpyate yataḥ / tasmādarthavidhāḥ sarvāḥ śabdamātrāsu niśritāḥ //*", as well as the *Vṛtti* thereon.

conceptual/conceptual distinction at the level of content, the state view thereby allows that the same representational content could be shared between concept-independent and concept-dependent states. For Vātsyāyana, a concept-independent relation to a perceptual cognition would amount to a language-independent relation, in keeping with the general tendency of classical Indian philosophy for equating concept possession with linguistic competence. To characterize perception as being non-linguistic is to therefore claim that perceptual cognitions occur independently of whether one knows the words for what one is seeing. Moreover, even when perceivers do come to grasp the name of a perceived object—a grasp which, contra the Grammarian, is accompanied by the recognition that the object is distinct from its name—their perceptual cognition of the object does not itself differ from the perception they would have had of that object prior to knowing its name.⁴⁹ And so whether one is linguistically competent or not, language is not operative at the time when one perceptually cognizes an object; it is only operative when one communicates that cognition to others.⁵⁰

Yet, although Vātsyāyana's explanation of non-linguistic perception anticipates subsequent developments of Nyāya non-conceptualism, many of those developments are innovations on, and in that sense departs from, his account. For instance, from his statement that the linguistic perceiver's cognition is just like that cognition of an object which belongs to a non-linguistic perceiver ("*tādr̥g eva bhavati*"), we may draw the implication that Vātsyāyana would not have taken there to be any representational or phenomenological difference between their cognitions. Moreover, there is nothing in Vātsyāyana's discussion to suggest that non-linguistic perceptions are non-predicative, or that non-conceptual perceptions play a causal role in generating concept-laden perceptions. Indeed, if each term in the sūtra's definition of perception is to equally apply to all veridical perceptual cognitions, then a non-linguistic perception should also be determinate in nature, which is to say that it should be

49 NBh 1.1.4, 198: "*yadidamanupayukte śabdārthasambandhe arthajñānam, na tat nāmadheyaśabdena vyapadiśyate, gr̥hīte 'pi ca śabdārthasambandhe asyārthasyāyaṃ śabdo nāmadheyamiti. yadā tu so 'rtho gr̥hyate, tadā tatpūrvasmādarthajñānāt na viśiśyate, tat arthavijñānaṃ tādr̥geva bhavati.*" Cf. also NVTṬ 1.1.4, 222-3.

50 NBh 1.1.4, 198: "*tadevamarthajñānakāle sa na samākhyāśabdo vyāpriyate, vyavahārakāle tu vyāpriyate.*"

predicative. Vātsyāyana interprets the term "*vyavasāyātmaka*" as being included in the definition in order to prevent from counting as a veridical perceptual cognition the kind of perceptual doubt (*saṁśaya*) that occurs when one sees something at a distance and wonders, for example, "Is that a person or a post?" Such an uncertain awareness (*anavadhāraṇa*) is also generated by sense-object contact, and yet differs from straightforward instances of misperception or perceptual illusion such as seeing a mirage, which are excluded from veridical perception by the qualifier "non-erroneous." The inability to determinately identify the specific object that one is perceiving is not merely a product of the mind. Instead, one's deliberation regarding the specific identity of the perceived object is preceded by an indeterminacy in the perceptual cognition itself, which would presumably be manifest in the cognition's phenomenological character.⁵¹ This type of perceptual doubt especially arises when one perceives a generic feature of an object—e.g., a certain height and width which would be common to both a person and a post—without perceiving the particular feature that, once known, would allow one to ascertain the object's identity with certainty.⁵² For Vātsyāyana, then, a veridical perceptual cognition that is both non-linguistic and determinate in nature would identify an object through the perception of its general and particular features, without that identification having to come in the form of a verbal judgment. In that case, we thus find in Vātsyāyana a precursor to the revised conceptualism being proposed here.⁵³

2.2.2 Jayanta Bhaṭṭa – Non-Conceptual and Concept-Laden Perceptions Share the Same Contents

The early Naiyāyika who most closely followed Vātsyāyana in advancing a notion of perception

51 Cf. Ibid.: "... *evam indriyeṇānavadhārayan manasā nāvadhārayati. yacca tadindriyānavadhāraṇapūrvakam manasānavadhāraṇam tadviśeṣāpekṣam vimarśamātram saṁśayah....*"

52 See *NBh* 1.1.23, 464.7-11

53 In arguing that the qualifier "*avyapadeśya*" is not alone sufficient for preventing doubt and erroneous misperception from counting as veridical perceptions, Jayanta Bhaṭṭa (*NM* 233) helpfully points out that that since doubt and straightforwardly erroneous cognition (*viparyaya*) also arise from sensory perception, they must also be non-verbal just as veridical perceptions are: "*samyagjñānavat saṁśayaviparyayāvapi śabdollekhaśūnyau saṁvedyete.... samyakpratyayavattasmāt vācakollekhavarjītau / akṣavyāpārajau na staḥ na saṁśayaviparyayau //*"

as both non-linguistic and predicative is Jayanta Bhaṭṭa (9th cent.), whose *Nyāyamañjarī* contains a rich exposition of different competing interpretations of the term "*avyapadeśya*" and its role in the definition of perception. Out of the complex exchange between these interpretations emerges a more clear understanding of where the distinction between non-conceptual and conceptual perception might lie, as well as how both forms of perception can be compatible with the sūtra's definition. To give an abridged summary: The first interpretation of "*avyapadeśya*" that Jayanta surveys is accepted as being attributed to the "elder Naiyāyika," i.e., Vātsyāyana; on this view, the qualifier is meant to exclude cognitions which have become the object of a linguistic expression (*śabda-karmatā-āpanna*) from counting as instances of valid perception. A sensory cognition that has been designated by a name such that one can say, "This is a cognition of color," is at best a byproduct of perception *qua* epistemic process (*pratyakṣa-phala*), rather than itself being the source of perceptual knowledge (*pramāṇa*), which is what is supposed to be captured by the sūtra's definition.⁵⁴ Jayanta eventually settles on this explanation of "*avyapadeśya*" as the being the best available, but he initially admits for the sake of argument that the view faces a problem, namely that cognitions which are generated by a reliable source of knowledge do not lose their epistemic validity just because they become verbally expressed—the Naiyāyikas are not Buddhists in this regard.

A second interpretation of "*avyapadeśya*" is thus introduced, this time attributed to unnamed "teachers" (*ācāryāḥ*).⁵⁵ They take the term to be excluding those cognitions which are produced both from the contact of sense-organs with an object as well as from verbal testimony; an example of such a cognition born from both sources (*ubhayaja-jñāna*) is that knowledge which arises when, while looking at some tree, a child is told by an elder, "This is a breadfruit tree." Though this cognition has a sensory

54 NM 203: "tatra vṛddhanaiyāyikāṣṭāvadācakaṣate—vyapadiśyate iti vyapadeśyaṃ śabdamakarmatāpannaṃ jñānamucyate. yat indriyārthasannikarṣādutpannaṃ sat viśayanāmadheyena vyapadiśyate—rūpajñānaṃ rasajñānamiti, tat vyapadeśyaṃ jñānaṃ pratyakṣaphalaṃ pratyakṣaṃ mā bhūditi avyapadaśyagrahaṇam...."

55 These *ācāryāḥ* are thought to be followers of Adhyayanapāda, alleged author of a now-lost commentary on the *Nyāyavārttika* known as the *Ruciṭikā*. For more discussion, see Marui 2006.

origin since it arises while perceiving the tree, the verbal testimony of the elder is what is primarily responsible for the child's knowledge of the presently perceived object as being the semantic value of the words "breadfruit tree." Because words are here the primary instrument (*karana*) for producing this cognition, the cognition would be considered to be derived from language (*śabda*), and hence would be excluded as an instance of genuinely perceptual cognition by the qualifier "non-linguistic."

At this point, a third camp of "commentators" (*vyākhyātāraḥ*)—later referred to as followers of Pravara (*pravaraḥ*), an author of a lost commentary on the *Nyāyabhāṣya*—steps in to disagree, arguing that there is no good reason for counting this sort of hybrid perceptual/verbal knowledge as exclusively verbal rather than perceptual, in which case the previous explanation of "*avyapadeśya*" as just excluding such hybrid cognitions is no longer tenable. Instead, these commentators claim that "*avyapadeśya*" is included for the sake of warding off a fault of incompatible applicability (*asambhava-doṣa*), or a fault consisting in a definition's failing to apply to any instance of what ought to be defined. As an example, we might say that to define a bachelor as a married man is to commit this fault of *asambhava*, as a married man cannot possibly have the property of being a bachelor. In the case of the Nyāya definition of perception, these commentators allege that if the qualifier "non-linguistic" were left out, then this flaw of incompatible application would befall the definition, because it would thereby be possible to count as genuinely perceptual those cognitions whose contents are linguistically structured and which therefore cannot be said to originate from the sense-organs. The term "*avyapadeśya*" hence excludes all cognitions that can be considered as instances of concept-laden *savikalpaka* perception—a typical example is "This is a cow" (*gaur iti jñāna*)—and not merely hybrid cognitions which are produced just at the time of being verbally taught the name of a perceived object. We can understand these commentators as essentially claiming that a verbally expressed cognition like "This is a cow" actually amounts to saying "This is called 'cow'"; as they put it, the cognition is structured such that its object is explicitly predicated as being the semantic value of a signifying word

(*vācaka-avacchinna-vācya-viṣayatā*). A genuinely perceptual cognition, on the other hand, does not have this sort of linguistically structured content; for one, the eyes literally don't see the name that qualifies the object, and the ears on their own do not hear which object the name is picking out.⁵⁶

Accordingly, given the presence of the qualifier "*avyapadesya*" in the definition of perception, only the cognition which occurs at the first contact of the sense-organ with an object, before a signifying word for the object can be recalled, should be counted as perceptual. At the time of such a non-conceptual perception, no mention of generic words like "This is something" is experienced by anyone, whether linguistically competent or not.

But the Teachers reply that concept-laden perceptual cognitions like "This is a cow" cannot be verbal in nature, and do not present an object as being expressed by a qualifying word. The Commentators are evidently claiming the cognition is verbal because it is both produced by means of a word, and that same word *qua* qualifier appears as part of the objective content of the cognition. But this is a contradiction: If the word is fulfilling the role of an instrument employed in the act of producing the cognition, then the same word cannot also be the patient of that action; that is, the word itself is not grasped again when the cognition is produced and one grasps the word's referent. The word instead is just a means for understanding something other than itself. We would never come to know a word's semantic value if the *savikalpaka* perceptual cognition that shows us the referent were itself verbal, that is, if it had the word as part of its content. If the *savikalpaka* cognition "This is a cow" did have a word as its content, then we would be left to think that the word "cow" is its own semantic value, rather than the perceived cow itself.⁵⁷ So the Teachers propose that the primary instruments for

56 NM 207: "*na hīndriyakaraṇakamidaṃ jñānaṃ bhavitumarhati cakṣuṣo viśeṣaṇāvīṣayatvāt, viśeṣye ca śrotṛasyāsāmarthyāt.*" Nor could both sense-organs make up for each other's respective limitations by functioning together to produce a single audiovisual cognition with a linguistically structured content. According to Nyāya (NS 1.1.16), we do not simultaneously experience cognitions produced by different sense-organs, because the mind (*manas*) attends to sensory inputs in a serial manner; literally, the mind is an atomic substance that makes contact with one sense-organ at a time. So we could not experience a single cognition as arising simultaneously from the auditory and visual sense modalities. (Ibid.: "*na ca yugapadīndriyadvayadvārakam ekamutpadyamānaṃ jñānaṃ kvacit dṛṣṭam.*")

57 NM 214: "*na ca śabdoparakte 'rthe sambandhaṃ buddhyate janaḥ / gośabdavācyaḥ gośabda iti hi grahaṇaṃ bhavet //*"

the production of a *savikalpaka* cognition are still just the sense-organs, which are causally assisted by the memory of a word. That the memory of a word is involved in producing the cognition "This is a cow" does not in any way diminish the perceptual nature of the cognition's content, nor cut it off from its sensory origin—the *savikalpaka* cognition is as much a perception of the cow as the initial *nirvikalpaka* perception that triggered the memory of the word "cow." Since the remembered word does not itself become part of the perceptual content, we should not hold that the content of a *nirvikalpaka* cognition is by nature distinct from that of a *savikalpaka* cognition.

A debate then takes place over the issue of what accounts for the difference between non-conceptual and conceptual cognitions. The Commentators propose that the difference must lie in their having distinct contents; without a distinction at the level of content, there could be no distinction at the level of a cognition's phenomenological appearance.⁵⁸ For instance, given a certain state of affairs in which there is a man holding a staff, it is possible for three sorts of perceptual judgments to occur: One can come to judge, "This is a man who has a staff"; "This is a man"; or, "This is a man and a staff." The first cognition appears differently than the rest because the man is perceived as being qualified by the staff, i.e., he is identified in terms of his possessing a staff, whereas the other cognitions take on the appearance that they do because they aren't structured in terms of a qualifier/qualified or subject/predicate relation. The first cognition's appearance would further be distinct from other cognitions which identify the same man in a different way, such as "This is a man wearing a white robe." Thus, just as the first cognition differs from the others because of its qualificative structure, the *savikalpaka* cognition "This is a cow" appears differently than a *nirvikalpaka* cognition because it cognizes the cow as being qualified or identified by the word "cow."⁵⁹ A *nirvikalpaka* cognition, on the other hand, appears differently than a *savikalpaka* cognition because it does not involve the verbal

58 NM 216: "na hi viṣayātiśayamantareṇa pratibhāsātiśayo bhavitumarhati."

59 Cf. NM 206: "tatra yathā daṇḍīti śukla[?vāsā] iti vā pratyayo viśeṣaṇāvachchinaviśeṣyaviśayatayā sātiśayatvam aśnute, tathā gaurityādipratyayo 'pi vācakāvacchinnavācyaviśayatvāt sātiśayaṃ bhajate."

identification of its content. In response, the Teachers argue that the phenomenological difference between the two cognitions can also stem from the different means by which they are produced, rather than from an essential difference in their contents. Unlike the perception of just the man unspecified by any attributes, the perceptual cognition of the man as being qualified by the staff is produced by a prior cognition of the qualifier—one has to be aware of the staff before one is aware of the man as having the staff. But whether or not they are caused by a prior awareness of a qualifier, our perceptual cognitions take the man himself as their primary object. To extend this reasoning to *savikalpaka* perceptions, the recollection of a name 'cow' is part of the causal conditions that give rise to the awareness appearing in the form, "This is a cow." Whether or not they are preceded by the memory of a name, however, the *savikalpaka* and *nirvikalpaka* cognitions still take the perceived cow as their primary object. The debate thus concludes with the Teachers having the last word—the content of *savikalpaka* cognitions are not linguistically structured, and so do not pose a threat of being incompatible with the definition of perception and the term "*avyapadeśya*."

After again rehearsing the Teachers' claim that "*avyapadeśya*" is intended to exclude hybrid cognitions produced by the sense-organs in conjunction with verbal instruction, a final challenge to the perceptual nature of *savikalpaka* cognitions is given: If such hybrid cognitions are non-perceptual because they are generated by verbal instruction, then the same must be the case for cognitions like "This is a cow," because the judgement that a perceived object is a cow is preceded by a memory of the name that one was taught at the time of learning that this sort of object is to be called "cow"—thus, all verbally expressed *savikalpaka* cognitions must similarly stem from verbal instruction, whether that instruction is presently being heard or is being remembered. No successful rejoinder is offered on the part of the Teachers. But the admission that *savikalpaka* cognitions cannot be perceptual in nature is ultimately not a desired outcome for any Naiyāyika. Indeed, concept-laden perceptions are the "life-breath" of Nyāya philosophy: its metaphysical understanding of the world as structured in terms of real

objects and their properties is vivified, as it were, by the epistemological fact that our predicative perceptions of these objects are directly and correctly representing the structure of the world as it is, rather than concocting such structure out of linguistic fictions.⁶⁰ Moreover, all of the non-perceptual sources of knowledge—*inference, testimony, and analogy*—depend in some crucial way on concept-laden perceptions which identify objects as having certain properties. Hence, because adopting the Teachers' interpretation of "*avyapadeśya*" as excluding hybrid verbal cognitions inevitably leads to a denial that concept-laden perceptions can be perceptual at all, and because such a denial leads to dire consequences for Nyāya philosophy as a whole, the interpretation must be rejected. Even hybrid cognitions should not be counted as being verbal in nature—when one is learning for the first time that a certain perceived object is the referent of some word, one is still perceiving that object all the same.

Though Jayanta claims that the deficiencies of the Teachers' and Commentators⁶¹ respective interpretations of "*avyapadeśya*" leave Vātsyāyana's original view as the most suitable explanation,⁶² he surveys one last interpretation and does not raise any criticisms against it. According to some unnamed "other" scholar (*aparāḥ*), the author of the sūtra uses the term "*avyapadeśya*" to show that concept-laden perceptions like "This is a cow" are also non-linguistic in nature. Four brief reasons are given in support of their being perceptual: First, these perceptual judgments only arise in tandem with the

60 See Chakrabarti 1998: 318-9; 2001: 4.

61 Jayanta explicitly rejects the view of the Commentators/followers of Pravara that all perception is *nirvikalpaka* at NM 232: "*pravara pakṣaḥ pratikṣipta eva, yataḥ śabdānuvedhajātamaḥ pratyakṣamupapāditam.*"

62 Jayanta also claims that Vātsyāyana's position—namely, that "*avyapadeśya*" excludes those cognitions which have become the object of linguistic designation from counting as perceptual sources of knowledge—does better justice to the literal meaning of the term. To the extent that the gerundive suffix in the word "*vyapadeśya*" is being used specifically with a respect to some object that "ought to be linguistically designated," the negative term "*avyapadeśya*" would in that case be referring to some object—here a perceptual cognition *qua* source of knowledge (*pramāṇa*)—which ought not to be linguistically designated; NM 223: "*tatra tāvat karmaṇi kṛtye kṛte vyapadeśyaśabdo yathārthataro bhavati.*" We can thus temper Chakrabarti's (2001: 5) worry that a literal translation of "*avyapadeśya*" as "unmentionable" would make perceptual cognitions ineffable, and thereby flout the general Nyāya view that every existing thing is denotable by words. Jayanta's point (which Chakrabarti acknowledges) is just that the linguistic verbalization of a perceptual cognition is superfluous to its being a reliable source of knowledge; when the cognition is verbalized, then it turns from a source of perceptual knowledge into an object of verbal knowledge. NM 224: "*rūpādiviśayagrahaṇābhīmukhaḥ hi tadakṣajam jñānaḥ pramāṇaḥ phalaḥ vocyate. yadā tu tadeva śabdenocyate rūpajñānaḥ rasajñānamiti, tadā rūpādiviśayagrahaṇavyāpāralabhyāḥ pramāṇatām apahāya śabdakarmatāpattikṛtāḥ prameyatāmevāvalambata iti....*"

operation of the sense-organs; in the absence of functioning eyes, one would generally not be able to have a *savikalpaka* cognition which visually identifies an object in some way. Second, the *savikalpaka* cognition is as phenomenally vivid as a non-conceptual perception. Third, no signifying word appears in the cognition. And fourth, ordinary people would agree that *savikalpaka* judgments are perceptual.⁶³ Finally, to illustrate how *savikalpaka* perceptions remain non-linguistic even though it arises from the recollection of a word, an analogy is given. The causal assistance that the memory of a word provides to the functioning of the sense-organs is akin to that of a lantern; just as a lantern's illumination can help us to see an object without us needing to see the lantern itself, a recalled word can similarly shine light on an object even though the word itself is not the object of perception.⁶⁴

The sum result of Jayanta's discussion is that the qualifier "*avyapadeśya*" must apply to both *nirvikalpaka* and *savikalpaka* perceptions—the latter is non-linguistic even as it is verbalized, because verbalization is ancillary to its perceptual origin and character.⁶⁵ Non-conceptual and concept-laden perceptions are distinct from each other only on account of the different causal conditions that give rise to them—*savikalpaka* cognitions are preceded by a *nirvikalpaka* perception that triggers the memory of a relevant name, whereas a *nirvikalpaka* perception arises at the first moment of sense-object contact. This association with words brought about by memory is the only additional element to concept-laden perceptions; otherwise, *nirvikalpaka* and *savikalpaka* perceptions do not differ in terms of their content or phenomenology. Both cognitions share the same content, in that they perceive real substances and their properties alike. The phenomenological implications of this shared content can be further drawn out in light of the Nyāya view that cognitions are "formless" (*nirākāra*) or transparent. On this view, cognitions do not access objects through an intervening mental image; instead, we instead see "through" the cognition directly to the object itself. Put another way, when one perceptually cognizes

63 NM 224: "*spaṣṭatvāt vācakābhāvāt indriyānuvidhānataḥ / lokasya sammatatvācca pratyakṣamidamiṣyate //*"

64 Ibid.: "*sabdānusmṛtijatve 'pi na śābdaṃ jñānamīdṛśam / sabdasmṛtiḥ sahāyaḥ syāt indriyasya pradīpavat //*"

65 See also NM 256-7.

an object as being blue in color, it is not that one's cognition is itself blue. Since the phenomenal properties of a cognition would be dependent on the cognition's representational content, and the representational content of concept-laden perceptions does not differ from that of non-conceptual perceptions, it should follow that non-conceptual and concept-laden perceptions share the same essential phenomenological character. The *savikalpaka* perception is just as perceptually vivid as the *nirvikalpaka* perception; the former is not a faint copy of the latter, as Buddhists were inclined to think. Another suggestion that this is Jayanta's own conclusion comes at a point in his defense of *savikalpaka* perception against challenges by the Buddhists. He addresses an objection that since conceptual cognitions involving demonstrative perceptual concepts (*idantā-grāhi-vikalpa*) follow after non-conceptual perceptions, the phenomenal vividness with which they appear would just be borrowed from the non-conceptual perceptions. Jayanta answers by pointing out that cognitions have no form apart from their contact with an object, so the vivid phenomenal appearance of the conceptual cognition must be due to its object being directly accessed; the conceptual cognition wouldn't be a mere shadow of a non-conceptual cognition.⁶⁶

2.2.3 Vācaspati Miśra – Non-Conceptual Perceptions Are Non-Propositional

Though the interpretation examined by Jayanta of "*avyapadeśya*" as applying to both non-conceptual and conceptual perceptions seems to accord better with the original intent of the definition in the *Nyāyasūtra*, this interpretation ultimately was not upheld in the Nyāya tradition. Instead, later Naiyāyikas deferred to the account of Vācaspati Miśra, who notably argued that the qualifier "non-linguistic" covered only non-conceptual perceptions, while the term "determinate in nature" only qualified concept-laden perceptions. One of Vācaspati's chief motivations for postulating this internal

66 NM 250: "*na ca nirvikalpapṛṣṭhabhāvitvakṛtameśāmetadrūpam; viśayasamsparśamantareṇa svatassvaccharūpāṇām jñānānāmevamākāratvānupapatteḥ kiṃ nirvikalpapṛṣṭhabhāvitā kariṣyati ? tadanantarabhāvinī hi smṛtirapi kvacidṛśyata eva; na ca sā tacchāyāvati iti durāsāmātrametat.*"

division within the definition was the development among non-Buddhist philosophers of the view that non-conceptual perceptions are phenomenologically distinct from *savikalpaka* cognitions, insofar as the former cognize an object in an indeterminate, inchoate manner. A *nirvikalpaka* perception sees the general and specific properties of an object, but does not clearly disambiguate or identify them; a *savikalpaka* perception, on the other hand, determinately identifies an object as having some attribute, and evinces this identification through the verbalized judgment that accompanies it. Vācaspati's understanding of non-conceptual and conceptualized perceptions had its most immediate precedent in the thought of the Mīmāṃsā philosopher Kumāriḷa Bhaṭṭa (7th cent.). Kumāriḷa claimed that, in the course of perceiving an object, there is first a non-conceptual perceptual cognition which, similar to how infants and other non-linguistic creatures perceive, merely sees a "pure", undifferentiated object. At the non-conceptual stage, one sees just an individual object together its generic (*sāmānya*) and unique (*viśeṣa*) features, but one does not experience those features as being generic or unique.⁶⁷ John Taber explains:

Prior to any determinate, conceptual awareness of an object there occurs a bare awareness, a "mere seeing," of the object, which consists simply in looking at it or otherwise sensing it without yet fully discriminating it. In such an awareness one sees something – indeed, as Kumāriḷa will explain... an object endowed with various properties – but does not explicitly identify its properties nor ascertain its sameness or difference from other objects. One identifies it, for example, neither as a "cow" that is the same as other cows, nor as a "white cow." The object is present, rather, simply as some individual with various features whose relationships to other objects are unclear. (2004: 94)

The identification of a perceived object comes at the stage of conceptualized perception, wherein the object's unique and common identity is determined through an act of conceptual comparison with other

⁶⁷ *ŚVpp* 112-113, 156: "asti hyālocanaññānaṃ prathamam nirvikalpakam / bālamūkādivijñānasadrśam śuddhavastujam // na viśeṣo na sāmānyam tadānīm anubhūyate / tayor ādhārabhūtā tu vyaktir evāvasīyate // "

objects.⁶⁸ Consequently, memory is integral to conceptualization; one needs to retain the perceived features of an object in order to compare them with previously experienced objects. Of course, Kumāriila will defend against the Buddhists the genuinely perceptual nature of such concept-laden cognitions: conceptualized perceptions arise due to the functioning of the sense-organs, even if they are also preceded by the memory of an object's name.

With a phenomenological distinction between non-conceptual and concept-laden perceptions now being more clearly recognized by non-Buddhist philosophers, there needed to be another way to explain their difference other than to suppose that they cognize two different types of objects. The Buddhists could link the distinction between phenomenally vivid perceptions and unclear conceptual cognitions to the causal relations they bear to their respective objects—unique, momentary particulars versus (fictional) general properties—but such an explanation would not be available to the Naiyāyikas, who maintained that *nirvikalpaka* and *savikalpaka* cognitions are causally related to the same sorts of objects. Vācaspati's response was to more directly suggest what had been implicit in previous non-Buddhist accounts like Kumāriila's, namely that the objects of perception are to be distinguished from the manner in which they presented in the representational content of a perception. With this distinction between the object and content of perception, Nyāya began to move away from the basic state view of non-conceptual perception put forth by Vātsyāyana—they no longer held that the same perceptual cognition could be non-conceptual or conceptual depending on whether the perceiver possesses the linguistic concepts that would articulate the perceived object. Rather, a non-conceptual perception is a distinct type of cognition because its content is structured differently than the content of concept-laden perceptions.

In particular, Vācaspati interpreted the non-linguistic/*avyapadeśya* nature of *nirvikalpaka* perceptions in terms of their lacking a qualificative structure. This interpretation is significantly based

68 Cf. *Śypp* 119, 156 which refers to a *nirvikalpajñāna*: "*na hyasādhāraṇatvena paravyāvṛtṭyakalpanāt / viśeṣānugamāklpteḥ sāmānyam iti nāpi tat //*"

on a conceptual and etymological analysis of the term "*avyapadeśya*" used in the sūtra. First, a linguistic designator (*vyapadeśa*) is identified as any kind of qualifying attribute that can be predicated to an object; Vācaspati follows Dignāga in taking such attributes to be names, universals, quality-tropes, actions, and substances. To say these attributes are linguistic designators is just to say that their predication to an object is what allows for verbally articulated propositional expressions like "This is a cow" or "This is white." All *savikalpaka* cognitions engage with their objects by virtue of a qualifier-qualified relation (which, as we will also see for Vācaspati, need not always be verbally expressed). Then, having understood the notion of a linguistic designator in terms of predicable attributes which are not themselves words, Vācaspati identifies the object of such linguistic designation—i.e., what is *vyapadeśya*—as being a qualificandum (*viśeṣya*), i.e., that object which is to be qualified by such predicable attributes. In that case, when the sūtra speaks of a perceptual cognition as *avyapadeśya*, it is referring to that cognition in which an object to be linguistically designated, i.e., predicatively qualified, is absent. Here in Vācaspati's subtle analysis, we catch where he has departed from the interpretations of "*avyapadeśya*" given by Vātsyāyana and Jayanta. In order to respond to the Śābdika argument that the verbal expression of perceptual cognition demonstrates perception's essentially linguistic character, Vātsyāyana understood the term "non-linguistic" as referring to the perceptual cognition itself. In support of Vātsyāyana, Jayanta pointed out that "*avyapadeśya*" is included in the definition of perception *qua* epistemic source of knowledge, because a perceptual cognition which has become an object of a linguistic expression/designation is not itself doing the epistemic work of apprehending a sensory object—instead, perceptual cognitions can furnish us with knowledge without themselves needing to be verbalized.

Vācaspati's interpretation of "*avyapadeśya*," however, more directly addresses the Śābdika belief in the inseparability of object and name by shifting the inexpressibility of perception from the cognition to its objective content. A cognition now counts as non-linguistic when it does not identify an

object as being qualified by some predicable attribute. The objects of a *nirvikalpaka* perception are ontologically the same as a *savikalpaka* perception—both are caused by real universals, tropes, etc. Yet, a *nirvikalpaka* perception presents the qualifying attribute on its own, rather than in a qualificative relation with its bearer.⁶⁹ Even though they are metaphysically related, both a property and property-possessor are represented in a *nirvikalpaka* perception merely by themselves, and not as being a property and a property-possessor respective to each other.⁷⁰ In this way, Vācaspati brought Nyāya closer to a content view of perceptual non-conceptualism—*nirvikalpaka* perceptions are distinct from *savikalpaka* perceptions because they present their objects in a pre-predicative, non-propositional manner.

2.2.4 Concept-Laden Perception Can Be Propositional and Non-Linguistic

However, while Vācaspati argued for restricting the scope of term "non-linguistic" to just *nirvikalpaka* perceptions, he nonetheless suggested that the propositional structure of *savikalpaka* perceptions also need not be linguistically realized, and that *savikalpaka* perceptions do not necessarily owe their propositional structure to the causal involvement of language. Following the Buddhist and non-Buddhist tradition of understanding concept possession in terms of knowing the semantic value of a word, he posited a causally assistive role for the recollection of an object's name in generating a conceptualized perception of that object. In the case of a linguistically competent perceiver, there is first the non-conceptual sensory perception of just an object devoid of any association with its name; then, because of the perceiver's knowledge of that object as being the semantic value of a word, a memory trace (*saṃskāra*) of the word is activated in the perceiver's mind; the activated memory trace

69 *NVT* 1.1.4, 220: "tatra vyapadeśo viśeṣaṇamupalakṣaṇaṃ vā nāmajātyādi, tat karma vyapadeśyaṃ viśeṣyaṃiti yāvat. tadyathā dītho 'yaṃ gaurayaṃ śuklo 'yaṃ kamaṇḍalumānayaṃ gacchatyayamiti sarvaṃ hi savikalpakaṃ viśeṣaṇaviśeṣyabhāvena vastuṣu pravartate. avidyamānaṃ vyapadeśyaṃ yasmiṃstadavyapadeśyaṃ jātyādisvarūpāvagāhi, na tu jātyādīnāṃ mitho viśeṣaṇāviśeṣyabhāvāvagāhīti yāvat."

70 Cf. *Ibid.*, 234: "arthau hi rūparūpibhāvena sthitāvapi nāpātajanmanā jñānena tathā grhītau, api tu svarūpamātreṇa."

then gives rise to a recollective awareness of the word, which would further lead the perceiver to apply that word to the object in a perceptual judgment.⁷¹ Yet, Vācaspati goes on to clarify that linguistic recollection does not ultimately serve a functional role in producing sensory cognitions with conceptual content, since infants and other non-linguistic creatures also have *savikalpaka* perceptions in the evident absence of any prior knowledge and recollection of some linguistic convention.⁷² (In this way, Vācaspati rejected the theory of innate linguistic concepts put forth by the Grammarians and the Buddhists.⁷³) Consequently, he specifies another language-independent type of memory involved in the production of *savikalpaka* perceptions. In order for linguistically competent perceivers to recollect the name of an object, they must first recognize that the object they are perceiving is of the same type as the object they saw at the time of learning its name; only then do they realize that the name they learned applies to the currently perceived object. Thus, sensory concepts are involved in a more fundamental task of recognizing the identity of an object's past and present states. Indeed, it is through figuring in the content of a sense-born conceptual cognition that the past and present states of an object are perceptually manifested as unified.⁷⁴ This more basic form of conceptual recognition and synthesis would presumably be responsible for generating the *savikalpaka* perceptions that belong to non-linguistic creatures. But, whether or not a perceiver knows an object as being the semantic value of a word, the recollection of the object's name is merely incidental to this more primary type of sensory conceptualization.

71 Ibid., 222: "yattu śabdānupāye 'pi jñāne śabdaḥ pūrvam bhavati tadgrhītasāṅketasya prathamam indriyārthasannikarṣādālocanena śabdasaṃsargarahitenālocite 'rthemātre tasyārthabhedasya śabdabhedena sambandhāt śabdaviśayaḥ saṃskāraḥ prabodhyate. prabuddhaḥ śabdasmṛtiṃ janayati."

72 Ibid., 229: "na tvindriyajavikalpotpādam pratyastyupayogaḥ kaścit śabdasmaraṇasya. anyathā bālamūkādīnām nendriyajah syādvikalpaḥ śabdasmaraṇābhāvāt."

73 See Ibid., 222: "na ca teṣāmapī prāghaviyāśabdabhāvanānugamena tatsāmānādhikarāṇyamiti sāmpratam. na khalu rūpādyātmanah śabdasya rūpādivaiśadyenāvaiśadyam sambhavati. yugapad vaiśadyāvaiśadyarūpaviruddhadharmayogena bhedaprasaṅgāt. vaiśadye tu vyutpannavadavyutpanno 'pi śabdaiḥ vyavaharet, na tu sambandhagrahaṇamapekṣeta."

74 See Ibid., 222-3: "sāṅketasamayavartyavasthāsmaraṇam tūpayujyate, vastunastadānīntanēdānīntanāvasthābhedavata ekasyendriyajena vikalpenākalanāt. śabdastu sampātīyāto na niveśayatyātmānam indriyajē vikalpe.... anena hi piṇḍasya pūrvāparāvasthāvartinīmekatāmīndriyajavikalpagocarātvena darśayati nu tu śabdāniveśanam."

To conclude, Vācaspati made two major impacts on the Nyāya theory of perceptual cognition. First, he drew Nyāya closer to a more tenable form of perceptual non-conceptualism, by explaining the distinction between non-conceptual and conceptual perceptions in terms of how their respective representational contents are differently structured. At the same time, the move toward adopting a content view of non-conceptualism also allowed him to advance beyond previous Nyāya accounts of *savikalpaka* perception, because it clarified how predicative structure is more central to the nature of concept-laden cognition than verbal articulation. Vācaspati accordingly added further nuance to the Nyāya account of perceptual concept possession by specifying a language-independent role for memory in perceptually identifying objects.

2.3 Conclusion

This chapter has surveyed how classical Buddhist and Nyāya philosophers variously understood the relation between language, concepts, and perception. For Buddhists, language and conceptualization are inherently disposed to distorting our perceptual experience of the world as it is. Nyāya takes the exact opposite stance – conceptual and linguistic categories can directly map onto the ontological categories of real existents. Nonetheless, I have suggested that there is a common trend in the development of Buddhist and Nyāya views on *nirvikalpaka-pratyakṣa*, from Vasubandhu to Dignāga, and from Vātsyāyana to Vācaspati Mīśra. Earlier Buddhists and Naiyāyikas either explicitly or implicitly assumed some form of state non-conceptualism, according to which a mental state is non-conceptual if a subject does not possess the concepts necessary for articulating that state's representational content. Vasubandhu and Vātsyāyana can both be read as having adopted a state view, insofar as what makes a perceptual state non-conceptual is whether a perceiver employs conceptual capacities needed for forming and expressing a determinate judgment about what one perceives. At the

same time, both thinkers allow that the perceptual state itself is not fundamentally different when experienced by either non-conceptual or concept-possessing perceivers.

Yet, as we saw in Chapter 1, the state view on its own cannot plausibly sustain the distinction between non-conceptual and concept-laden states. Appropriately enough, we find that Buddhists and Naiyāyikas later shifted towards a content view in claiming that non-conceptual and concept-laden states differ in terms of their respective contents. Buddhists after Dignāga believed that perception cognizes a completely different type of object than conceptual states, while Vācaspati and later Naiyāyikas held that, unlike concept-laden perceptions, the contents of non-conceptual perception are not propositionally or predicatively structured. This distinction gets explicitly formalized in Navya Nyāya through the claim that non-conceptual states have a different type of intentional content (*viśayatā*) than conceptual states.

A second shared development emerging from Buddhist and Nyāya debates was a move to ground concept possession upon the possession of memory-traces (*saṃskāra*), rather than on explicitly linguistic capacities. Correctly applying a word to an object requires that one remember previously learned linguistic conventions, as well as the type of object that has been associated with that word in past experience. But memory can also play a similar and more fundamental role in enabling non-linguistic perceptual classification: The capacity for correctly identifying an object under some perceptual category requires that one remember how previously experienced objects were categorized as being of the same type. Present sensory input triggers and then is synthesized with categorical information stored in the memory-traces of past experience; once activated, these memory-traces ultimately contribute to an occurrent perception's predicative content and the identification of a perceived object's category membership. For both Buddhists and Naiyāyikas, memory thus came to play a more fundamental role in the classification of perceived objects than language as such. This more refined, memory-based theory of perceptual concept possession closely anticipates the sort of

revised conceptualism I am advocating in the dissertation. In the next two chapters, I will look to later developments in Nyāya's content view of non-conceptual perception, and its refined memory-based theory of perceptual concepts. To Gaṅgeśa and subsequent philosophers in the Navya Nyāya tradition, Vācaspati's revised account of non-conceptual and concept-laden perceptions did not go far enough in realizing that there is an important connection between the conceptual structure of perceptual contents and the possibility of our experiencing them in conscious visual experience.

Chapter 3

Concepts and Conscious Perceptual Content: A Revised Nyāya/Kantian Approach

3.1 Introduction – Phenomenal Character and Non-Conceptual Perception

What would it be like to have an experience that you could never be aware of? What would be the phenomenological character of a mental state that you could in principle never notice you were having? And most importantly, how could we even find the answers to questions about the phenomenology of such states if we can never introspectively detect their presence? One contemporary set of responses to these questions has been offered by Ned Block (1995, 2007, 2011), by way of famously distinguishing between phenomenal consciousness and access consciousness. To briefly explain, phenomenal consciousness entails that there is a “what-it-is-likeness” to undergo a certain mental state; in other words, a phenomenally conscious state possesses experiential properties that constitute what it is like to be in that state. The phenomenal character of a conscious state can be further divided into two components: qualitative character and subjective character (Kriegel 2009). A phenomenal state's qualitative character is comprised of the sensory properties—i.e., its phenomenal content—that determine what it is like to, say, taste green tea or touch velvet, while the subjective character of a phenomenal state refers to what it is like for me to undergo such experiences from within a first-personal perspective. Phenomenal states may differ from each other in terms of their respective qualitative characters, but they are all thought to share the same subjective character of being “for me”, or what Block calls a property of “me-ishness” (1995: 235), which is common to all phenomenally conscious states.

Access consciousness, on the other hand, is logically distinct from phenomenal consciousness, as it can be explained in purely functional, non-phenomenal terms. According to Block, a mental state is access-conscious when its representational content is available or poised for use by cognitive faculties involved in rational processes of reasoning, speech, and action (Ibid., 231). He links his notion of access consciousness to the Global Workspace theory of consciousness developed by Bernard Baars (1988); on Baars's model, perceptual representations become conscious through being attentionally filtered and selected for “broadcast” to a global storage space of working memory, where they are accessible to cognitive mechanisms responsible for reporting, reasoning, evaluating, deciding, and remembering (Block 2007: 491). However, Block disputes the implication of the Global Workspace theory and similar accounts that representational states are endowed with a conscious phenomenal character just by virtue of their being cognitively accessible. In theory, there need not be anything it is like for a state to be accessed; the state's representational content could be taken up by other cognitive states without itself ever appearing to a subject.

To that end, Block has pointed out cases which are phenomenally conscious without being access-conscious, or cases where there is “phenomenal experience that the subject not only does not know about, but... cannot know about” (Ibid., 498). He provides an intuitive example of one such case:

Suppose you are engaged in intense conversation when suddenly at noon you realize that right outside your window there is—and has been for some time—a deafening pneumatic drill digging up the street. You were aware of the noise all along, but only at

noon are you *consciously* aware of it. That is, you were P-conscious of the noise all along, but at noon you are both P-conscious *and* A-conscious of it. (1995: 234).

Before noon, you were unable to know about your phenomenal awareness of the drill noise because the awareness was unattended, and therefore unavailable to be introspectively reported. Yet, we shouldn't conclude from the fact that an awareness of the noise was unknowable to you at the time that you didn't have that awareness to begin with. Instead, Block argues that your ability to report an impression of having had an awareness of the noise before noon indicates that you must have had a conscious but unattended, unintrospectible experience of the drill noise. Subjective reports of such impressions, when combined with inferences to the best explanation of certain neuroscientific evidence which we won't canvass here, establishes for Block that richly detailed phenomenal states can occur in the absence of attention and cognitive access.

Of special interest is Block's claim that non-conceptual perceptions would be paradigmatic examples of access-independent phenomenal states (2014: 170-2). Block's interest in non-conceptual perception stems from his concern with the so-called "measurement problem," or the problem of distinguishing the neural basis of phenomenal consciousness from the neural basis of cognition. This problem presents itself because our primary means for knowing whether a subject has had a conscious experience is through the report that the subject gives about having that experience or not – but if an experience can be reported, then it must have been globally broadcast for higher-order cognitive processing. The neural correlates of this experience would be tied up with the correlates of cognitive access mechanisms. On the other hand, if we want to detect the neural correlates of phenomenally conscious states, we will need to find a different source of evidence for their existence that doesn't rely upon a subject's introspective reports.

To that end, Block suggests non-conceptual representation as a target for neuroscientific investigations of phenomenal consciousness. He distinguishes non-conceptual and conceptual representations at the level of their contents – non-conceptual contents are intrinsically distinct in structure and function from the conceptual contents. He briefly glosses a concept as “a constituent of a thought or judgment that applies to something,” in the way that the concept “circular” applies to a plate in the judgment, “That plate is circular” (Ibid., 171). Perception on his account is non-conceptual because it doesn't apply concepts to objects: A perceptual representation may pick out an individual plate and the property of circularity, but the representation itself does not assert that the plate is circular, that is, it “does not say that anything is so or is the case” about the plate and its circularity (Ibid.). Such an assertion only arises in the conceptual judgments like “That is circular,” or “That is a circular plate,” which one makes on the basis of the non-conceptual perception. Thus, the content of these judgments are propositionally structured, whereas perceptual content is iconic and non-propositional. As for the functional difference between perceptual and conceptual representations, Block writes that they have distinct computational roles: “percepts are to a first approximation elements in a modular system whereas concepts have a much wider role in thinking, inferring, deciding and the like” (Ibid.). Block argues that since creatures can have conscious perceptual representations independently of their having or exercising any of corresponding conceptual abilities, these non-conceptual representational states would hence count as instances of phenomenal consciousness existing in the absence of cognitive accessibility.

In this chapter, I want to challenge the theoretical links that Block draws between non-conceptual perception and phenomenal consciousness, by examining how the 14th century Navya

Nyāya philosopher Gaṅgeśa and the 18th century German philosopher Immanuel Kant understood the role of concepts in structuring conscious perceptual experience. Both Kant and Gaṅgeśa could agree with Block that there are essentially non-conceptual perceptions, i.e., sensory representations which are pre-predicative and do not classify an object as having some general property. Yet, I argue for a reading of both thinkers according to which they claim that the intentional, object-directed content of conscious perceptual experience must be predicatively and hence conceptually structured; and conversely that essentially non-conceptual perceptions do not have a conscious phenomenal character. I motivate this reading by examining the reasons why both thinkers held that there is no phenomenological evidence for the existence of essentially non-conceptual perceptions, as these perceptions, unlike other conscious representations, can never be apperceived. I propose a revisionary interpretation of their accounts of apperception and perceptual concepts as laying out the causal conditions responsible for integrating perceptual contents into a subject's unified conscious experience. These conditions crucially include the conceptually modulated activity of attention and memory. I conclude that in the absence of the attentional integration of their contents, essentially non-conceptual perceptions would hence fail to take on a phenomenal character of first-personal givenness.

In section 2 of this chapter, I explain how Navya Nyāya distinguishes the contents of non-conceptual and concept-laden states of awareness. Then, to provide context for my interpretation of Gaṅgeśa's stance on the phenomenal character of non-conceptual perception, I discuss the suggestive descriptions of non-conceptual phenomenology offered by Kumāriḷa. Gaṅgeśa, however, denies that it is ever possible to give a first-personal report of what it is like to experience a non-conceptual perception. Gaṅgeśa and later Naiyāyikas further offer two basic

reasons why non-conceptual perceptions can never be apperceived, and are ultimately inaccessible to the faculty of attention. In the final analysis, I suggest that non-conceptual perceptions for Gaṅgeśa ought to be interpreted as being subpersonal, subdoxastic, and ultimately subconscious states.

After considering the merits of Monima Chadha’s Kantian reading of Gaṅgeśa, I move in section 3 to develop a revised conceptualist reading of Kant, one which highlights how Kant more explicitly connects the non-apperceptibility of non-conceptual perception to their lacking a subjective character of first-personal givenness. I then answer objections from non-conceptualist interpretations of Kant from a revised conceptualist framework, according to which the perceptual concepts are capacities for identifying an object through the visual predication and classification of that object's properties. This framework is more consistent with Gaṅgeśa's theory of perceptual concepts, and further ameliorates some of the unwanted consequences that arise from Kant's sharp division between sensibility and understanding. The fifth section concludes with suggestions about how a naturalized Kant-Gaṅgeśa account of perceptual concepts may account for the role of attention and memory making perceptual representations phenomenally accessible.

3.2 Navya Nyāya on the Contents of Non-Conceptual and Concept-Laden Perception

However implausible it was in capturing the original intent of the *Nyāyasūtra*'s definition of perception, Vācaspati Mīśra's innovative interpretation of perception's non-linguistic nature was widely influential for subsequent thinkers of the Nyāya tradition. Later Naiyāyikas not only concurred with Vācaspati's reading of the definition's qualifier “non-linguistic” (*avyapadeśya*) as applying to *nirvikalpaka* perceptions alone—more importantly, they adopted Vācaspati's view

that non-conceptual perception is non-linguistic to the extent that its content is linguistically inexpressible. This linguistic inexpressibility was ultimately taken to be indicative of an essential difference in how the respective intentional contents of non-conceptual and conceptual cognitions are structured. The difference between non-conceptual and conceptualized perceptions no longer hinged merely on whether a perceiver possesses the linguistic competence required for verbalizing the content of a perceptual state. Instead, a perceptual state was considered to be non-conceptual if its content lacked a propositional/predicative structure altogether. Appropriating the view of the Buddhist logician Dignāga, Vācaspati characterized the non-propositional nature of non-conceptual perception in terms of its being free from any association of objects with predicable attributes (*nāma-jātyādi-yojanā-rahita*). In other words, a non-conceptual perception does not identify or categorize an object according to the properties it possesses; the object's properties are not cognized as qualifying, or being predicated to, the object. Being cognized in a pre-predicative or unqualified fashion, the objective content of such a non-conceptual cognition thus cannot be linguistically designated or expressed, especially given that Nyāya semantic theory took the referents of nominal terms to be propertied particulars—on their account, words refer to particular objects through descriptively predicating properties to them (see Ganeri 2011: ch. 3.4). Furthermore, since an object is not cognized by a non-conceptual state in a way that allows for its linguistic designation, the linguistic inexpressibility of non-conceptual content would extend to the non-conceptual state itself; as Vātsyāyana pointed out (*NB* 1.1.4, 198), we speak about our cognitions through naming the objects cognized, so that without designating the latter, we could not communicate the former (Mandal 1987: 130).

Concept-laden perceptual states (*savikalpaka-pratyakṣa*), on the other hand, are amenable to linguistic expression because they are qualificative cognitions (*viśiṣṭa-jñāna*), i.e., they cognize their objects as being qualified by some distinguishing features. The content of *savikalpaka* cognitions hence implies the compositional, object-property structure that we are taking to constitute conceptual/propositional content. Specifically, Navya Nyāya caches out the content of a *savikalpaka* cognition as a structured complex composed of a qualificand (*viśeṣya*), a qualifier (*viśeṣaṇa/prakāra*), and the relational tie between the qualificand and qualifier (*samsarga/vaiśiṣṭya*). Though these same objects may be presented in a *nirvikalpaka* perception, a *savikalpaka* perception takes the extra step of seeing these objects as actually being structured in a predicative relation. For Navya Nyāya, it is in a *savikalpaka* cognition that these three types of object are bestowed with “objecthood” (*viśayatā*), i.e., the property of being an intentional object of cognition. Corresponding to these three types of objects, then, are three ways in which an object can figure in a cognition's intentional content. In a conceptualized perception of a blue pot, for instance, the blue color will be perceptually attributed with the property of being a predicate (*prakāratā*) of the pot; the pot will be seen as being what is predicated/qualified (*viśeṣyatā*) by the blue color; and the metaphysical relation of inherence will be cognized as being what connects or relates (*samsargatā*) the blue color to the pot. B. K. Matilal (1985: 374) accordingly suggests that *savikalpaka* perceptions should be understood as instances of “seeing-as,” insofar as they perceptually identify objects as looking or being a certain way. The word “*prakāra*,” which literally means a sort, kind, way, manner, or mode, is thus aptly used in referring to a perceptual cognition's predicative content—predicating a feature to an object is what distinguishes it as being one sort of thing and not another.

Moreover, Navya Nyāya articulated another level of cognitive identification which is technically distinct from the identification achieved through predication. Like Frege, Navya Nyāya thinkers employed a notion of cognitive senses or modes of presentation that specify the manner in which a cognition picks out an object, in order to account for how two words could share the same extensional referent but have a different intensional meaning, and how a single object could be seen in two different ways (see Ganeri 2011: ch. 5). When it comes to the intentional contents of a qualificative cognition, there can be specifying or delimiting features (*avacchedaka*) that determine how the objective components of the cognition are presented. To see a blue pot as being a blue pot entails that the pot which serves as the qualificand of the blue color is being delimited by a further property of potness which inheres within it—otherwise, if some other property like substancehood is thought to be what specifies the qualificand (*viśeṣyatā/dharmitā-avacchedaka*), then the intentional content of the cognition will change and the object will be perceptually identified as being a blue substance rather than as being a blue pot. Similar specification can take place in a *savikalpaka* cognition for the entities serving as the qualifier and the relational tie. Taken together, these two forms of cognitive identification—i.e., the awareness of an object under the guise of a qualifying predicate, and the further specification of a cognition's intentional contents in terms of delimiting modes of presentation—constitute what Matilal calls Navya Nyāya's “theory of identification of objects through descriptions or information about them” – that is, “I cannot identify an object unless I already possess some information about it” (1986: 350). We will soon explore the Nyāya account of how we come to acquire and possess such identifying information about objects.

As for *nirvikalpaka* cognitions, we can appreciate how Navya Nyāya reformulated Vācaspati's definition of non-conceptual perception in light of its characterization of qualificative cognition. According to the 14th century philosopher Gaṅgeśa, whose *Tattvacintāmaṇi* was considered to be the root text of the Navya Nyāya tradition, to say a cognition lacks a connection with attributes like names, universals, etc. (*nāma-jātyādi-yojanā-rahita*) is to say that it is a cognition in which the relational tie between qualifier and qualificand does not figure (*vaiśiṣṭya-anavagāhin*). That is, the qualifier and qualificand are present in a non-conceptual perception, but they are not seen as being related. Moreover, absent an awareness of such a relation, the two entities that would putatively serve as qualifier and qualificand in a *savikalpaka* cognition would not be seen in a *nirvikalpaka* perception as being a qualifier or a qualificand. Consequently, Gaṅgeśa also characterizes non-conceptual cognition as devoid of predicative content (*niṣprakāraka*)—a non-conceptual cognition fails to endow entities with either the property of being a qualifier or the property of being a qualificand, properties which they come to possess when they become the intentional contents of qualificative cognitions.¹ Though, since the three kinds of intentional objects endemic to conceptual/predicative contents are not found in a non-conceptual cognition, later Naiyāyikas posited that *nirvikalpaka* cognitions have a fourth kind of intentional contenthood (*viśayatā*) distinct from that of *savikalpaka* cognitions, since they could

1 Even though Gaṅgeśa's term "*niṣprakāraka*" literally means "devoid of a predicate/qualifier," the term is understood to imply that the qualificand and relation also are not presented in a non-conceptual cognition under the modes of qualificandhood or relationhood. Cf. *TarSD*, 135: "*niṣprakāarakamiti. viśeṣaṇaviśeṣyasambandhānavagāhi jñānamityarthaḥ*"; *TarSNP*, 136: "*tathā ca jñānatvaghāṭitaṃ viśeṣyatvaśūnyatvam, viśeṣaṇatvaśūnyatvaṃ saṃsargatvaśūnyatvaṃ ceti lakṣaṇatrayaṃ paryavasitamiti bhāvah.*" However, even though *nirvikalpaka* cognitions also do not present a qualificand as being a qualificand, *nirvikalpaka* cognition is still referred to primarily as "devoid of a predicate/qualifier" (*niṣprakāraka*); as Tatacharya explains, this is to specifically show that *nirvikalpaka* perceptions are not themselves caused by a prior cognition of a qualifier. *TarSDBP*, 23: *tathā ca nirviśeṣyakam jñānam nirvikalpakamityapi śakyate vaktum. tathā anuktvā niṣprakāarakamiti vadatāṃ maṇikārāṇām ayam āśayah—yathā savikalpakasya viśiṣṭajñānatvāt tataḥ pūrvam viśeṣaṇajñānam kalpyate, tathā nirvikalpakahetutayā jñānāntaram nāpekṣitamiti.*"

not accept the existence of totally contentless, non-intentional cognitions.² This fourth type of non-conceptual *viṣayatā* hence represents for Navya Nyāya a way to draw an essential, and therefore non-trivial, distinction between non-predicative (*niṣprakāraka*) structure of non-conceptual contents and the predicative (*saprakāraka*) structure of conceptual contents.

Gaṅgeśa's central inference for the existence of non-conceptual perception can be rendered as follows: One's very first concept-laden perceptual cognition of a cow, expressible in the form “That is a cow,” is generated by a prior cognition of the qualifier such as cowhood, because the perceptual cognition is a qualificative cognition.³ This line of argument rests upon the general causal rule that every qualificative cognition (*viśiṣṭajñāna*) is produced in part by a prior cognition of the qualifier (*viśeṣaṇajñāna*) that is being predicated to some object.⁴ The rule relates back to the Nyāya understanding of qualificative cognitions as identifying objects through descriptions or information about them—such information must be known beforehand in order for it to be used in identifying some particular entity. Gaṅgeśa gives other examples of cognitive identification that would be based on the prior awareness of a relevant qualifier: For instance, one may infer from a distance that a mountain is on fire because of the visible presence of smoke there. In the inferential knowledge that the mountain has fire (“*parvato vahnimān*”), the fire is

2 Cf. NSMD 58, 432: “*na caivaṃ nirvikalpasya nirviṣayakatvāpattisturīyaviṣayatāyā eva tatra svīkārāt.*” See Bhattacharya 1990: 52-59 for Gadādhara's discussion of why the *viṣayatā* of *nirvikalpaka* and *savikalpaka* cognitions must be distinct.

3 TCM, 864: “*prāthamikaṃ gauriti pratyakṣaṃ jñānaṃ janyaviśeṣaṇajñānajanyaṃ janyaviśiṣṭajñānatvāt anumitivat.*” The adjective “generated” (*janya*) is added to the probandum (“*janyaviśeṣaṇajñānajanyaṃ*”) and the probans (“*janyaviśiṣṭajñānatvāt*”) to make an exception for God's cognitions, which for Nyāya are eternal and so could never be causally produced by some prior cognitions. The rule that qualificative cognitions are produced by cognitions of a qualifier holds just for mortal, non-omniscient beings.

4 Gaṅgeśa's own definition of perception as “*jñāna-akaraṇakam*” (TCM 595) allows that a *viśiṣṭa-jñāna* can be perceptual even though it is directly preceded by another cognition, and not by a sensory connection with objects. That is, any cognition which does not have another cognition as its chief instrumental cause (*karāṇa*) counts as an instance of perception. A chief cause is understood as bringing about its effect through the operation of some intermediate cause (*vyāpāra*); in the case of perception, the connection of an object with the sensory organs gives rise to a *nirvikalpaka* cognition, which in turn produces a *savikalpaka* cognition. See Phillips & Tatacharya 2009: 334-335 for more discussion.

cognized as qualifying the mountain. For this qualificative cognition to arise at the conclusion of the inferential process, one has to have an antecedent understanding of the probandum (*sādhya-prasiddhi*)—i.e., fire—as existing everywhere that the probans—i.e., smoke—is present; understanding fire in this way is what leads one to have a qualificative cognition that identifies the mountain as having a fire on it. Another example comes from the Nyāya theory of perceptual illusion, according to which erroneous perceptions involve a memory-based misattribution of a qualifier to an object (Phillips & Tatacharya 2009: 615). In order to misperceive, say, a rope as a snake, one has to have seen snakes before, which is to say that one has to have a prior acquaintance with snakehood. The present case of misperception arises due to the activation of a memory trace left by one's past experience of snakes, upon which the remembered property snakehood becomes available to be mistakenly experienced as qualifying the perceived rope.

Navya Nyāya postulates the existence of *nirvikalpaka* perceptions because not all prior acquaintance with a qualifying feature can come from past experience and memory; for direct realists such as the Naiyāyikas, perception must at some point enter into the picture of how we acquire knowledge of the external world. With that in mind, Gaṅgeśa restricts the scope (*pakṣa*) of his inference to one's first concept-laden/qualificative perception of a cow—if one has never seen a cow before, then one could not depend on the memory of previously seen cows for identifying the presently perceived object as a cow, that is, for seeing the cow as qualified by cowhood. Therefore, the prior acquaintance with the qualifier cowhood required for seeing the object as a cow must come from perception itself, specifically in the form of a pre-predicative, unqualified, *nirvikalpaka* perceptual cognition that arises immediately after the eyes make contact with the object, and immediately prior to the arising of the qualificative cognition.

Gaṅgeśa gives a powerful argument for why this perceptual cognition of a qualifier must be non-conceptual, i.e., pre-predicative and unqualified: If it is established that all qualificative cognitions are produced by prior cognitions of a qualifier, then an infinite regress would result if the prior cognition of a qualifier must itself be conceptual/qualificative. In other words, if the qualifier cowhood must itself be cognized as qualified by some other property, then this qualificative cognition of cowhood would require as its cause another prior cognition of that qualifying property; and if this latter cognition is again qualificative, then the regress of cognitions continues, leading to the undesirable consequence that an infinite series of cognitions would have to occur before a single qualificative perception could arise. To stop the regress, Gaṅgeśa thus claims that before one can for the first time perceive a cow as a cow, one must have a direct perceptual acquaintance with cowhood itself, shorn of any other qualifying features, any delimiting modes of presentation, and any cognized association with the particular cowhood-possessing cow.

3.2.1 Pre-Gaṅgeśa Views on the Purported Phenomenology of Non-Conceptual Perception

What is of immediate interest to us in this chapter is Gaṅgeśa's denial that we can have any phenomenological or introspective evidence for the existence of non-conceptual perceptions. The Navya Nyāya stance that non-conceptual perceptions are phenomenologically inaccessible is a significant byproduct of their move toward more clearly adopting a form of content non-conceptualism, and is a further point of departure from earlier non-Buddhist views on non-conceptual perception. Whereas the Buddhist logicians characterized *nirvikalpaka* perception as being more phenomenologically vivid and direct than conceptual cognitions, non-Buddhist

thinkers like Kumāriila and Vācaspati understood non-conceptual perceptions to be phenomenologically indeterminate. This indeterminacy in the phenomenal appearance of non-conceptual cognitions was evidently linked to the indeterminacy of their representational content. On the non-Buddhist account, the object of a non-conceptual perception is merely seen to be an undifferentiated particular; such a non-conceptual awareness does not overtly discriminate or identify the generic and unique features of the object that would mark its commonality with, and distinctness from, other objects. Kumāriila hence likened non-conceptual perceptions to the perceptual states of newborn infants or non-linguistic creatures, who lack the concepts that would enable them to classify an object according to its universal or particular nature.⁵

A more illustrative example of non-conceptual perception's indistinct phenomenal character comes during an argument against the Buddhist view that no concept-laden state can also be a genuinely perceptual state. For the Buddhists, one reason why conceptualized states could not be perceptual is because, being preceded by non-conceptual perceptions, they do not occur immediately after the sense-organs make contact with an object; hence, if the Nyāya and Mīmāṃsā schools take the defining feature of a perceptual cognition to be its being produced through sense-object contact, then only non-conceptual perceptions should be admitted as genuinely perceptual, since they are the most obvious candidates for being the direct causal output of the sensory process (Taber 2005: 100).⁶ To this objection, Kumāriila responds by pointing out certain cases where we would regard the cognition that follows after an initial perception of an object as being just as genuinely perceptual as the initial perception: When one enters into a dark room after coming out of bright sunlight, for example, the objects in the room

5 *ŚVpp* 112-113, 156: "*asti hyālocanaññānaṃ prathamam nirvikalpakam / bālamūkādīvijñānasadrśam śuddhavastujam // na viśeṣo na sāmānyam tadānīm anubhūyate // tayor ādhārabhūtā tu vyaktir evāvasīyate //* "

6 See also Taber 2005: 51-61 for more discussion of the characterization of perception given in *Mīmāṃsāsūtra* 1.1.4.

might not distinctly appear even though they are being seen in one's field of vision; after one's eyes adjust to the dim light, one is then able to clearly perceive the objects in the room and identify their various attributes.⁷ This latter awareness is obviously no less perceptual than the initial indistinct awareness, which thus shows for Kumāriila that, so long as there remains a causal link between objects and the sense faculties, a conceptualized cognition that arises some moments after an initial non-conceptual perception can nonetheless be considered as a genuine output of the perceptual process.

But beyond generally contributing to the plausibility of concept-laden perceptual states, Kumāriila's argument gives us a vivid glimpse into the vague phenomenal character of non-conceptual perception. In comparing non-conceptual perceptions to the experience of momentary blindness that occurs when one's eyes abruptly adjust to dim light, Kumāriila seems to suggest that the absence of conceptual identification is responsible for the phenomenally indiscernible appearance of objects in a *nirvikalpaka* perception. Conversely, the possession of conceptual abilities enables a perceiver to skillfully discriminate objects in cases where they would not be noticed by the untrained eye; for instance, a novice radiologist may be confused by the similarity that a cancer patient's X-ray shares with images from normal patients, and thereby fail to discern in the X-ray the presence of a tumor. Kumāriila's own example is that of an untrained music listener who merely hears a song and cannot distinguish between the different notes.

Though, we may perhaps be over-interpreting Kumāriila in taking his examples to show that, on his account, there is a direct correlation between concept possession and the phenomenal determinacy of a perceptual image. Indeed, given that Kumāriila and the early Nyāya-Vaiśeṣika

7 *ŚVpp* 126-7, 157: “*na hi praviṣṭamātrāṇām uṣṇād garbhagrāhādiṣu / arthā na pratibhāntīti grhyante nendriyaiḥ punaḥ // yathā tv ābhāsamātreṇa pūrvam jñātvā svarūpataḥ // paścāt tatrāvabudhyante tathā jātyādidharmataḥ //*”

thinkers subsequent to him had not fully developed an essentialist form of content non-conceptualism, and because they still understood concept possession primarily in terms of linguistic mastery, they retained traces of the state non-conceptualist view that a perceiver who does not possess any relevant concepts could still undergo a cognition with the same perceptual content as a perceiver who does possess such concepts. As far as the state view is concerned, both perceivers could be aware of an object in the same phenomenal manner, *ceteris paribus*; but the non-conceptual perceiver would not be able to conceptually identify the object as being of a certain type—to use a modern distinction, the non-conceptual perceiver could see a cow without seeing that it is a cow. Kumārila states that novice music listeners, who lack musical training and therefore do not know the names of specific musical notes, still hear the same distinctions between notes as expert listeners would hear, though they would be unable to identify the notes as distinct. Similarly, someone who is seeing a cow for the first time and does not know the word “cow” could still perceive the universal cowhood resident in the cow, without actually seeing that the the object is a cow.⁸ Hence, it seems that Kumārila's account is ambiguous as to whether there ultimately is a phenomenological difference between non-conceptual and concept-laden perceptions that would principally stem from a difference in their contents. Whereas the previous analogy of being blinded while entering a dark room could be read as giving credence to the idea that *nirvikalpaka* perceptions look or appear differently than concept-laden perceptions—that the phenomenal appearance of non-conceptual perceptions would itself be indistinct and indeterminate—Kumārila's example of listening to music seems to suggest that the

8 *ŚVpp* 237cd-242, 162: “*vīmanaskā yadā kecit sambaddham api ceindriyaiḥ / na budhyate tathā cānye sādṛyśādivimohitāḥ // tatra yo 'rthaṃ vivekena kauśalāt sadṛśeṣv api // sūkṣmaṃ vāpi prapadyeta tasya bhrāntir na tāvatā / yathā śaḍjādibhedena gāne laukikavaidike // vivekenāvagacchanti yeṣāṃ tatsamskṛtā matiḥ / gānamātraṃ vijānanti tatrānadhikṛtās tu ye // tadajñānān na mithyātvaṃ vaktuṃ śakyam vivekinām / te hi śaḍjādīśabdebhyaḥ vināpy eṣāṃ viviktatām // yathāvad adhigacchanti tadvad gotvādivastv api / saṅkīrṇam arthamātraṃ tu budhyante 'bhyāsavarjitāḥ //*”

discriminative clarity which concepts introduce to awareness is merely discursive or epistemic in nature (Taber 2005: 144).⁹ That is, the object of a non-conceptual perception appears in a “mixed” or “confused” manner (*saṅkīrṇam*¹⁰) just to the extent that some specific attribute has not yet been conceptually highlighted, i.e., linguistically designated.

3.2.2 Gaṅgeśa on the Attentional Inaccessibility of Essentially Non-Conceptual Perception

Leaving aside the uncertainty in Kumāriḷa’s account regarding the phenomenology of non-conceptual perception, the thesis I wish to unambiguously attribute to Gaṅgeśa is this: If a perceptual cognition's content has a conscious phenomenal character at all, then it must not be essentially/genuinely non-conceptual. From the outset of his discussion, Gaṅgeśa offers an implicit rebuke of Kumāriḷa's non-conceptualist account by explicitly rejecting (albeit in the voice of his own opponent) the sort of phenomenological or introspective evidence that it rests upon. That evidence may take the form of an experiential report like, “This object wasn't clearly discerned by me before, but now I distinguish it clearly”; Kumāriḷa's interpretation of such a report would be that the perceiver initially had a non-conceptual perception which, after the perceiver better distinguished the object's properties, then gave way to a conceptualized

-
- 9 Kumāriḷa's commentator Umveka confirms that a non-conceptual perception grasps a distinct object without the help of the object's name. He further suggests that it is somewhat misleading for Kumāriḷa to say that non-conceptual perceivers cognize the mere object in an indistinct or confused manner (“*saṅkīrṇam arthamātraṃ tu budhyante 'bhyāsavarjitāḥ'*”), since even in a *nirvikalpaka* cognition, the conceptualizable attributes (universals, qualities, actions, etc.) of an object also distinctly appear, just as any sensory quality would. Umveka explains that Kumāriḷa considers the object of a non-conceptual perception to be indistinct by virtue of its not appearing as being designated by a name; the discrimination (*viveka*) that he goes on to mention stems from the object's appearing as linguistically designated upon the recollection of its name. *SVVT*, 180: “*nanu nirvikalpake 'pi jātiguṇakriyādayo vivekenaiāvabhāsante yathā rūpasparśagandhādayaḥ; saṅkīrṇārthāvagame tu śabdaviśeṣasmaraṇam na syāt; ataḥ kimidamucyate “saṅkīrṇamarthamātraṃ tu” iti? satyamevametat; saṃjñītvābhānena tu saṅkīrṇatām manyate. śabdasmaraṇottarakālaṃ tu saṃjñitayā pratibhāsanādvivekamāha.*”
- 10 See also Vācaspati's mention of a propertied particular as being non-conceptually perceived in a vague/confused manner (*saṃmugdham*); *NVTI* 1.4, 233.20-1: “*sa khalvindriyārthasannikarṣādālocya jātimantaṃ saṃmugdhamarthaṃ....*”

perception of the same object. For Gaṅgeśa, however, if a perceptual cognition is genuinely non-conceptual, then it lacks predicative content whatsoever—in a non-conceptual perception, the object is not seen as qualified by any of its attributes. On the other hand, the initially indistinct cognition reported by the perceiver need not be interpreted as having been totally devoid of predicative content; like the subsequently more determinate perception, the initial cognition could also have identified its object under some qualifier. The latter cognition would differ from the former just insofar as the perceiver came to more clearly discern the identity of the object by having come to cognize more of its properties.¹¹ The indeterminacy of the reported initial cognition is due to the paucity of information at its disposal for identifying its object; according to the characterization of *nirvikalpaka* perceptions given by the Naiyāyika Keśava Miśra (13th cent.), the initial cognition might simply take the form, “This is something” (*kiñcid-idam iti*).¹² Sparse as it may be, the initial indistinct perception still has predicative content all the same, and therefore cannot be a genuinely *nirvikalpaka*, i.e., *nisprakāraka*, cognition on Gaṅgeśa's account.¹³ What's more, it turns out that introspective reports can never serve as proof for the existence of non-conceptual cognitions, since only *savikalpaka* cognitions can bring about, and thus be inferred from, verbal reports.¹⁴ Though it is possible to infer from the statement, “There is a cow,” that a subject just had a perceptual cognition of the cow as qualified by cowhood, it is not possible to similarly infer the presence of a *nirvikalpaka* cognition on the basis of such a report—no one can ever talk about the *nirvikalpaka* cognition they just experienced.

11 *TCM*, 857: “*nāpīdam na vivecitam pūrvamadhunā vivecayāmītyanubhavapramāṇakālocanavikalpau, bahuviśeṣaṇajñānājñānābhyām tadupapatteḥ.*”

12 *KTaBh*, 33: “*tato 'rthsannikṛṣṭendriyeṇa nirvikalpakaṃ nāmajātyādiyojanāhīnaṃ kiñcididamiti jñānaṃ jāyate.*”

13 Tatacharya (1992: 320) confirms that a *nirvikalpaka* cognition could not properly be said to have the form, “This is something,” as “somethingness” would become the cognition's predicative content/*prakāratā*, thereby rendering the cognition to be *savikalpaka* in nature: “*tathā sati kiñcittvaprakāratvena tasyāpi [i.e., nirvikalpaka] jñānasya api] savikalpakatvāpatteḥ.*”

14 *TCM*, 857: “*na ca vyavahāraḥ, tasya savikalpakasādhyatvāt.*”

As a matter of fact, it is not possible for perceivers to even notice that they are having a non-conceptual perception such that they could be in the position to report its existence, because *nirvikalpaka* cognitions are introspectively undetectable. This tenet of Gaṅgeśa's non-conceptualism bears explaining, as it is crucial for our overall development of the theoretical link between the conceptual structure and conscious accessibility of perceptual cognitions. Now, it is not as though Gaṅgeśa took the conscious character of a cognition to depend on its being introspected—while Naiyāyikas were broadly committed to understanding cognitive states as essentially conscious,¹⁵ they were equally committed to the idea that there are many cognitions which are consciously experienced and yet pass unnoticed by the subject.¹⁶ It is also worth noting that Nyāya (and its sister school, Vaiśeṣika) further distinguished states of conscious awareness/cognition (*jñāna*) from other inner mental states such as pleasure, pain, desire, and aversion: Since the latter states were regarded as lacking intentional contents of their own, and since Nyāya understood all conscious awareness to be intentional, such states could figure in conscious awareness only insofar as they become the objects of cognition, rather than being essentially conscious states themselves.¹⁷

To explain how inner mental states—cognitive or non-cognitive—become introspectively detected by the subject, Nyāya posited a distinct mental sensory faculty known as *manas* that is responsible for a wide variety of mental activities, including the perception and apperception of

15 To support his claim that “consciousness” and “*jñāna*” are synonymous for Nyāya, J.N. Mohanty (1989: 25) cites *NS* 1.1.15 (435): “*buddhirupalabdhirjñānamityanarthāntaram*”, along with Vācaspati's comment (*NVTT* 1.1.15, 437), “*buddheḥ svābhāvikaṃ caitanyamāstheyam*”; “consciousness should be regarded as the inherent nature of *buddhi*” [and thus we should construe the notion of *buddhi* as a conscious state, not as an unconscious instrument of cognition as Sāṃkhya thought].

16 The Nyāya view thus stands opposed to other Indian reflexivist accounts which took the conscious character of cognitions to be constitutively tied with self-awareness, either in the sense that the first-person “I” is always aware of its own cognitions (according to Prābhākara Mīmāṃsā), or that each individual cognition is aware of both its objective content and itself (Yogācāra Buddhism). For an entry into the complex debates in Indian philosophy over the nature of self-awareness, see Matilal 1986: ch. 5 and Ram-Prasad 2007: ch. 2.

17 See Matilal 1986: ch. 9 and Ganeri 2012: ch. 10.

inner mental states.¹⁸ Apperception, or *anuvyavasāya*, specifically refers to an introspective second-order cognition that takes a first-order perceptual cognition (*vyavasāya*) as its own cognitive object. For instance, one initially perceives some silver object and has a cognition expressible in the form, “This is silver”; with this cognition being completely object-directed, the perceiver would take notice of just the silver and not of the cognition itself. Subsequent to the initial perception, the perceiver can then become introspectively aware of its perception of silver, and thereby have a cognition of the form, “I am aware this is silver.” Nyāya took such introspective awareness of mental states to be itself perceptual in character, that is, to be instances of mental perception (*mānasa-pratyakṣa*).¹⁹ Given the inability of external sense organs to directly perceive inner mental states, there must be a distinct sensory faculty by means of which the self cognizes its own mental states; that faculty is *manas*.

More fundamentally, *manas* was also understood as being the faculty of attention, determining what the knower becomes conscious of by mediating between the multitude of simultaneous inputs provided by the external sense organs. Naiyāyikas pointed out that even though each of the external senses may be receiving information about their respective objects at the same time, we generally attend to, and hence consciously cognize, just a select set of those objects at any given time. They took this phenomenon to be especially evident in cases of what is now called inattentive blindness (see Simons & Chabris 1999), where a perceiver remains

18 Vātsyāyana in *NBh* 1.1.16, 438 enumerates the functions of *manas* by way of listing the various mental states and faculties from which we can infer its existence: memory, inference, linguistic understanding, doubt, intuition, dreaming, cognition, reflection, the perception of states such as pleasure, and states such as desire, etc. In his discussion of doubt (*saṁśaya*; *NBh* 1.1.4, 198), Vātsyāyana also points to *manas* as the means by which the knower apperceives (*anuvyavasāya*) a determinate perceptual cognition (*vyavasāya*): “*sarvatra ca pratyakṣaviṣaye jñāturindriyeṇa vyavasāyaḥ, paścānmanasānuvyavasāyaḥ....*”

19 Viśvabandhu Tarkatīrtha (Shaw 1996: 236) emphasizes that while the content of the apperceptive cognition, like all other determinate cognitions in the Nyāya scheme, is propositionally structured and hence linguistically expressible, the cognition's content is not identical with its linguistic expression, nor does language play a necessary role in the cognition's generation. The fact that the *anuvyavasāya* state is perceptual in nature implies that it is to be distinguished from the verbal report that may follow from it.

unaware of what would seem to be obviously noticeable objects in a visual scene, due to its attention being fixed elsewhere.²⁰ The selective function of *manas* can also be triggered involuntarily, as when a sensory stimulus of particular intensity—e.g., a loud noise, or stepping on a thorn—grabs one's attention and thereby forces its way into the conscious awareness of a perceiver who had no intention or desire to become aware of it.²¹ Both types of cases exhibit to a more extreme degree what is going on in all moments of perceptual experience, namely that certain sensory inputs become privileged and thereby rise to the level of conscious awareness over other simultaneously present stimuli.²² In serving as an attentional filter responsible for regulating which inputs are consciously accessible to a knowing self, the operation of *manas* was thus implicated as a necessary condition for the generation of all conscious cognitions, despite itself being an unconscious sensory faculty.²³ Given the role of *manas* as an intermediary between the senses and the self, the involvement of attention in producing a conscious cognition was correspondingly taken to occur at an intermediate stage of the perceptual process. Within the Nyāya-Vaiśeṣika scheme, the process by which a perceiver comes to cognize an object was expressed in terms of three kinds of “contact” (*saṃyoga/saṃnikarṣa*): first, the external sense organ (*indriya*) comes into contact with an object (*artha*); second, *manas* makes contact with the sense organ; and third, *manas* becomes conjoined with the self (*ātman*).²⁴ These supposed

20 NS 3.2.7, 817: “*apratyabhijñānaṃ ca viṣayāntaravyāsaṅgāt*”; “Non-apprehension [of some object] is due to the fixation [of attention] on a different object.” NBhu, 185: “*kiṃ ca suptavyāsaktamanasām cendriyasamnikṛṣṭārthasyāpyapratibhāsanāna manonirapekṣasyendriyasyāpi vyāpāraḥ sambhavati*.”; “The operation of the external sense organs independent of the mental sense faculty is not possible, since, for those whose mental sense faculties are fixated or asleep, there is no phenomenal appearance even of an object that is in contact with an external sense organ.”

21 NBh 2.1.27, 457-8; 2.1.30, 460-1; and 3.2.32, 862.

22 VS 3.2.1, 114: “*ātmendriyārthasannikarṣe jñānasya bhāvo 'bhāvaśca manaso liṅgam*.” “The evidence for the mental sensory faculty is the presence and absence of a cognition amid the contact of sense-organs, objects, and the self.” NS 1.1.16: “*yugapajñānānutpattirmanaso liṅgam*.” “The evidence for the mental sensory faculty is the non-arising of cognitions simultaneously.”

23 See PDS/NK, 182-3, 237-8.

24 NBh 1.1.4, 94: “... *ātmā manasā saṃyujyate, mana indriyeṇa, indriyam artheneti*.” See also VS 3.1.16, 111.

instances of contact can be said to represent stages in the transfer of sensory information from the external senses to the self—or, from what we could consider a sub-personal level of perceptual processing to a consciously accessible, personal level of awareness. Before the subject becomes consciously aware of a perceptual object, the *manas* must make contact with a certain sense organ, i.e., must selectively attend to a certain sensory stimulus. To explain the fact that one cannot attend to every sensory object at once, Nyāya-Vaiśeṣika thinkers claimed the *manas* to be an atomic-sized substance that flits from one sense organ to the other, gathering data to be synthesized into a sequence of conscious representations.²⁵ Having done so, *manas* then makes contact with or transfers its sensory data to the self, which can then experience a conscious cognition of the attended stimulus. This last contact between *manas* and the self was additionally taken to be a causal prerequisite of all conscious cognitions, perceptual and otherwise, indicating that attention is a necessary condition for all conscious awareness on the Nyāya-Vaiśeṣika model.²⁶

It is against the context of the Nyāya-Vaiśeṣika theory of *manas* as a faculty of attention and introspection that Gaṅgeśa denied the possibility of our having any experiential evidence for the existence of *nirvikalpaka* cognitions. Whereas a subject ordinarily can gain self-ascriptive knowledge of determinate, concept-laden cognitive states through apperception, there is evidently no such perceptual means of knowing whether one has undergone a genuinely non-conceptual cognition.²⁷ According to Gaṅgeśa and subsequent Navya Nyāya thinkers, *nirvikalpaka* cognitions are imperceptible or supersensible (*atīndriyatva*), which is to say that

²⁵ See *NS/B* 3.2.56-59, 896-9; *VS* 7.1.23, 211.

²⁶ *NV* 2.1.26, 456: “*indriyārthasannikarṣaḥ pratyakṣasyaiva nimittam; ātmamanaḥsannikarṣaḥ pratyakṣasya cānyasya ceti.*”

²⁷ *TCM*, 857: “*na pratyakṣam, asiddheḥ, atīndriyatvācca.*” *BP* 58ab, 431: “*jñānaṃ yannirvikalpākhyam tadatīndriyamīṣyate.*”

they are imperceptible to the mental sensory faculty that is *manas*. In the same way that ultraviolet light may make physical contact with the human eye and still remain imperceptible, non-conceptual cognitions which exist as attributes of the self are in “contact” with *manas* and yet cannot be perceptually detected. Beyond the phenomenological fact that we never seem to have introspective reports of the sort, “I see the pot and potness but separately,” there are at least two principled reasons why the Navya Nyāya account could not allow *nirvikalpaka* cognitions to be introspectively accessible. For one, *nirvikalpaka* cognitions occur at too early a stage in the perceptual process to be the targets of apperception. Nyāya recognized that our conscious representational states are transient, lasting only for a short while. For reasons of parsimony, the tradition thus came to stipulate the duration of cognitions to be two moments long: A cognition arises in the first moment t_1 , persists for a second moment t_2 , and goes out of existence by the third moment t_3 .²⁸ Were another cognition to follow immediately after the arising of the initial cognition, its moment of origination would overlap with the first cognition at t_2 , and would push the original cognition out of existence by t_3 , given the Nyāya tenet that multiple cognitions cannot exist simultaneously for more than a moment.²⁹ Now, a *nirvikalpaka* perceptual state must invariably precede the *savikalpaka* cognition for which it serves as a cause. Apperceptions (*anuvyavāsa*) must also follow after concept-laden cognitions (*vyavasāya*); one must have a determinate perception of an object before one can introspect that perception and ascribe it to

28 *NS* 3.2.42, 881 cites our experience of motion to show that cognitions are momentary. See also *NSM* 108, 698: “... *jñānānām dvikṣaṇamātrasthāyitvaṃ...*”; Shaw 1996: 258, n. 12, 259, n. 16. Phillips & Tatacharya 2009: 604.

An exception to the rule that cognitions last two moments is made in the case of the cognitive act of counting (*apekṣābuddhi*); see Sastri 1951: 91-3.

29 Gaṅgeśa clarifies that the talk of moments (*kṣaṇa*) is not to be taken too literally, as though cognitions last for only two atomic units of time—such infinitesimally short atomic units, like physical atoms themselves, cannot actually be directly perceived. Rather, the moments of a cognition's duration are to be construed as “thick” (*sthūla*) intervals with some (unspecified) temporal persistence; *TCM*, 854: “*jānāmīti vartamānatvena sthūla upādhirbhāsatē na tu kṣaṇa, tasyātīndriyatvāt.*” See Phillips & Tatacharya 2009: 603-4.

oneself. Consequently, since a *nirvikalpaka* state would only last for two moments t_1 and t_2 , and a *savikalpaka* state would arise in the subsequent moments t_2 and t_3 , the *nirvikalpaka* cognition would have already ceased to exist by the time that an apperception can arise at t_3 – therefore, a *nirvikalpaka* cognition cannot be the target of an apperceptive cognition.³⁰

More to the point, a non-conceptual perception cannot be immediately targeted by an apperception because it lacks the structured content required for an apperception to identify the perception as belonging to the self. The apperceptive cognition “I am aware of a pot” (*ghaṭam jānāmi iti*) is a doubly qualificative cognition (*viśiṣṭa-vaiśiṣṭya-avagāhi-jñāna*), in the sense that the qualifying feature which identifies the qualificand is itself identified by a further qualifier. Here the qualificand is the self, which is being identified as having the first-order cognition, “This is a pot”; additionally, this first-order cognition is itself identified according to its objective content, i.e., the pot which has been perceptually classified as having the property of pothood. Just as in the case of a first-order qualificative cognition (*viśiṣṭa-jñāna*), a prior cognition of a relevant qualifier is a causal prerequisite for the production of a doubly qualificative cognition; however, because the relevant qualifier will itself be qualified in a doubly qualificative cognition, the prior cognition must also be a qualificative cognition. This prior cognition will need to have as its predicative content a property which will serve as a delimiting mode of presentation for the qualifier of the doubly qualificative cognition's qualificand—in Navya Nyāya terminology, the prior cognition will be a *viśeṣaṇatā-avacchedaka-prakāra-jñāna*. Again, the target of the apperception “I am aware of a pot” was the initial determinate perception “That is a pot.” In this initial cognition, the pot is presented as the qualificand and the property of pothood is presented as the qualifier/predicative content (*prakāra*). This cognition's predicative content of pothood

³⁰ This argument can be found in *JLVR*, 25; see also Bhattacharyya & Potter 2011: 401.

will then serve as the mode (*avacchedaka*) under which the first-order perceptual state comes to be cognized in the apperceptive state as being a qualifying attribute (*viśeṣaṇatā*) of the self. Given that cognitions can only be distinguished according to their respective intentional contents, an apperception picks out the specific perceptual state in question because of its having pothood, and not some other property, as its predicative content; once identified, the first-order perception of the pot can itself be cognized as belonging to the self. On the other hand, since a *nirvikalpaka* cognition has no predicative content whatsoever, there is nothing in the cognition's content that could be used to pick out the cognition for the purposes of apperceptive identification and self-ascription.³¹ In this way, non-conceptual perceptions remain introspectively invisible to the subject.³²

31 NSM 58, 433-4: “*tathāhi vaiśiṣṭyānavagāhijñānasya pratyakṣam na bhavati ghaṭamaham jānāmīti pratyayāt tatrātmāni jñānam prakāribhūya bhāsate jñāne ghaṭastatra ghaṭatvam. yaḥ prakārah sa eva viśeṣaṇamīti tvucyate viśeṣaṇe viśeṣaṇam tadviśeṣaṇatāvachedakamityucyate viśeṣaṇatāvachedakaprakāraṇam jñānam viśiṣṭavaiśiṣṭyajñāne kāraṇam nirvikalpake ca ghaṭatvādikaṃ na prakārastena ghaṭatvādiviśiṣṭaghaṭādivaiśiṣṭyabhānam jñāne na sambhavati....*”

32 Although, that is not to say that *nirvikalpaka* cognitions play no role in the generation of apperceptive states. While non-conceptual cognitions are never the targets of apperception, Gaṅgeśa nonetheless posited the existence of apperceptive cognitions which are themselves non-conceptual. In the same way that a qualificative perception of a cow requires a prior acquaintance with cowhood, the qualificative apperception of a cognition requires a prior acquaintance with the property of cognitionhood—otherwise, a regress of qualificative apperceptions would result. Gaṅgeśa's full account of *anuvyavasāya* hence involves extra stages that were not elaborated above. First, there is a qualified perception of the pot (C_1)—the pot is the qualificand and pothood is the qualifier. Then, Gaṅgeśa claimed, the first qualificative apperception (C_3) which arises actually takes the form, “A pot is being cognized”—the self does not yet enter the picture. This apperception now identifies the initial cognition itself in terms of its having the property of cognitionhood. Accordingly, in between the perceptual and apperceptive states, there must have been a non-conceptual cognition C_2 that cognized the cognitionhood of C_1 , so that C_1 may be apperceived as a cognition in C_3 . Finally, there is an apperception C_4 that takes C_3 as its object, and is expressible in the form, “I am aware a pot is being cognized”; the initial perception C_1 , having been identified as a cognition in C_3 , is now predicatively ascribed to the self in C_4 . Though, Gaṅgeśa (*TCM*, 855) also mentions the three-stage model of apperception, where the explicitly self-ascriptive cognition arises in the third moment, immediately after the non-qualificative awareness of cognitionhood. See Phillips & Tatacharya 2009: 603-7, and Shaw 1996 for more discussion.

3.2.3 Nirvikalpaka Pratyakṣa as Subpersonal Perception

I want to argue that, from out of these abstruse details concerning the Navya Nyāya rejection of introspective evidence for the existence of non-conceptual cognitions, there emerges a significant thesis about the nature of conscious awareness. We can begin to formulate this thesis by considering possible responses to the following questions: What would it be like to have an experience that you could never notice you was having? What would be the phenomenological character of a mental state which is in principle impossible to apperceive and report? And most importantly, how could we even find the answers to questions about the phenomenological character of such states when we can never introspectively detect their presence? Would Gaṅgeśa have agreed with Block that essentially non-conceptual perceptions which are introspectively inaccessible to the self are nonetheless phenomenally conscious?

While the Nyāya tradition generally understood cognitions (*jñāna*) to be states of conscious awareness (*caitanya*), the content non-conceptualism of Navya Nyāya led to a somewhat tenuous accommodation of *nirvikalpaka* cognitions within their broader account of *jñāna*. These tensions within the Navya Nyāya account may suggest to us that *nirvikalpaka* cognitions might retain its exceptional status when it also comes to their standard identification of cognition and conscious awareness. We have already seen that Navya Naiyāyikas had to impute non-conceptual cognitions with a distinct type of non-propositional, pre-predicative intentionality, and how such a pre-predicative character contributes to their being introspectively inaccessible. The non-propositional form of *nirvikalpaka* cognitions also gave rise to apparent incompatibilities elsewhere within the Navya Nyāya taxonomy of cognitions. Perceptual cognitions (*pratyakṣa*) are classified as one of the four types of veridical awareness (*pramā*),³³

³³ TCM, 567: “*sā ca pramā caturvidhā pratyakṣānumityupamitiśābdībhedāt.*”

and are further divided into two types: non-conceptual and concept-laden. Yet, the expectation that both types of perception are eligible to be states of veridical awareness is confounded by Gaṅgeśa's admission that non-conceptual states are not fit to be talked about as being veridical or non-veridical.³⁴ That is because the veridicality or non-veridicality of a cognition is tied to its predicative content; a cognition will be veridical if it predicates a property *F* to an object when the object is in fact *F*.³⁵ Since non-conceptual cognitions do not possess any predicative content, they must therefore fall outside of the scope of veridicality. And given that the standard Navya Nyāya classification of cognition admits of just two types, veridical or non-veridical,³⁶ we might be tempted to conclude with Arindam Chakrabarti (2000, 2001) that there should be no place in Navya Nyāya for non-conceptual cognition that is neither type.

Holding this temptation at bay, we might instead interpret the taxonomic difficulties presented by *nirvikalpaka* cognitions as a consequence of Navya Nyāya's attempt at finding a place within its framework for subpersonal or subdoxastic mental states.³⁷ Tyler Burge concisely describes the level of psychology at which these sorts of mental states are supposed to occur:

I take the subpersonal level to be a level that is not only not conscious, but is not accessible to introspective or reflective consciousness and must be gotten at only theoretically. This is true of the basic grammatical structures underlying our linguistic competence and the information-processing structures underlying our perceptual experience. (2003: 384)

Subpersonal, subdoxastic states are distinct from the beliefs, desires, and experiences that form our ordinary mental lives, in that we lack any first-personal, conscious access to them. For instance, we don't first-personally experience or form beliefs about the computational states of

34 Ibid., 438: “*nirvikalpakaṃ ca pramāpramābahirbhūtam eva, vyavahārānaṅgatvāt.*”

35 Ibid., 434: “*yatra yadasti tatra tasya anubhavaḥ pramā. tadvati tatprakārakānubhavo vā. yatra yannāsti tatra tasya jñānaṃ, tadabhāvavati tatprakārakajñānaṃ vā apramā.*”

36 *TarS*, 114: “[*smṛti*]bhinnam jñānam anubhavaḥ. saḥ dvividhaḥ—yathārthaḥ ayathārthaśceti.”

37 Many contemporary authors use “subpersonal” interchangeably with “subdoxastic,” though the original meanings of these terms were technically distinct; see Drayson 2012.

early visual processing involved in detecting intensities of light from patterns of retinal stimulation. Such states are not directly available to be incorporated into our reasoning, speech, and action, nor are they introspectively detectable. Moreover, despite whatever causal contribution they make to the phenomenology of conscious visual experience, these subpersonal states cannot be said to have a conscious phenomenal character themselves; that is, they are normally not states which a subject is ever consciously aware of being in. As for Nyāya, its understanding of unconscious mentality was evinced through the theory of *manas*, which was intended to account for unconscious cognitive functions like attention, memory, and self-monitoring (see also Ganeri 2012: ch. 13). But I would suggest that it is only once Navya Nyāya developed a notion of essentially non-conceptual cognition that we find an implicit acknowledgment of cognitive states that are distinctly subpersonal and subdoxastic, and for which we have no conscious access. Hence, by interpreting *nirvikalpaka* perceptions as a kind of subpersonal state, we can make more sense of why these perceptual states had to be specially accommodated within a framework that was primarily intended to account for the intentionality and veridicality of doxastic cognitive states. More importantly, the subpersonal nature of *nirvikalpaka* perceptions may imply that Navya Nyāya would have also taken non-conceptual states to be consciously inaccessible, which would thereby suggest against the possibility that essentially non-conceptual perceptions could be phenomenally conscious in the absence of being access-conscious.

In order to shed light on the theoretical link in Navya Nyāya between our conscious access to a perceptual state and the conceptual structuring of that state's content, we might consider how that same link was understood in the thought of Immanuel Kant, a philosopher who

notably made much of the connection between apperception and the application of concepts in perception. Kant famously argued that the intentional character of perceptual experience is made possible by the concept-guided synthesis of sensory inputs into a unified representation of an object. Furthermore, these perceptual representations are endowed with a conscious character through being further integrated into a single unified experience belonging to a conscious subject, a unity known to Kant as the "transcendental unity of apperception." Like the unified representation of an object, the unity of apperception is necessarily governed by conceptual categories that specify how representations must be synthesized. My claim, then, is that Kant and Navya Nyāya would be broadly in agreement with the thesis that perceptual states possess conscious intentional content by virtue of their conceptual structuring. Both Kant and Navya Nyāya hold that concepts are involved in granting perceptual cognition with intentional, object-directed content, because concepts govern the attribution of predicates to perceived objects—in other words, it is through being classified under some concept that an object comes to be seen as having, or as being qualified by, a specific property. Furthermore, both accounts take this conceptual/predicative structure as a necessary condition for a perceptual cognition's being apperceivable. That is, a perceptual cognition must be conceptually structured in order for its content to be accessible to other cognitions, and thereby for the cognition to become integrated into a subject's conscious experience. We can thus draw from Kant and Navya Nyāya a second thesis about conscious perceptual awareness, namely that phenomenality cannot be found apart from accessibility. For both Kant and Navya Nyāya, only those perceptual cognitions have a subjective phenomenal character whose contents are accessible to, or apperceivable by, other cognitions; and it is through being apperceivable that these cognitions can come to have the

subjective character of “me-ishness” that is characteristic of the integrated experience of a conscious subject. Taken together, the two theses entail that we only have conscious, experiential access to conceptually structured perceptual cognitions and intentional content—perceptual cognitions with essentially non-conceptual, pre-predicative content never phenomenally appear in our conscious mental life. If only those perceptual cognitions which bear a predicative structure are consciously accessible, then the conscious accessibility of these cognitions must somehow implicate the activity of perceptual concepts.

3.2.4 Chadha's Kantian Reading of Navya Nyāya on Perception and Concepts

So far, the most sustained Kantian reading of the Navya Nyāya theory of perceptual cognition has been offered by Monima Chadha (2001). Chadha's presentation of Nyāya views was met with criticism by Stephen Phillips (2004), and was significantly revised by Chadha herself in subsequent essays on both Kant and Nyāya in which she disavows the central claim of her original essay—namely, that all perceptual cognition requires conceptualization. By briefly considering Chadha's original account, then, we may get a more clear idea as to how Kant's ideas of apperception and conceptual synthesis may be brought to bear on our interpretation of Navya Nyāya. Chadha's essay mainly targets the Yogācāra/Sautrāntika Buddhist view that perception amounts to the non-conceptual awareness of bare, propertyless particulars (*svalakṣaṇa*), and the corollary claim that any verbalizable awareness of an object as specified by some generic feature must instead arise from a mental distortion of what is purely given through the senses. Chadha argues that the Buddhist view is untenable, and that if we are to explain the cognitive capacity of perception to grant us knowledge of objects, then the contents of perception must be restricted to

universal features, rather than bare particulars that are devoid of any properties by which they may be identified and recognized. To counter the Buddhist view of non-conceptual perception and thereby reinstate the cognitive capacity of perception, Chadha hence advocates a thesis that she attributes to Nyāya, namely, “All cognition, and thus perceptual cognition, requires conceptualization” (Ibid., 198). Chadha further attempts to undermine the Buddhist view by defending the Nyāya thesis in conjunction with the Kantian tenet that “perceptual experiences require the cooperative activity of the sense-faculties and the mind” (Ibid.). Prior to this cooperation, the initial interaction of the sense-faculties with a particular object can only yield sensory impressions, i.e., non-cognitive, physiological states of sensory stimulation. On their own, these unstructured sensory impressions cannot enter into our perceptual experience; instead, Chadha writes, “The awareness of the impression arises at the subsequent stage as a result of the infiltration of concepts, and only this second awareness is, strictly speaking, a perceptual cognition” (Ibid., 200). It is further doubtful whether the Buddhist form of non-conceptual perception could have intentional, object-directed content: Concepts are required not only for identifying an object as being of a certain generic kind, but also for distinguishing an object as an object. If non-conceptual perceptions cannot conceptually specify an object in any way, then they would lack even the basic ability to differentiate between distinct particulars. As a result, the intentional, object-directed aspect of perceptual cognition would be lost—without distinguishing one particular from another, there would be no sense in which a non-conceptual perception could be aware of a particular at all. Thus, Chadha concludes, “The very notion of a 'conception-free *cognition of a particular*' is incoherent” (Ibid., 201).

To bolster the idea that all perceptual experience involves “seeing-as,” i.e., the classification of objects as being of a certain kind, Chadha invokes the Kantian notion of concept-guided synthesis. On their own, the sense faculties cannot identify an object either as being the same across time, or as being the same sort of thing as other objects. Instead, it is only through the application of concepts by the mind that disparate sensory impressions give rise to the perceptual awareness of a unified object; as Chadha explains, “Kant introduces the notion of a concept as a principle for unifying or synthesizing discrete sensory impressions. Concepts have application in experience because they serve to link or combine distinct fleeting sensory impressions as different perceptions of the same object” (Ibid., 203). The involvement of the mind is specifically required for perceptually recognizing a particular as being of a certain kind, because an object's kind-identity or numerical identity can be determined only in reference to past representations of similar objects or of the same object. Since the senses only detect what is presently given to them, Kant hence posited a mental faculty of imagination, by means of which past representations are united with presently given sense impressions to generate a perceptual awareness of an identifiable object. Concepts enter into perception through guiding the synthetic activity of imagination, in that they set out the rules for how impressions are to be associated together in an intentionally structured perceptual cognition.

Chadha then goes on to suggest that, as imagination for Kant is a necessary ingredient of perception, so too must it be for Navya Nyāya. For one, the notions of conceptualization (*kalpanā*) and concepts (*vikalpa*) prevalent in classical Indian philosophy carried the connotation that concepts are imaginative constructions or fabrications of the mind, which are either superimposed upon or recognized in what is given by perception (Matilal 1986: 314); so, given

that Navya Nyāya also accepted a form of concept-laden, *savikalpaka* perception, it too must acknowledge the presence of imagination in perceptual awareness.³⁸ More to the point, while Navya Nyāya holds that a purely sensory, non-conceptual perception of cowhood is needed to explain how we first come to see a cow as a cow, that non-conceptual perception is not a necessary causal condition for every subsequent perceptual encounter with a cow. Once the concept of cowhood has been acquired, the mind can abstract from given sensory input a structured awareness that immediately recognizes a presently perceived cow as being type-identical with other previously experienced cows. For Chadha, this perceptual ascription of a universal property to a particular object should be understood in Kantian terms, that is, as amounting to “no more than the unifying and synthesizing of data by applying concepts to generate perceptual experience” (2001: 205). Accordingly, since all perceptual awareness involves the identification and recognition of an object's universal features, all perceptual awareness will involve the imaginative application of concepts.

38 It may be noted that the textual evidence Chadha offers for her reading of Gaṅgeśa is flawed. She borrows Matilal's (1986: 347; see also 1985: 379-80) rendering of an argument offered by Gaṅgeśa's opponent against one possible defense of *nirvikalpaka* perception. The defense under consideration tries to prove that qualificative cognitions must be caused by a prior non-conceptual cognition of a qualifier, by pointing to cases in which there is a *viśiṣṭa-jñāna* of a qualifying feature such as a color that has just arisen and is being perceived for the first time. Matilal illustrates the argument with an example of seeing a disc that has just turned a shade of blue one has never seen before: In seeing the disc as qualified by that particular shade, the qualificative cognition could not be drawing upon a memory-trace of a color that one has never experienced; hence, the qualifying color must instead have been supplied by a non-conceptual perception. And as a non-conceptual perception is the cause of the qualificative cognition in this case, so too must it be in other cases, *ceteris paribus*. (TCM, 860: “*atha tatkālotpannarūpādviśiṣṭapratyakṣe saṃskārābhāvena smaraṇābhāvāt pakṣadharmatābalena nirvikalpakasiddhau anyatrāpi sāmagrītaulyāttatsiddhiriti.*”) Chadha takes Matilal's example to present a case in which the mind and senses cooperate in the first moment of perception to instantaneously produce a “conception-loaded awareness” or qualificative cognition of the particular color of the disc as being blue (2001: 204). But, the argument as presented in Gaṅgeśa's text and in Matilal's example takes the particular color to be the qualifier itself; it would be the disc itself that is seen as qualified by the particular blue tint. The argument is further intended to prove that a non-conceptual cognition of the particular color must have preceded the cognition of something as qualified by the particular color, and not that the qualificative cognition would arise in the first moment of perception. This argument is met with a response by Gaṅgeśa's opponent and is thus supplanted by another argument for non-conceptual cognition; see Phillips & Tatacharya 2009: 619-20 for further discussion.

However, Stephen Phillips disputes Chadha's Kantian interpretation of Navya Nyāya as claiming that all perceptual awareness involves the mental synthesis of sensory data under a concept. As Phillips points out, Navya Nyāya did hold that the mind is involved in producing those types of concept-laden perception which happen to be informed by the memory of previous cognitions.³⁹ One type of memory-informed perception is so-called recurrent perception (*anugata-pratyakṣa*), wherein a particular object is cognized as being another instance of some previously experienced class of objects (*TCM*, 611; Phillips & Tatacharya 2009: 340-1). Another type involves the perceptual recognition (*pratyabhijñā*) of an object as being the same across time. For example, having just now run into a person named Devadatta whom I had previously met some time ago, I become aware that “this is that Devadatta (whom I previously saw)” (“*so 'yaṃ devadattaḥ*”); in other words, I now recognize “this” presently perceived Devadatta as being identical with “that” Devadatta I remember seeing in the past. The memory-trace (*samskāra*) left by my previous perception of Devadatta thus plays a causal role in generating my current perceptual awareness of him, supplying the current perception with the qualifying predicate of “having been seen before,” or what Gaṅgeśa elliptically refers to as the property of “thatness” (see *TCM* 881-7; Phillips and Tatacharya 658-74). An object's having been seen

39 Other types of memory-informed perceptual cognitions described by Nyāya include perceptual illusion and certain cross-sensory perceptions (see Phillips 2012: 36, 47). In the case of perceptual illusion, a memory-trace of some property F is mistakenly triggered upon the perception of some object *a*, leading one to cognize *a* as being F when it is not in fact so. Take the case of seeing a piece of rope as being a snake: According to Nyāya, the illusion arises because a memory-trace of snakehood left by one's previous experience of snakes has been activated in light of the rope's apparent similarity with snakes; as a result, the remembered property of snakehood comes to be superimposed onto the perceived piece of rope. As for cross-sensory perceptions, Nyāya holds these are cases of veridical awareness in which the memory of one sensory property becomes fused with a perceptual cognition stemming from another sense faculty. The typical example given is that of seeing a distant piece of sandalwood as being fragrant: The sandalwood is too far away for its fragrance to be smelled, but the visual perception evokes one's the memory of sandalwood fragrance such that in the visual experience itself the sandalwood is cognized as being fragrant. To account for these and other types of memory-infused perception, Nyāya posited a “non-ordinary” (*alaukika*) form of sensory connection with an object that is specifically mediated by a cognition (*jnāna-lakṣaṇā-pratyāsatti*), memory being the type of cognition involved in these cases.

before is not something that can be detected by the external sense faculties themselves, since the senses only make contact with an object in the present. Hence, the mental sense faculty of *manas* is taken to be the means by which the identifying feature of thatness can be introduced from memory into the content of a perceptual cognition.⁴⁰

Aside from such select cases as memory-infused perception, Phillips argues, the auxiliary causal involvement of *manas* is not necessary for generating concept-laden perceptions, nor does its operation ever resemble a Kantian process of imaginative synthesis. According to Chadha's interpretation of the Nyāya account, it is because all perception entails an awareness of universal features that the mind must be implicated in the production of perceptual awareness. She explains,

The cognizing mind synthesizes the immediately presented individual with *possible* past and future individuals of the same kind. The synthesizing activity depends on abstracting a universal from the immediately presented non-particular individual. Although the mind is implicated in the cognition of non-particular individuals, there is no imposition of structure. The indeterminate perception of a non-particular individual is structured in the sense that the active mind unites the individual presented on a perceptual occasion with possible past and future non-particular individuals of the same kind. (2004: 386)

Yet, to speak of indeterminate/*nirvikalpaka* perception as involving the mental abstraction of a universal from given sensory input is misleading in several respects. For starters, Phillips points out the case of perceiving something for the first time: Someone who has never seen a cow

40 Since thatness—i.e., the property of having been experienced previously—is never present to the external senses, the question arises of how it can be remembered when it was never directly perceived in the first place. Memory-traces (*samskāra*) are impressions left by previous perceptions, and thus should draw their intentional content from these perceptions. The first perception of Devadatta did not cognize him as having been seen before, so the memory-trace left by the first perception should not give rise to a second perception in which Devadatta is now recognized as having been seen before. Gaṅgeśa's response to this problem is that an object's being qualified by thisness in the first perception, i.e., its being seen in the present, is converted by the memory-trace into being qualified by thatness/pastness. The memory of seeing Devadatta will thus have a different intentional content (*viśayatā*) than the first perception of Devadatta itself, as the memory will now cognize Devadatta as qualified by having been seen in the past. The content of memory cognitions is different from the perceptions from which they are formed, because memory cognitions carry an implicit grasp of their causal origins in past experience. This implicit grasp of pastness in the content of memory cognitions allows us to clearly distinguish memories from perceptual cognitions in introspection; we seldom confuse a memory with a direct perceptual experience (See *TCM* 886; Phillips & Tatacharya 671-3).

before cannot come to identify the cow as being a cow by first comparing the perceived object with past individuals of the same kind, to say nothing of comparing the present cow with possible cows to be perceived in the future. Because the mind cannot draw on the memory of any past experience in order to classify the perceived object as a cow, Navya Nyāya instead posits a non-conceptual cognition of cowness, which thereby furnishes the predication content for a subsequent perception of the cow as qualified by cowhood (Phillips 2004: 392; see also Phillips 2012: 37-8). Hence, there is at least one instance in which the perceptual awareness of a universal feature does not implicate any synthetic activity of the mind. What's more, Navya Nyāya also holds that, unlike other types of non-particular individuals such as tropes, universals like cowhood are singular entities, so it is further inapt for Chadha to speak of synthesizing non-particular individuals of the same kind, when there is only one universal throughout. Navya Nyāya would therefore not explain the process by which one comes to be non-conceptually acquainted with cowhood as involving the mind's actively unifying the perceived cowhood of one cow with the distinct but similar cowhood of another. While non-conceptual perception and the direct acquaintance with universal features play a role in concept acquisition, mental synthesis was not thought to be operative in non-conceptual perception in the way that Chadha has claimed.

It is worth addressing some additional points of unclarity in Chadha's reading of the Navya Nyāya account of concept acquisition and possession. First, Chadha is mistaken in viewing the non-conceptual perception of a universal as being an instance of seeing-as, especially since seeing-as is a type of perception which she claims is “conceptually loaded” (2001: 203).⁴¹ For Navya Nyāya, the non-conceptual perception of a universal could not involve

⁴¹ Chadha also overemphasizes the degree to which Navya Nyāya believed that non-conceptual perceptions have

seeing-as, because the perceptual cognition does not identify the universal in any way, lest an infinite regress result. Not only is a universal not seen as being the predicate of a particular object, but the universal itself is not seen as being the universal that it is; in technical terms, the universal such as cowhood is cognized in an unqualified, non-predicative manner, without any delimiting mode of presentation.

Moreover, since non-conceptual perception does not identify its objects in any way, it does not seem right to claim with Chadha that non-conceptual perceptions grant us a recognitional capacity to re-identify objects. She writes that even animals may unconsciously acquire through the non-conceptual awareness of a universal property a behavioral disposition for recognizing other instances of that property: “Having smelt cows before, a hungry lion on smelling another cow in his vicinity may have a mental flash, ‘Aha, the same smell again’” (2009: 241). For one, Chadha's illustration overlooks the unverbalizable and consciously inaccessible nature of *nirvikalpaka* cognitions. More importantly, Nyāya considers only *savikalpaka* cognitions to be capable of generating the memory dispositions (*saṃskāra*) that enable us to recognize and re-identify objects (Mohanty 2000: 12). It is only through determinately perceiving some object *a* as being *F* that one forms an *F-saṃskāra* which can then causally assist the mind in its perceptual classification of other objects as being instances of *F* (Phillips 2012: 37).

Finally, while Chadha is correct to interpret the prior acquaintance with a qualifier as being a necessary prerequisite for the acquisition of recognitional capacities, I would argue that her interpreting the exercise of such capacities as being non-conceptual in character does not sit

only universal features as their objects. See Bhattacharya 1990: 172-6 for a survey of competing views within Navya Nyāya on the contents of *nirvikalpaka* perception.

well with Nyāya's *samskāra*-based account of concept possession.⁴² For Chadha, the ability to recognize instances of a property does not entail that one possesses the concept of that property, though the converse is true. She holds with most other modern advocates of non-conceptualism that concept possession must approach concept mastery, which requires understanding a concept's inferential and linguistic relations to other concepts. Hence, non-conceptual perceivers like children and animals can see and recognize instances of a property without understanding and possessing a concept of that property: “Everyone agrees that pet dogs have the capacity to recognize their masters,” she writes, “... but at the very least it is controversial whether the dog has the concept of master” (2006: 333; see also 2014: 298). However, Chadha is here implicitly assuming a “state view” of non-conceptualism, for which the non-conceptual or conceptual character of perceptual content depends on whether a perceiver possesses the concepts that would characterize that content. As we saw in chapter 1, Hanna & Chadha (2011) have forcefully argued that the state view is ultimately an unviable form of non-conceptualism, especially if the distinction between non-conceptualist and conceptualist positions is to remain a non-arbitrary one. We have also seen that Navya Nyāya takes a “content view” of non-conceptualism, holding that the intentional content of non-conceptual states is essentially different in kind from that of conceptual states. Yet in Chadha's example, there is no apparent difference at the level of content between the dog's seeing someone as its master, and an adult human seeing the same person as the dog's master—both perceptions attribute to someone the property of being a master. Moreover, both perceivers would be drawing upon memory traces left by past experiences in order to recognize the currently perceived individual as an instance of that property. Assuming

⁴² I am indebted to Jonardon Ganeri (2009: 7.1) for the idea that the Navya Nyāya account of memory and memory dispositions serves as its theory of concept possession.

Chadha is correct in ascribing the dog with a qualificative perception of its master, Navya Nyāya would then consider the perception's qualificative structure as a mark of its conceptual character.

The distinction Chadha (2014: 298) wishes to draw between grasping a concept and merely grasping a corresponding property or universal is not lost on Navya Naiyāyikas; however, the distinction does not imply for them the account of concept possession that Chadha has taken it to suggest. It is true that the grasp of a universal property in a *nirvikalpaka* cognition falls short of grasping a concept; the universal is not identified as something which is attributable to an object, and hence the cognition lacks a predicative object-property structure. Nonetheless, the non-conceptual cognition of universal properties is not exclusive to seemingly non-conceptual creatures. Nor are such creatures excluded from grasping the corresponding concept of those properties, so long as they too are capable of cognizing a property as qualifying or picking out a particular object, and subsequently forming a dispositional capacity for picking out objects of the same kind. Navya Nyāya would not claim that, in the absence of a more robust linguistic competence, possessing these dispositions falls short of concept possession. Rather, they would concur with Vācaspati's objection to the Yogācāra Buddhist view that non-linguistic infants and animals have proto-linguistic concept-laden cognitions, not by denying that infants and animals have concept-laden cognitions, but by rejecting the idea that perceptual concepts must be linguistic in nature.⁴³ For Nyāya, the memory-based conceptual capacities involved in perceptually predicating and classifying objects are distinct from, and exist prior to, the conceptual capacities involved in understanding the words for those objects. Additionally, the representational content of concept-laden perception is endowed with a combinatory

43 See *NVTT*, 229: "*na tvīdriyajavikalpotpādaṃ pratyastyupayogaḥ kaścit śabdasmaraṇasya. anyathā bālamūkādīnāṃ nendriyajāḥ syādvikalpaḥ śabdasmaraṇābhāvāt.*"

propositional structure that, while being linguistic expressible, is logically distinct from the structure of linguistic expressions.

Having disagreed with some details of Chadha's Kantian reading of Navya Nyāya, I nonetheless wish to retain one of its insights, namely that the application of concepts to sensory inputs is necessary for generating conscious perceptual experience that is endowed with intentional, object-directed content. Yet, my own reading goes further than Chadha's in more explicitly identifying the necessary connection that Kant and Navya Nyāya drew between the conceptual structure and conscious character of perceptual cognitions. We have seen how, according to Navya Nyāya, a cognition must be predicatively structured if a subject is to introspectively apperceive that cognition and self-consciously ascribe it to one's self. I have further suggested that the total inability of non-predicative *nirvikalpaka* cognitions to be noticed or detected by a subject is evidence that these cognitions fail to have any subjective phenomenal character, and instead are better understood as subpersonal cognitions occurring outside of a subject's conscious awareness. I now will examine how Kant claims to similar effect that the conceptual structuring of perceptual cognitions is closely tied to the possibility of their being consciously accessed and integrated into a unified experience belonging to a conscious subject. Despite the fundamental differences in their philosophical approaches, I wish to show that Kant and Navya Nyāya can offer complementary answers to the question of how perceptual experience comes to have a subjective phenomenal character. Specifically, Kant's account of apperception can help to corroborate the Navya Nyāya view that cognitions with essentially non-conceptual content are consciously inaccessible, whereas Navya Nyāya's relaxed account of

concept possession can help us avoid some of the undesirable consequences that follow from Kant's sharp division between sensory intuition and discursive understanding.

3.3 Kant on Concepts and Conscious Perceptual Experience

Kant holds that perceptual experience depends on the operation of two mental capacities—sensibility and understanding—that seem to be wholly distinct in terms of their function, form, and content. Sensibility is a merely receptive capacity that passively imbibes sensory inputs and directly presents them as intuitions, while the understanding is an active, spontaneous faculty that “mediately” presents given representations as being united under concepts, and that further unites those concepts into propositional judgments. Similarly, intuitions and concepts themselves are different in character, the main difference being that intuitions are singular representations of objects, while concepts are general representations that refer to objects “by means of a characteristic that may be common to several things” (*CPR* A320/B377). Furthermore, the *a priori* forms of sensibility, or the necessary structures of perception responsible for ordering all sensory appearances, are the pure intuitions of space and time, while the *a priori* form of understanding are the categories, or concepts that necessarily serve as predicates for all possible judgments. And yet, though sensibility and understanding are definitionally distinct in Kant’s system, their functions are inseparable when it comes to our cognitive experience of objects. For such experience to be possible, Kant thinks that intuitions must in some sense correspond to our concepts and judgment, and vice versa; in other words, when one judges that x is F , one can determine whether that judgment is true only by checking the representation of x as it is given in intuition to see whether or not x is in fact F . In order for intuitions to be responsive to judgments

in this way, the structure and content of intuition must therefore not be incommensurate with the structure and content of judgment; indeed, Kant thinks there must be a necessary agreement of intuition with the concepts of its presented objects (B166).

The view that perception must have conceptual content can take Kant's dictum, "Intuition without concepts are blind," as a slogan which expresses the reliance of perception on the understanding for its ability to see and discern objects. That is to say, sensibility alone cannot furnish us with a full-fledged experience of objects. Kant is clear that the singular representations provided by the sensibility could not give rise to such experience were these representations not synthesized and united, "for cognition," Kant writes, "is a whole consisting of compared and connected presentations" (A97).⁴⁴ In fact, the object of experience is defined as being just this unity of presentations; as Kant puts it, "An object is that in whose concept the manifold of a given intuition is *united*" (B137). Given that the presentations provided by intuition are only cognized as objects when they are united under a concept, the responsibility for bringing about such a unity through a process of comparing and connecting presentations must lie with the spontaneous faculty of understanding. The understanding is defined by Kant as the "power of judgment." Judgments are defined as "functions of unity among our presentations," where "function" refers to the act of arranging different representations under one common representation, i.e., concept (A68-9/B93-4). Kant will ultimately claim that if what it takes for an object to be experienced/cognized is that intuition be arranged or structured into a unity of representations under a concept, and if judgments are themselves structured complexes of

⁴⁴ Werner Pluhar (*CPR* bxvii n. 73, p. 22) explains that his translation of *Vorstellung* as "presentation," rather than as "representation," is intended to avoid the confusion that perceptions for Kant represent objects of experience in the sense of "standing for" those objects, as though the objects themselves figure only indirectly in experience. My use of "representation" in the Kantian context will be interchangeable with Pluhar's use of "presentation."

concepts, then the structure of intuition must be at least parallel to the conceptual structure of judgment.

What ensures that the content of perception is parallel to that of conceptual judgment is what Kant calls the pure concept of the understanding, which is defined as follows: “The same function that gives unity to the various presentations *in a judgment* also gives unity to the mere synthesis of various presentations *in an intuition*. This unity...is called pure concept of understanding” (A79/B105). Elsewhere, Kant argues that everything given in the manifold of intuition is necessarily determined by the categories, which are the *a priori* logical forms of all possible judgments (B143). Hence, we see that, owing to their common source of synthetic unity, the content of intuition must be unified in a way that is akin to the content of judgment. This necessary agreement in structure underlies the possibility of all experience of objects, because for Kant what it means to perceive objects in the world just amounts to being able to consciously judge that the world objectively exists in a certain way. That is to say, insofar as there is a “necessary agreement of experience with the concepts of its objects,” (B166), all the possible ways in which we can experience/perceive the world must thereby be constrained by the possible ways in which we can judge the world to be so. Hanna acknowledges Kant in the B-Deduction to be claiming that “the spatiotemporal *intuitional* unity of the content of our conscious perceptual representations is necessarily also a fully *logico-conceptual* unity,” which further implies that “the pure concepts of the understanding, as logical forms, would necessarily carry over into the objects of experience, as constituting their objective structure” (2011: 11-12).

The method by which the pure concepts of understanding synthesize the manifold of intuitions into a unified representation of an object is what Kant calls “combination.” He

unambiguously states that since the combination of the manifold of intuition cannot be given by intuition itself, it must be a spontaneous act of the understanding. Again, without this synthesis and unification of given representations, there can be no coherent experience of an object as an object, i.e., as an entity which exists “objectively” in the world, over and above one’s fleeting and disparate sensory impressions of it. He writes,

Hence all combination is an act of understanding—whether or not we become conscious of such combination; whether it is a combination of the manifold of intuition or of the manifold of various concepts; and whether, in the case of intuition, it is a combination of sensible or of nonsensible intuition. (B130)

In other words, even at the most basic level of intuition, our representations of intuitions are composite; no temporally/spatially extended representation is given that is not composite. But, as Kant says, the act of giving a composite structure to intuition requires an *a priori* concept that dictates how to construct such a structure. When we represent some determinate space/time, we do so by drawing it, that is, by adding units of space/time together to form a unified representation. This whole procedure takes place within intuition, in the sense that everything being synthesized is an intuited representation. Yet, the process of generating these intuitions follows the rules set down by the pure concept.

Just how, then, do the categories—the *a priori* logical forms of judgment—combine the manifold of intuition and give them a unity that agrees with the unity of judgment? We can begin to get an idea by looking at how Kant thinks a particular concept informs one’s perceptual content. He writes,

All cognition requires a concept, no matter how imperfect or obscure that concept may be. A concept, in terms of its form, is always something that is universal and that serves as a

rule. Thus the concept of body serves, in terms of the unity of the manifold thought through this concept, as a rule for our cognition of external appearances. But a concept can be a rule for intuitions only by presenting, when appearances are given to us, the necessary reproduction of their manifold and hence the synthetic unity in our consciousness of these appearances. Thus when we perceive something external to us, the concept of body makes necessary the presentation of extension, and with it the presentations of impenetrability, shape, etc. (A106)

That is, the concept of body serves as the rule by which given sensory impressions are necessarily combined to generate certain perceptual representations of objects in the external world. Kant specifically holds the mental faculty of imagination responsible for synthesizing sensory inputs and forming a perceptual image that represents an object as falling under a certain concept. Briefly, the formation of an intentionally structured, object-directed perceptual representation is said to involve three types of synthesis (Buroker 2006: 108-111): In the synthesis of apprehension (A99), an indeterminate manifold of given sensations is parsed into distinct and successive representations of an object's features. But a coherent perceptual image of the object would not be possible if its successively apprehended features were constantly being lost as new features are apprehended (A121). Hence, the synthesis of apprehension is "linked inseparably" with a second synthesis of reproduction, whereby the imagination incorporates together past and present representations in order to present an object as a unified whole that persists across changes in its spatiotemporal parts (A102). Yet, the imagination must not also reproduce and associate the representations of an object's parts in a haphazard manner, or else our experience of objects would again be incoherent. For instance, one would never understand what an external physical body is if one's perception of it were sometimes accompanied by a presentation of extension or shape and sometimes not, as though the object fluctuated between being extended and extensionless from one moment to the next. Kant thus concludes that the ability to recognize an object as being the same across past and present representations of its

parts requires that the imaginative reproduction of sensory appearances must be subject to certain conceptual rules of combination.

The synthesis of reproduction therefore requires a third synthesis of recognition in a concept. Concepts make possible a complex, compositional representation of an object as a unified whole because once certain sensory representations are bound together in a rule-governed way, they can be represented as being identifying features predicated to a temporally and mereologically complex individual. Kant illustrates how the recognition of an object under a concept entails an awareness of certain representations' being necessarily synthesized together to form a unified representation of that object: "Thus when we think of a triangle as an object, we do so by being conscious of the assembly of three straight lines according to a rule whereby such an intuition can always be exhibited.... And the concept of this unity is the presentation of the object = x, i.e., the object that I think through the mentioned predicates of a triangle" (A105). The pure concepts of understanding, then, must similarly function as the rules according to which sensations are necessarily combined, only that they govern the production of all possible perceptual representations, where perception for Kant is defined as a conscious sensory representation (A120). Because the categories are the logical forms of all possible judgments, they must dictate how the manifold of intuitions should be combined in order to represent the world as being structured a certain way, so that our judgments can then take the world as being objectively structured in that way. For instance, the logical form of categorical judgments involves the relation of a predicate to a subject. The corresponding pure concept is that of a substance and its accidents, or the properties it bears. In generating a perceptual image of a particular object that conforms with the category of substance, the imagination will thus follow

what Kant calls a schema of the pure concept, which translates general concepts into necessary rules for synthesizing particular sensory intuitions. Through a schema, the category of substance will condition the synthesis of intuition such that a perceptual image of an object conforms with the logical form of a categorical judgement “S is P,” that is, with the relation of a subject to a predicate. In perceptual terms, such a phenomenally predicative structure will involve the presentation of an object as “a substratum which therefore endures while all else varies” (A144/B183).

3.3.1 Conscious Subjective Character and the Unity of Apperception

Yet, Kant goes on to argue that all these various forms of synthesis are not sufficient for generating the conscious awareness of a unified object as persisting across time. Rather, it is Kant's central insight that the conditions for the possibility of consciously cognizing objects rest upon the conditions for the possibility of having a unified conscious experience at all. What Kant intends to show is that perceptual representations are conscious by virtue of their being integrated into a single unified experience belonging to a conscious subject, a unity known to Kant as the "unity of apperception," and necessarily established under the influence of conceptual categories that specify how representations must be structured and synthesized. Recall that mental states are thought to be phenomenally conscious insofar as they essentially possess a subjective character, that is, a quality of “me-ishness” that captures what it is like undergo such states from within a first-personal perspective. Now, Kant for his part acknowledges a distinction between unconscious and conscious mental states, writing in the *Anthropology* that there is an “immense” field of sensory representations of which we are not

conscious, whereas there are “only infinitely few points of this field which lie open to consciousness; so that as it were only a few places on the vast map of our mind are *illuminated*” (*An* 7:135). Kant's point will be that the representations which enter into the illuminated field of consciousness are just those which can be cognized as belonging to the subject, and hence which can appear as being “for me” or “mine.” He argues that a representation takes on a subjective character only if it is possible for it to be accompanied by the self-conscious thought, “I think”: As he writes, “The *I think* must be *capable* of accompanying all my presentations. For otherwise something would be presented to me that could not be thought at all—which is equivalent to saying that the presentation either would be impossible, or at least would be nothing to me” (B132). Of the many important claims in this passage, the first to note is that Kant obviously does not believe that we are introspectively aware of all our cognitions at all moments. Rather, a representation must only be capable of being self-ascribed to a subject, which still allows that it can have a conscious character apart from its being accompanied by the thought “I think.” If a mental representation is totally incapable of being recognized as my own, then Kant essentially argues that there would be nothing it is like for me to have that representation. He suggests two ways in which we might think of an unapperceivable representation's phenomenal character: either it is comparable to the phenomenal character of an impossible representation—there is nothing it is like to experience the image of a square circle, say—or it ends up being a representation that is “nothing to me,” i.e., a representation which has no intentional content of which I can be conscious (Schlicht 2011: 508; Buroker 2006: 118). Being something of which I could never be conscious, it should follow that a representation which is “nothing to me” would thus be unconscious. On the other hand, a representation that has a conscious character is one

which would be “something for me,” that is, which has an intentional content (“something”) of which I am conscious (“for me”). Again, one can be conscious of a representational state without explicitly thinking of it as such; the thought “I think” need not be associated with the state at the time of its occurrence in consciousness. Even if an unappereived representation is not explicitly connected with the thought “I think,” and hence is pre-reflexively conscious, it will only represent something “for me” to the extent that it is capable of being cognized along with other representations as belonging to a single unified perspective. However, a representation which I can never in principle apperceptively identify as my own would be one which is never illuminated within the field of my own conscious first-personal perspective.

What does it mean for apperceptibility to be a necessary condition of a mental state's being “something for me,” i.e., of there being something which it is like for me to experience the content of that state? In answering this question, we may first consider how the transcendental unity of apperception serves as a fundamental basis for the object-directed character or “something-ness” of conscious intentional cognitions. Kant states,

Now this transcendental unity of apperception brings about, from all possible appearances whatever that can be together in one experience, a coherence of all these presentations according to laws.... Hence the original and necessary consciousness of one's own identity is at the same time a consciousness of an equally necessary unity of the synthesis of all appearances according to concepts—these concepts being rules that not only make these appearances necessarily reproducible, but that thereby also determine an object for our intuition of these appearances, i.e., determine a concept of something wherein these appearances necessarily cohere. (A108)

Here, Kant suggests that the unity of apperception makes possible the coherent representation of a complex object, by allowing representations to be experienced as belonging to a single, numerically identical subject. Indeed, the three syntheses laid out in the A-Deduction—apprehension, reproduction, and recognition—are thought by Kant to presuppose the synthetic unity of apperception. That is to say, it would not be possible to produce conceptually unified representations of an object as a persisting predicative complex if it were impossible to experience those representations together within a unitary persisting consciousness. Kant has explained that the synthesis of reproduction must require the synthesis of conceptual recognition by writing, “Without the consciousness that what we are thinking is the same as what we thought an instant before, all reproduction in the series of presentations would be futile” (A103); in that same vein, we might say on Kant's behalf that without the consciousness that who is thinking is the same as who thought an instant before, all representation itself would be futile. Ultimately, there could be no unity of representations if one’s consciousness of being the cognizer of preceding representations were lost in each moment. And since cognitions represent objects only by means of such unities of representation under a concept, the unity of apperception stands as a necessary condition for the intentional object-directness of conscious experience.

“Consequently,” Kant writes,

the reference of presentations to an object consists solely in this unity of consciousness, and hence so does their objective validity and consequently their becoming cognitions....

The synthetic unity of consciousness is, therefore, an objective condition of all cognition.

Not only do I myself need this condition in order to cognize an object, but every intuition

must be subject to it *in order to become an object for me*. For otherwise, and without that synthesis, the manifold would *not* unite in one consciousness (B137-8).

To gloss Kant's argument: A manifold of representations becomes cognizable as an object through being unified under a concept; and a concept, in guiding the synthetic act that structures the manifold such that it can represent a determinate object, entails a consciousness of the necessary unity that this synthesis achieves; but, a consciousness of the synthetic unity under a concept “wherein appearances necessarily cohere” can arise only in accordance with the transcendental unity of apperception, that is, on the condition that consciousness itself is unified and numerically identical. In grounding our consciousness of synthetic unity whatsoever, the unity of apperception is hence responsible for the objectivity of representations as such: representations can be cognized as (truly or falsely) referring to objects existing apart from one's subjective perspective only if they are necessarily structured in certain ways that remain invariant among the flux of fleeting sensory impressions.

Having touched on how the apperceptive unity of consciousness – i.e., the necessary combination of representations together into one experience – establishes the conditions for the possibility of having cognitions with an objective, intentional character, we can now see how it similarly plays a role in granting cognitions with a subjective character as well. Following the reading of Tobias Schlicht (2011), we can understand Kant to be claiming that a mental state takes on a subjective character if it stands to be integrated into the unified experience of a conscious subject. As with the coherent representation of a complex object, the coherent phenomenology of being a conscious subject with a unified first-personal perspective is also made possible through an act of synthesis, guided by concepts that govern how representations

must be combined. This combination under the transcendental unity of apperception is responsible for bringing about the phenomenal unity of consciousness as such, as it allows representations to be experienced as belonging to a single, numerically identical subject. Hence, in the same way that synthesizing the sensory representations of an object's features is required to represent that object as being a unified whole, the synthesizing of all conscious representations is required for representing the subject as itself being a unified whole. This latter synthesis is evinced by the fact that the conscious representations one is experiencing at any given time – e.g., the visual awareness of the blue sky, the tactile awareness of grass under my feet, and the auditory awareness of the wind rushing through the trees – are typically not felt to be isolated from each other, as though each representation belonged to a different subject. Rather, insofar as any perceptual representation is conscious, it appears as belonging to “one and the same general experience” (A110). Thus, Kant states, “For only by classing all perceptions with one consciousness (original apperception) can I say, for all perceptions, that I am conscious of them” (A122).

No matter what particular qualitative contents they present, all phenomenally conscious states are thought to share a subjective character of being “for me”; indeed, this shared quality of occurring “for me,” i.e., for an experiential subject, is supposed to be what makes something a phenomenally conscious state at all (Kriegel 2009). What Schlicht's reading takes Kant to be suggesting is that two phenomenal states come to share a subjective character of being “for me” just insofar as they both can be shared by me under one unified experience. As Kant writes,

For the manifold presentations given in a certain intuition would not one and all be *my* presentations, if they did not one and all belong to one self-consciousness. I.e., as my

presentations (even if I am not conscious of them as being mine), they surely must conform necessarily to the condition under which alone they *can* stand together in one universal self-consciousness, since otherwise they would not thoroughly belong to me. (B132)

For Kant, this sense of belonging to a subject is just what it means for a conscious state to have a subjective quality of “mineness”; a state which could never be cognized as belonging to a subject would be one which lacks anything it is like for me to experience, and so would be unconscious. Furthermore, insofar as these states have a subjective character of occurring for me, they also may be minimally self-referential, even if only non-intentionally so. That is, conscious states at least implicitly present themselves as belonging to one and the same subject, insofar as they all appear within “one and the same general experience”; so in bearing a relation to this one experience, each state can enable me to be “conscious of the self as identical, as regards the manifold of the presentations given to me in an intuition, because I call them one and all *my* presentations that make up *one* presentation” (B135; Schlicht 2011: 509). Though, phenomenally conscious representations can have this self-referential quality of “being mine” even without it being cognized as a distinct intentional content; the representation can appear as mine, i.e., as occurring within my subjective perspective, even though it does not represent my perspective itself as its object. For Kant, the synthetic unity of apperception is an “original consciousness” that is “given along with (not in)” sensory intuitions (B161); elsewhere, he says that consciousness itself is just the “form of presentation” under which representations can appear as intentional cognitions (A346/B404). One might only be faintly conscious of this formal unity of consciousness as such, and hence not take any notice of the fact that each representation has been synthesized to form one unified consciousness (A103-4). But though the “illuminated field” of

consciousness in which representations appear may itself be only indistinctly or peripherally experienced, the necessary synthetic unity of representations that structures this field into a unified subjective perspective must nonetheless be present – in Kant's words, “The form of experience consists precisely in this thoroughgoing and synthetic unity of perceptions; and this unity is nothing but the synthetic unity of appearances according to concepts” (A110).

In bringing about the coherence of all possible appearances through combining them together in one experience, the transcendental unity of apperception can therefore be viewed as granting appearances with the self-presenting, “me-ish” quality that essentially constitutes their conscious phenomenal character, because this unity is what allows all appearances to be phenomenologically shared by, and hence manifest for, a single subject. On the other hand, Kant suggests that in the absence of this transcendental unity – that is, were representations not necessarily integrated into a unified conscious perspective – experience would as a result become phenomenologically incoherent:

The thought that these presentations given in intuition belong one and all to me is, accordingly, tantamount to the thought that I unite them, or at least can unite them, in one self-consciousness. And although that thought itself is not yet the consciousness of the *synthesis* of the presentations, it still presupposes the possibility of that synthesis. I.e., only because I can comprise the manifold of the presentations in one consciousness, do I call them one and all *my* presentations. For otherwise I would have a self as many-colored and varied as I have presentations that I am conscious of. (B134)

Here Kant argues that if sensory representations were not integrated together in a necessary unity, there would not be a single unified perspective that remains identical throughout all

experience; instead, the experiential subject would be different in each moment with each new representation. As a result, there would no longer be any subjective quality of “mineness” that is shared across all conscious representations, since there would be no subject that can share these representations and cognize them as being “one and all mine.”

Though, an objection may now be raised that although all phenomenally conscious states intrinsically share a subjective character, that character does not necessitate that these states have to be shared by the same subject; leaving aside the existence of other minds, even representations existing in the same mind could all be phenomenally conscious and thereby subjectively occur “for me,” without that “me” needing to be felt as being the same subject from one moment to the next. As we have seen, however, the transcendental unity of apperception is also a necessary condition not only for the unity of subjective consciousness, but also for the unity of objective representation. In other words, Kant has argued that it would be impossible to have a perceptual experience of an object as a structured, unified whole, if the representations of the object's parts and features were totally isolated from each other and thereby did not belong to the same experience. No coherent perceptual image would be generated were sensory impressions not associated together in a rule-governed manner, that is, according to concepts. Rather, it is only through conforming with the unity of apperception that any representation can be synthesized in such a manner. Hence, without a transcendental basis for the unity of synthesis,

our soul [would] be filled with a crowd of appearances that yet could never turn into experience....Although it would be intuition devoid of thought, yet it would never be cognition, and hence would for us be tantamount to nothing at all....These perceptions would also not belong to any experience, and hence would be without an object; they

would be nothing but a blind play of presentations—i.e., they would be less than a dream.
(A111-12)

Hence, the phenomenological incoherence of intuition “devoid of thought” outstrips the merely rational incoherence of dreams. For Kant, dreams are distinguished from perceptual experience in lacking any objective reality. The objects presented in dreams don't necessarily obey the natural laws (such as causality) that govern external objects (A202/B247; A451/B79); which, given Kant's “Copernican turn,” is to say that dreams are not fully determined by the *a priori* rules of synthetic unity that govern our cognition of objects. Yet, dreams are also not fully exempt from the pure concepts of the understanding – they have intentional contents, and insofar as they figure as objects of inner sense, i.e., as subjective mental states in a temporally ordered sequence, they are governed by the synthetic unity of apperception (A177/B120; Gardner 1999: 164). Kant therefore suggests that if essentially non-conceptual intuitions were to be totally exempt from the conceptual and categorial unity of apperception, they would have to exist at a level below waking perceptual consciousness and dreaming, where they would not appear as consciously presenting objects from within a unified first-personal perspective. These “blind” non-conceptual appearances which could never turn into an experience belonging to a conscious subject would be best understood as being sub-personal, sub-conscious representations.

3.3.2 Objections From Kantian Non-Conceptualism

At this point, non-conceptualist interpreters of Kant would be quick to object: “Cognition” (*Erkenntniss*), “experience” (*Erfahrung*), “perception” (*Wahrnehmung*), “consciousness” (*Bewußtsein*) – these are all terms of art whose meanings in the Kantian context do not

necessarily map onto their usages in contemporary philosophical discussions. That being so, the conclusions we have drawn about the phenomenological incoherence of non-conceptual perception only follow from a misreading of Kant's account. Kant's psychological account in the *Critique* is transcendental rather than empirical; he is concerned with finding the necessary conditions for our knowledge claims about the world to be justified, instead of describing how the mind actually works. Each of these terms thus have for Kant a more narrow, explicitly epistemic connotations, which do not necessarily apply more generally to all conscious perceptual states. By the term "cognition," Kant refers to conscious representations which "consist in determinate reference of given presentations to an object" (B137). To explain: Cognitions have objective validity insofar as they represent some determinate object. Concepts are what determine the reference of a cognition to some object instead of another, insofar as a concept determines how representations must be united in order to form a cognition of that specific object. Concepts perform their function of classifying representations together by means of discursive judgments; as Buroker explains, "[Kant's] point is that concepts have no use other than to think of something, an x, as a thing of a certain kind F. But this act of conceiving an x as an F is equivalent to thinking the proposition that x is F, which is an act of judging" (2006: 81). So ultimately, a cognition bears a determinate relation to an object through being a judgment that contains concepts for that object and its predicates. The objective validity of cognitions is thus grounded in their being judgments with determinate truth values about objective states of affairs. Through a cognition, one asserts something about an object itself, rather than about how subjective mental states are contingently associated in one's mind.

When a cognition determines its object through perception, then we have what Kant calls “experience” or “empirical cognition” (A176/B218). Experience specifically arises through the connecting together of perceptions under the necessary rule of the categories, with “perception” being defined as the empirical consciousness of a sensory appearance furnished by intuition (*Anschauung*) (A120, B160, A320/B376). That raises the question of what Kant means by “consciousness,” and whether intuitions as well as perception are equally conscious in the ordinary sense of being phenomenal states. Colin McLear points out that consciousness for Kant fundamentally involves discrimination, such that the degree to which a representation is conscious is determined by how thoroughly it discriminates its object. A representation can be conscious and still be “obscure,” if it discriminates its object without a subject being explicitly aware of how that representation is distinct from other representations. On the other hand, a conscious representation is sufficiently “clear” when the subject can distinguish its object from other objects (B415). Finally, a conscious representation can be “distinct” in the sense that all the parts of its content can be discriminated. Returning to Kant's definition of perception as the consciousness of an intuited appearance, McLear claims that the difference between clear and distinct representations sheds light on the difference between intuition and perception: “An intuition, of itself, is at best conscious in the sense of being *clear* [*klar*]. When an intuition is apprehended in an act of *Wahrnehmung*... its content is brought together in such a way that it becomes (at least to some degree) *distinct* [*deutlich*], and thus a candidate for cognition” (2014: 786). Summing up, we may say that intuition on its own is conscious to the extent that it involves the sensory discrimination of some features in the world; perception goes a step further in being conscious of those intuited features as the basis for differentiating one object from another; and

finally, full-blown experience or empirical cognition amounts to a propositional judgment in which one is conscious of an object as a structured complex of features like “the substantiality of a thing, its causal relations with other beings, and its mereological features, that is, part-whole dependence relations,” such features corresponding to the conceptual categories of the understanding (McLear 2015: 1.a.i).

To the defender of Kantian non-conceptualism, it is evident from how Kant has set up this trichotomy of intuition, perception, and experience that his account of experience should not be confused with an account of perceptual awareness in general. When Kant claims that conceptual synthesis and apperceptive unity are necessary conditions of “experience” or “empirical cognition,” he is ultimately elaborating the conditions for the possibility of having objectively valid thoughts about objects; he is not thereby claiming that these conditions are also required for the ordinary perception of objects. As Lucy Allais argues, “Since Kant says that by ‘experience’ he means empirical cognition (B147), conditions of the possibility of experience are conditions of the possibility of *cognition*, not merely conditions of something like phenomenal consciousness. This means that to say that something is a condition of the possibility of experience is not to say that it is a condition of the possibility of any kind of conscious representational state at all” (2009: 402). Accordingly, Kantian non-conceptualists claim that we can have phenomenally conscious perceptual representations of objects in the absence of any prior possession or application of relevant concepts. Intuitions for Kant are representations that are immediate and singular; so through intuition alone, we can have a direct sensory presentation of external particulars. Elsewhere in Kant's writings, he clearly acknowledges that certain creatures can perceive the world in this ordinary sense of being presented with particulars,

without needing to possess concepts for what they see. For instance, he describes how a “savage” who has no concept of a house would nonetheless see the house through “mere intuition”: “[H]e admittedly has before him in his representation the very same object as someone else who is acquainted with it determinately as a dwelling established for men. But as to form, this cognition of one and the same object is different in the two. With one it is *mere intuition*, with the other it is *intuition* and *concept* at the same time” (*JL* 33, ctd. in Allais 2009: 388). The non-conceptual savage may not be able to know that this is a house, and may not be able to see, i.e., perceptually judge, the house *as* a house; nonetheless, through mere intuition he perceives the house all the same.

Since there is no question that the non-conceptual savage consciously sees the house, we must therefore re-evaluate what Kant means when he states that intuitions without concepts are “blind,” or represent “nothing to me.” The Kantian non-conceptualist contends that this blindness cannot be intended as a literal blindness or total absence of perceptual representation. Instead, mere intuition is “blind” only in the sense that a perceiver who does not possess the concepts needed to articulate what is being seen may be unable to form an objectively valid judgment about, or have a self-conscious understanding of, the merely intuited object. Giving another example of perceiving through mere intuition, Kant writes, “Concepts differ from intuition by virtue of the fact that all intuition is singular. He who sees his first tree does not know what it is that he sees” (*VL* 905; ctd. in Allais 2009: 388). Someone who sees a tree for the first time does not yet have the concepts needed to categorize or identify what he is seeing, and so, as Allais puts it, “Although something is perceived, it is not perceived *as* having properties, and therefore *as* being an object of a particular kind” (2009: 405, n. 62). She explains that, in lacking the

concepts needed for cognizing an object as being of a certain kind, one lacks an understanding of the identity conditions that determine what it is for something to be that type of thing. For example, each representation of the tree as a tree, or as a birch, or as being tall, would respectively entail somewhat different conditions for how an object of that type persists over time, or bears certain attributes. At a fundamental level, the *a priori* categories set out such conditions for all objects. So, in the absence of all concepts including the categories, the representation of an object would be “nothing to me” to the extent that I could not determine just what it is that is being represented. Yet, while determining an object in this way is necessary for thinking and reasoning about it, it does not seem to be a prerequisite for that object's being directly given to me in perceptual experience (Ibid., 405) – not knowing that one is seeing a tree of course does not entail that one is seeing nothing at all.

As with the categories, the Kantian non-conceptualist will argue that the transcendental unity of apperception is also not to be taken as a necessary condition for conscious perceptual awareness in general. Allais writes,

What is a condition of the transcendental unity of apperception, i.e., the synthesis according to the categories, is a condition of *self-consciousness* and thought about an objective world, which means that it is at least possible that what the Deduction argues to be conditions of the unity of consciousness in the experience of an object concern *self-consciousness* [*sic*] only, and are not conditions of having a perceptual consciousness in any sense. (Ibid., 402)

The self-consciousness that the unity of apperception engenders is a higher-order, self-ascriptive representation of one's own mental states. The unity of apperception is necessary for experience

in the robust, epistemic sense, because through making self-ascriptive thought possible, it allows a subject to self-consciously conceive of itself as a rational knower set against a mind-independent, law-governed objective world. And yet, it is obvious that creatures who do not have any higher-order capacity for introspection, and who cannot attach to their own representations the thought “I think,” can still have a phenomenally conscious awareness of external particulars. The Kantian non-conceptualist would reject the notion that non-conceptual states which are not synthesized according to the unity of apperception must therefore be unconscious or phenomenologically incoherent. Rather than being presented with an “an inner display of non-intentional, raw sensations,” a non-conceptual creature would be able to discriminate, locate, and track spatiotemporally unified objects from within a three-dimensional, egocentric perspective or “phenomenal field” (Ibid., 406, 408). Finally, the phenomenological coherence of the creature's external perceptions can also extend to the creature's experience of inner subjective states like pain, pleasure, hunger, etc. Even though the creature may be totally incapable of introspective self-consciousness, it may still have a basic “inner sense,” a form of intuition through which it can be directly presented with a temporally ordered series of inner representations. The creature can be phenomenally conscious of states in the series without self-consciously understanding where certain states lie in the series relative to each other, nor reflexively ascribing the whole series as belonging to a unified subject (McLear 2011: 9-11).

3.3.3 Responding to the Kantian Version of Essentialist Content Non-Conceptualism

In order to defend the revised conceptualist reading of Kant as claiming that non-conceptual perceptions do not appear in conscious experience, I will offer several responses to

the objections of the non-conceptualist. But first, a concession: In holding that non-rational creatures perceive objects without having any concepts for those objects, Kant indeed seems committed to a form of state non-conceptualism, i.e., the view that a perceptual state is non-conceptual when it stands in a concept-independent relation to a perceiver who does not possessing the concepts that would articulate the state's content. So, when the non-rational savage and rational non-savage both perceive a house, they would ostensibly share the same perceptual state – i.e., the same manifold of intuited appearances that represents the house – but only the non-savage would be related to the state through possessing the concepts required for cognizing the manifold as presenting a house. However, for reasons described in chapter one, state non-conceptualist views are not the target of, and do not pose a threat to, the revised conceptualism I am advocating. It was shown that state non-conceptualism cannot be a viable version of the non-conceptualism thesis, as the distinction between non-conceptual and conceptual states becomes trivial or incoherent if non-conceptual and conceptual contents turn out not to be different in kind. Robert Hanna and Monima Chadha further accuse state non-conceptualism of being compatible with what they call “Highly Refined Conceptualism,” a position akin to my own which allows that concepts can still be deployed in perceptual experience by a perceiver who does not possess a linguistic and/or inferential mastery of those concepts (2009: 196, 200).⁴⁵ It would turn out that even when Kant's savage perceives the house, he is employing a recognitional capacity for identifying the house and distinguishing it from other objects – so his perceptual state could still be concept-dependent.

45 My own view is that the distinction between deployment and possession is not needed once the conditions for possessing a concept are understood in less restrictive, but still non-trivial, terms.

Hanna and Chadha therefore argue that the content of mere intuition must be essentially non-conceptual; that is, intuition must have representational content that is intrinsically and necessarily distinct in both structure and function from the content of conceptual judgments. They stake out their position in the following way: “What the essentialist content non-conceptualist is saying... is that there are perceptual contents that cannot be conceptually presented because they are inherently non-conceptual in formal constitution or structure.... It has to be impossible to give an adequately individuating conceptual specification of an essentially non-conceptual content” (2009 195). This intrinsic, necessary difference between intuitional content and conceptual content owes to the former's origins in the faculty of sensibility, and specifically the pure forms of space and time under which all intuitions must appear. As pure forms of intuition, the representation of space and time has a structural unity different than that of concepts, in that space and time are unitary wholes which are logically prior to their parts. It cannot be as though intuited parts of space-time are combined to form one representation of space-time as a whole; rather, parts of space-time are just limitations drawn out of a singular, antecedently given space-time (A25/B39; A32/B48). When it comes to concepts, by contrast, the logical priority rests with the parts instead of the whole. For instance, although the concept “animal” is a component part of the complex concept “mammal,” what it is to be animal can be understood without thinking about any mammals; in that way, “animal” is logically prior to “mammal” (Buroker 2006: 53). As for the respective functions of intuition and concepts, the difference is simple: the function of intuitions is to immediately present objects to the mind, while concepts are used for thinking about objects whether or not they are immediately present.⁴⁶

⁴⁶ Allais (2009: 390-1) makes the same point about the different functions of intuition and concepts, but does not use that point to argue that there must be an essential difference in the structure of intuitional and conceptual contents (Ibid., 386).

One's knowledge of a conceptually represented object is mediated by a description under which the object is categorized; one can understand that description without ever having been having perceived that object itself. For that reason, Hanna and Chadha characterize conceptual content as “inherently context-insensitive, *allocentric* or non-egocentric (whether third-personal or impersonal), shareable, communicable content” (2009: 202). The non-conceptual content of intuition is thus characterized as the opposite; intuitional content is “context-sensitive, egocentric, first-personal, intrinsically spatiotemporally structured” content, whose function is to locate and track material objects in a 3D Euclidean space (2009: 203).

At the same time, Kantian non-conceptualists wish to distance intuition from mere sensation (*Empfindung*), which is also a deliverance of the sensibility. Sensation for Kant are taken to be unstructured, non-intentional, sensory states of a perceiver.⁴⁷ These states do not yet amount to a perceptual representation of an object, and can play no epistemic role on its own (Allais 2009: 398). As Hanna and Chadha acknowledge, representations with non-conceptual content cannot amount to unstructured, raw impressions brutally given by the sensibility, as such impressions could not serve as reasons which properly justify our beliefs and motivate our actions. Lacking a structure, sense impressions cannot be truth-evaluable, and cannot stand in epistemic relations to other beliefs. However, genuine non-conceptual representations are proto-rational and normative, and ground our epistemic practices by ensuring that they successfully make reference to objects in the world (2009: 210). So, if intuition is to outstrip sensation in having an intentional structure and normative significance, then it must have a source outside of sensibility alone, without that source being the understanding. Hanna and Chadha identify this

⁴⁷ Sensations may also be understood by Kant as physiological states rather than as conscious mental states; see Buroker 2006: 41.

additional source as a sub-rational, non-conceptual type of synthesis carried out by the productive imagination. Hanna writes elsewhere that the productive imagination introduces an active, “lower-level” spontaneity to the passive sensibility, and is responsible for generating “representations of static or dynamic spatiotemporal forms, patterns, or shapes” in perception (Hanna 2005: 249), such representations presumably being incapable of being yielded by sensibility alone. The productive imagination, or what Kant calls “figurative synthesis” in the B-Deduction (B151), evidently takes over the functions of the first two types of synthesis laid out in the A-Deduction, namely apprehension and reproduction. Through this figurative synthesis, the imagination generates perceptual images in accordance with a schema that determines how some particular intuitions representing an object should be synthesized, so that the perceived object may be recognized as falling under a general concept (the most general concepts being the *a priori* categories). In organizing sensory intuitions under concepts, schemata are themselves inherently sortal, and thereby introduce an element of generality that is absent from the intuition itself. As Hanna puts it, schemata “directly encode both sensory and discursive information in a phenomenal spatiotemporal structural format,” giving rise to a representation comparable to a map which serves as a model or template for what it represents (2005: 267). That being so, he admits that schemata are both quasi-intuitions and quasi-conceptual. Nonetheless, he claims that as “functions of intuition and intrinsically intuitional in nature,” schemata “are strictly speaking only compatible with concepts, and not intrinsically conceptual in nature” (Ibid., 286, n. 51); “it follows that the content of imaginal representation is nonconceptual” (Ibid., 267).

Against the Kantian non-conceptualist's claim that perceptual content is essentially non-conceptual, the first objection we can raise is that the non-conceptualist's reading fails to cohere

what Kant says in the Transcendental Deduction (I refrain from assessing its coherence with what Kant says across all his works). There, Kant's basic goal is to demonstrate that the pure concepts of the understanding are objectively valid, i.e., they necessarily apply to all objects of experience. If Kant's intention were to just make the point that the categories are necessarily applied only in our thoughts/judgments about objects, then he could not accomplish the *Critique's* larger goal of forestalling Humean skepticism about the truth of these judgments. The fact that we invariably think about objects as mind-independent, persisting, substantial, and causally related entities does not guarantee that such entities can ever be found to exist in reality; according to Hume, these notions of mind-independence, causality, etc. have no basis in our sensory experience, and the conformity of experience to these notions is at best a contingent matter. Kant's response to Hume thus cannot merely be that we must use the categories to think about objects of experience – rather, the response must be that we necessarily judge objects of experience in the way we do because the *a priori* concepts underlying our judgments are also the necessary conditions for our experience of those very objects (see Gomes 2014: 9-15). The non-conceptualist cannot here reply that by “experience” Kant simply means that the categories apply to “empirical judgment”; as Thomas Land (2015) points out, such an interpretation of the necessary agreement between experience and the categories would have Kant claiming that the categories agree with the judgments in which they are employed, rather than with the objects of experience themselves – but it is an object, and not a judgment, which is necessarily represented as standing in a causal relation, or as being a persisting substance, etc. Perceptual representations, and not merely our judgments about them, must be structured in such a way that objects themselves appear as conforming to the *a priori* categories. The sensibility alone is not

sufficient for producing such structured representations of an object; Buroker explains, “Our intuitive capacities supply us, along with the empirical data, *a priori* manifolds of spatial and temporal data. All data given in intuition, both empirical and pure, are *determinable but indeterminate*. That means that they are not received as discriminated into determinate spatiotemporal regions” (2006: 55). So, the Kantian non-conceptualist then tries to argue that the perceptual representation of determinate spatiotemporal regions, or of “spatially continuous and unified individuals existing outside the subject and located in space” (Allais 2009: 405), is generated through a non-conceptual process of figurative synthesis carried about by the imagination. But, this sort of move overlooks Kant's claim that the act of figurative synthesis which combines the sensory manifold and gives rise to a “determinate intuition,” i.e., the perceptual representation of a spatiotemporally bounded object, itself stands as a “synthetic influence of the understanding on inner sense” (B154). Ultimately, the concepts of the understanding actively shape the content of intuition through the imagination, producing a perceptual image in which there is a “determinate coherence of presentations” (A121). The non-conceptualist reading thus is unsuccessful at isolating a non-conceptual level of synthesis in order to secure some lower-level objective validity for intuition. Put more strongly, it seems against the spirit of Kant's Deduction for the non-conceptualist interpretation to claim that “perception could represent a determinate object in the absence of at least the *a priori* concepts” (Allais 2009: 395, n. 31).

Even the situated spatiotemporal character of Hanna and Chadha's essentially non-conceptual content – which marks it off as inherently distinct from conceptual content – is made possible through the understanding's synthetic activity. That a unified space-time can figure at all

in the content of perception is due to the rules of synthesis laid out by the categories and the transcendental unity of apperception. This point is captured by Kant's distinction in his footnote at B160 between the space/time as forms of intuition and as formal intuitions. Kant argues that to have any determinate representation of space/time, we must synthesize the manifold of intuition into a unified presentation. Space/time are already the forms of intuition, providing a basic unity to intuitions at the level of sensibility. But, Kant argues, the presentation of this unity of sensibility presupposes a still more fundamental synthetic unity provided by the transcendental apperception. Kant states, "For through this unity (inasmuch as understanding determines sensibility) space and time are first *given* as intuitions, hence the unity of this a priori intuition belongs to space and time, and not to the concept of understanding" (B161, n. 305). Though it seems as though Kant is here contradicting himself, Buroker explains, "Kant's point, however, is that the manifold as given in sensibility makes it possible to experience one space and one time; synthesis by the understanding is required to experience a unified space and time" (2006: 130). Put another way, it is only through the pure concepts' sensible synthesis of intuition that we can perceive sensory objects as being spatiotemporal unities in the first place. We can string together representations of space/time together through the syntheses of apprehension and reproduction in imagination, but, "Without the consciousness that what we are thinking is the same as what we thought an instant before, all reproduction in the series of presentations would be futile" (A103). In fact, not even the "purest and most basic presentations of space and time" would be impossible in the absence of the understanding's synthesis of sensory intuition (A102). That is to say, there needs to be a conceptual recognition of objects as being united together in space/time in order for there to be any coherent perceptual experience of them. Kant writes, "Consequently

all synthesis, the synthesis through which even perception becomes possible, is subject to the categories; and since experience is cognition through connected perceptions, the categories are conditions of the possibility of experience and hence hold *a priori* also for all objects of experience” (B161). In the last analysis, then, a sharp divide in Kant's account between the structure and function of concepts and intuition cannot be plausibly established when concepts themselves are taken to play a central role in the generation of intuition within perceptual experience. We ultimately find no evidence in the Deduction for the non-conceptualist's thesis that “our cognitive access to the targets of intentionality is not necessarily mediated by concepts and in fact sometimes wholly unmediated by concepts” (Hanna and Chadha 2009: 185).

Furthermore, even if we grant that there is within Kant's account a level of pure, unsynthesized intuition that is essentially non-conceptual, it is doubtful whether such a level of representation would on its own have a conscious phenomenal character. Hanna himself harbors no such doubts, claiming that our pure intuitional representations of space and time are “intrinsic phenomenal structures” that “immanently configure, organize, and 'pre-format' all phenomenal cognitive content” (2005: 280). Through endowing our phenomenally conscious perceptual representations of objects with a spatial orientation and temporal asymmetry, the forms of space of time thus frame these representations within a “nonconceptual spatiotemporal phenomenal field,” wherein they are manifest to an egocentric point of view (Ibid., 282). Hanna therefore argues that the spatiotemporal structure of non-conceptual content is identical with its having a phenomenally subjective character:

[F]or Kant the designated formal intuitional spatiotemporal structure of non-conceptual cognitive content just is its subjective or 'first-person' character. *It is precisely an animal's*

unique non-conceptual spatiotemporal perspective or “point of view” that constitutes the subjective character of its objective experience, and not the 'unity of consciousness' in the Kantian sense of a necessarily conceptual capacity for rationally self-conscious and proposition-based unification of a phenomenal manifold of sensory or representational content. (Ibid., 282)

But, in response to Hanna's attempt at explaining the subjective character of conscious perceptual states in terms of their non-conceptual structure, Schlicht argues that to have an egocentric perceptual perspective does not necessarily entail that the representational states arising within that perspective have a conscious subjective character of “mineness.” The forms of intuitions may indeed “pre-format” all perceptual representations, but a representation's egocentrically-oriented spatiotemporal structure is not sufficient for its being phenomenologically manifest to a perceiver. Schlicht points to cases of “blindsight” patients who have suffered a lesion to the visual cortex. These patients will insistently report that they do not see anything in a certain part of their visual field. However, when forced to judge things like the location and orientation of a stimulus present in the blind part of the visual field, the patients are able to accurately do so at rates better than chance, even as they claim to be just “blindly” guessing. Now, their perception of stimuli in the blind field is evidently spatiotemporally structured; the patients are able to perceptually discriminate spatial features of the stimuli from their egocentric frame of reference. And yet, this discrimination occurs in the absence of any visual phenomenology; there is “nothing it is like” in a phenomenal sense for the patients to be perceiving stimuli present in the blind field. So, against Hanna, the subjective phenomenal character of perceptual representations cannot be constituted by their non-conceptual

spatiotemporal structure, as being so structured does not by itself ensure that the representations phenomenally appear to the subject (Schlicht 2011: 506). Within Kant's own account, there is also a recognition that the pure forms of intuition are themselves not sufficient conditions for giving rise to the conscious perceptual experience of objects; as Buroker summarizes, "Thus the suggestion in the Aesthetic that humans can consciously represent objects by intuition alone is misleading. What Kant should say is that the sensibility supplies the *intuitive data* for representing objects, but that this data, prior to all intellectual processing, is not yet a representation of *which we are conscious*" (2006: 40).

Still, the claim that "intellectual processing" is required for being conscious of perceptual representations would strike many as being wrong-headed, in that it would seem to deny the obvious fact that creatures who lack higher-order cognitive capacities can have conscious perceptual experience. Indeed, Kant would apparently be in agreement with the non-conceptualist on this point: Outside the Deduction, he makes many statements to the effect that non-human animals (along with human "savages") lack the intellectual capacities of discursive understanding, but nonetheless can have phenomenally conscious sensory intuitions of objects as well as inner states (McLear 2011). Lacking concepts, animals would fail to be self-consciously aware of any necessity in the association of their representations; that is, they would not recognize their representations as falling under a concept. Nor can animals entertain the thought "I think," and introspectively ascribe their representations to a unified self-conscious subject; yet even for Kant, this lack of self-consciousness does not entail an absolute lack of consciousness (Buroker 2006: 94, 119). In reply to this objection, we may offer a revised conceptualist reading

of would can be meant by “intellectual processing,” which would extend the capacities for discursive understanding to so-called “non-discursive” creatures.

As a matter of fact, when we take into account what Kant actually means by “discursive,” it turns out that not much revision is required. According to McLear, “Kant uses the notion of discursivity quite broadly, including not only the application of concepts in judgment but also the broader 'synthetic' activity of mind in 'running through and gathering together the various elements given in perception so that they may be thought (e.g. A99)” (2011: 2, n. 8). Though Kant makes claims to the effect that thought is essentially linguistic,⁴⁸ I would argue that the broader sense of “discursive” as the synthetic “gathering together” of representations under a concept is perfectly applicable to the cognitive activity of non-linguistic creatures. This is especially apparent when we acknowledge the abundance of research showing that non-human animals do indeed possess to some degree capacities for long-term memory and future planning, symbolic communication, metacognition, social cognition, and creative problem-solving (see Andrews 2011) – all capacities which would require in some way the representation of generality, i.e., concepts.

More to the point, these sophisticated cognitive capacities would evidently depend on more basic perceptual abilities for object identification and recognition, which suggests that the same fundamental capacities of synthesis outlined by Kant may also be active in structuring such creatures' perceptual representations and enabling them to be taken up in cognition. It is further plausible that these acts of perceptual synthesis would still be rule-governed by a core set of basic and innate concepts which parallel the Kantian categories (Gennaro 2012: 189-199). For instance, studies have found human infant perception to be guided by nascent conceptual

48 See *An 7:167*: “... the nature of thought [is] speaking to and of oneself.”

principles for identifying and tracking objects in a visual scene – or, to invoke Kant, necessary rules that guide how given sensory inputs are combined to generate perceptual representations of objects. By about four months of age, infants perceptually parse the distal environment in a way that evinces an understanding of physical objects as being bounded, coherent, three-dimensional, moveable and persisting wholes; researchers have thus concluded that infants innately represent their environment in accordance with a basic sortal concept *object* (see Baillergeon 2008, Spelke 1990). Moreover, infants individuate objects by making use of an object's properties – within the first year of life, infants progressively discern the identity of objects on the basis of their spatiotemporal location and motion, their features like shape and color, and finally more abstract kinds and categories (Xu 1999).

In this way, the perceptual representations of non-linguistic infants may be said to take on an object-property structure under the guidance of perceptual concepts. In Kantian terms, even infants have a perceptual understanding in which they are conscious of the unity of representations brought about by an act of synthesis. This consciousness of unity is integral to the perceptual experience of an object as existing beyond one's transient, subjective sense impressions of it; and insofar as non-linguistic creatures are capable of such experience – which seems likely, judging by their cognitive and intentional activity – then we may broaden the Kantian account to include their perceptual representations as being conceptual in nature. Land nicely illustrates what sort of perceptual representation we are speaking of here, how it involves a consciousness of unity, and why it would be counted by Kant as conceptual:

An object is something that, for instance, can be perceived from a variety of different spatial and temporal vantage points, which are, moreover, systematically related to one

another. We can express this point by saying that an object exhibits a certain kind of spatio-temporal unity. If perception is to be of objects, so the Kantian thought runs, it must contain a consciousness of this unity. For instance, when I see a tomato in front of me, there is a sense in which my sensory impression is confined to the side of the tomato that is facing me. If what I perceive is indeed a tomato, however, the content of my perception is not just a surface. It is a solid, three-dimensional object, which (in the normal course of things) existed prior to my perceiving it and will continue to exist afterwards. And this is, at least implicitly, part of my perceptual consciousness. In perceiving the tomato, we might say, I am aware of perceiving a three-dimensional object with a temporal history. I do not take myself to be perceiving a mere surface. When Kant characterizes an intuition as the singular representation of an object and distinguishes intuitions from mere sensations, this point, suitably elaborated, is what he has in mind. (2011: 203-4)

In the detailed descriptions of the three-fold synthesis and the activity of the imagination, we have seen how, on the Kantian account, concepts are necessarily involved in the process of transforming intuitions into something which exceeds mere sensations. Here, Land reveals the end result of that process, namely the conscious perceptual experience of a unified, three-dimensional object existing beyond one's momentary view. Through taking such an object as its content, intuition becomes a type of allocentric, object-centered representation. As we have also seen, allocentric representations are precisely the type of representation considered by Hanna and Chadha to have conceptual content, that is, to be excluded from counting as essentially non-conceptual. We now see that essentially non-conceptual content does not capture the full content of conscious perceptual experience. In the next chapter, we will provide a more detailed account

of how allocentric perceptual representations arise in part through accessing the ventral stream of the visual system, which plays a large role in object-recognition and conscious visual phenomenology.

3.4 Conclusion: Apperception, Attentional Access, and Consciousness

The aim of this chapter has been to show how Navya Nyāya and Kant converge on the idea that conscious perceptual experience of objects implicates the activity of perceptual concepts. Both arrive at this conclusion through claiming that essentially non-conceptual content would be apperceptively inaccessible to a conscious subject. To this claim, however, one may object that their characterization of apperception would put conscious perceptual experience out of the reach of non-linguistic creatures. That is to say, both Nyāya and Kant view the apperceptive awareness of a cognition as a judgment which takes the form, “I think” or “I am aware.” Infants and non-linguistic creatures, on the other hand, presumably have conscious perceptual experience despite being unable to make apperceptive judgments; so, apperceptibility has no bearing on whether a perceptual state with essentially non-conceptual content is conscious or not. In response, a revised Nyāya-Kantian conceptualism would make three points: First, we should reiterate that being apperceived is not the mark of a representational state's being consciously aware; Nyāya and Kant readily allow that most conscious cognitions go unnoticed by the subject. Yet, on their accounts, essentially non-conceptual states do not just happen to pass unnoticed; rather, these states are impossible to notice – a subject is never in a position to be aware of the state's occurrence. Second, the Nyāya-Kantian claim about the connection between an essentially non-conceptual state's being inapperceivable and its lack of a subjective phenomenal character

becomes broader in scope once we acknowledge that even non-linguistic creatures can have capacities for apperception, even if their apperceptive cognition doesn't take the form of a verbalized self-ascriptive judgment. At its core, the capacity for apperception is a capacity for metacognition, i.e., an ability to be aware of and monitor one's own cognitive states – “metacognition” in that respect offers another potential translation of “*anuvyavasāya*.” Though Kant himself thought that animals cannot not be self-consciously aware of their own mental states, in the sense that they cannot reflectively take their own states as the objects of their thoughts, we can retain the essential thrust of Kant's view while discarding his prejudices, as we did in the case of animals and concept possession. There are numerous studies which have found non-verbal, behavioral indications that animals and human infants possess self-reflective metacognitive abilities (Goupil, Romand-Monnier & Kouider 2016), particularly when it comes to understanding the quality of their own epistemic states. Through their behavior, non-human animals and infants show that they can self-monitor as well as express to others the degree of uncertainty or confidence they have regarding the accuracy of their responses to some task (see also Andrews 2011: 4.2.3; Gennaro 2012: 243-5). Additionally, the capacities for attentional control and self-regulation which form the basis of higher-order metacognitive skills are developed at an early stage in the development of human infants; through intersubjective interactions in which an infant and adult are mutually attending to each other or to some third object, the infant begins to move from monitoring the emotions and attention of another to more actively monitoring their own emotional responses and attentional states (Brinck & Liljenfors 2013). Having thus broadened our understanding of apperceptive abilities beyond the formation of explicitly self-ascriptive judgments, we can thereby acknowledge that for a wide array of

creatures, these abilities would be grounded in a conscious awareness of a unified subjective perspective from which they engage the world. Put another way, there is a spectrum of ways in which creatures can demonstrate an awareness of an underlying unity of consciousness, i.e., the unified perspective which Kant calls the synthetic unity of apperception. To again cite Kant, such a unified perspective “consists precisely in this thoroughgoing and synthetic unity of perceptions; and this unity is nothing but the synthetic unity of appearances according to concepts” (A110).

In the next chapter, we will attempt to give a naturalized account of the processes of conceptual synthesis and structuring that Kant and Navya Nyāya identify as making perceptual cognitions available to consciousness in the first place. These conceptually modulated processes allow cognitions to be integrated into a subject's overarching perceptual experience, and to be poised for employment in further cognition and action. Chief among these processes is the operation of attention, which acts to bind sensory information together into a stable, coherent perceptual representation. As we have already suggested, the predicative binding of features to objects by attention grants perceptual representations with a structure that can be understood as conceptual in nature; what we will see in the next chapter is how this activity of predication is also cognitively penetrated, or influenced by memory-based perceptual concepts. Kant and Navya Nyāya allow that an early enough stage of visual processing, there may be perceptual representations with pre-predicative, essentially non-conceptual contents. But, they ultimately claim that it is through the joint intervention of attention- and memory-based capacities that these representations give way to the conceptually constituted representations of conscious visual experience. As a result, their accounts, when bolstered by empirical studies of visual processing,

can mount a defense against philosophers who predominantly employ phenomenological arguments defending the existence of essentially non-conceptual perceptual content—instead, I will try to show that by the time a perceptual representation is phenomenologically accessible and capable of being integrated into the perceptual experience of a conscious subject, it has already been endowed with conceptual content.

Chapter 4

Undercutting Buddhist Non-Conceptualism

In this chapter, I will examine how both contemporary and classical Buddhist non-conceptualists appeal to a shared set of phenomenological intuitions in defending the thesis of Perceptual Non-Conceptualism, namely that it is possible to perceive the world without possessing any concept of what one perceives. As evidence for this thesis, non-conceptualists cite a number of phenomenological intuitions that become evident through proper reflection on our perceptual experience. One such intuition cites the “richness” of perception, that is, the fact that, at any given moment, you are perceptually aware of many more objects and sensory features than what you can think about or verbally describe. Compare for instance your visual experience of a sunset with what is conveyed by the thought, “I see the sunset”: Even if the thought is true, it conveys a much smaller amount of information than your perceptual experience itself, which acquainted you with an innumerable rich array of sensory features.

A second intuition points to the “fine-grained” character of perception: Even if you are perceiving just one sensory feature rather than a rich array, that feature can still be presented at a more determinate level than any of my corresponding concepts. Focusing on a single shade of reddish orange color in the clouds, you might think “That is orange-red”; but the concept *orange-red* is less determinate than the specific shade – one among the many shades of orange-red – that you actually perceive. In the next moment, the light may change such that a new shade of orange-red appears, but the concept *orange-red* is insufficient for identifying that new shade in its full determinacy, or recognizing that it is different from the previous shade of orange-red.

Nonetheless, both shades have a distinct and fully determinate perceptual appearance, hence showing that perception discriminates objects at a more fine-grained level of detail than conceptual thought.

Finally, whereas these first two intuitions suggest in different ways that perceptual experience acquaints you with more information than what you can capture with the concepts you possess, another intuition would suggest that in some respects perception contains less information than conceptual thoughts. At a sensory level, your experience of the clouds at sunset shouldn't be fundamentally different than how a one-year old infant sitting right next to you would perceive the same sunset. Of course, you are able to make all sorts of perceptual judgments that about the sunset that the infant cannot entertain – e.g., “The sunset is beautiful”; “That’s a cumulonimbus cloud,” and so on. What this shows is that concepts introduce new details into your experience of the sunset beyond what is genuinely perceived. Given that you and the infant share the same sensory experience of the sunset, but only you can judge that you are seeing a beautiful sunset or cumulonimbus cloud, your judgment must be non-sensory in nature – the concepts *beauty*, *sunset*, or *cumulonimbus cloud* are nowhere to be found in your sensory experience itself. Rather, they must be superimposed onto what you are actually seeing. In this way, concepts add more to our experience than what is presented by the senses.

Of special interest in this chapter will be how Dignāga and Dharmakīrti used these sorts of phenomenological intuitions to offer even stronger versions of two central arguments given by contemporary non-conceptualists, namely the Richness Argument and the Fineness of Grain Argument. Both of these arguments proceed from intuitive facts about our perceptual phenomenology to claim that the plethora of determinate sensory objects and qualities present in

perceptual experience must be represented non-conceptually, that is, without requiring any prior possession of relevant concepts. For their part, Dignāga and Dharmakīrti offer analogous versions of these arguments to show that the representational contents of conscious perceptual experience must be essentially different from that of conceptual states. According to them, perceptual contents are essentially non-propositional, pre-predicative, and linguistically inexpressible. In section 1 of this chapter, I will frame this Buddhist position as being a type of “essentialist content non-conceptualism,” which Robert Hanna and Monima Chadha (2009) have argued is the only defensible version of perceptual non-conceptualism. In section 2, I show how the Richness and Fineness of Grain arguments can be read out of the Buddhists' phenomenological account of perceptual experience, and also how this account coheres with Christopher Peacocke's (1992) description of non-conceptual representations in terms of “scenario content.”

Then, to motivate counter-arguments against the Buddhist position, I consider in section 3 another Indian account of perceptual non-conceptualism offered by the Navya Nyāya philosopher Gaṅgeśa. While Gaṅgeśa agrees with the Buddhist characterization of non-conceptual perception as lacking predicative content, he uniquely asserts that there is no phenomenological evidence for the existence of such perception – that is, there is no perceptual awareness which we can introspectively notice or point to and truly say, “I'm having a non-conceptual perception.” This stance is thus at odds with the non-conceptualist's phenomenological claim that proper reflection on our experience reveals we are having non-conceptual perceptions all the time.

To settle the dispute between the Buddhists and Gaṅgeśa, I will look in section 4 to recent psychological models of the stages of visual processing. Interpreting Gaṅgeśa's account of perception in light of these models suggests a significant thesis about perceptual consciousness, namely that if the intentional, object-directed content of a perceptual cognition is to have a conscious phenomenal character, then that content must not be essentially or exclusively non-conceptual. The conscious perceptual experience of stable, mind-independent objects, of the sort that non-conceptualists reflect upon in making the richness and fineness of grain arguments, is actually made possible through the visual classification and predicative structuring of perceptual contents, that is, the visual attribution of properties to objects. According to Gaṅgeśa and current psychological models of visual processing, this structuring takes place through the joint operation of attention and memory, which I take to be the means by which conceptual/cognitive capacities intervene in the perceptual process. These capacities can be activated without our realizing it, before a fully conscious percept emerges into view. Through showing that conceptual capacities, suitably understood, are active in generating conscious perceptual representations, I argue that Navya Nyāya and empirical research on vision can be used to undercut the phenomenological intuitions undergirding the Buddhists' essentialist non-conceptualism. I propose instead that the availability of intentional content to conscious perceptual experience presupposes a conceptually modulated process of object identification and recognition. As a result, we can draw on both Navya Nyāya and vision science to undercut the Buddhists' perceptual non-conceptualism and its underlying phenomenological intuitions: Whereas Dharmakīrti would claim that conscious perceptual experience must be essentially non-

conceptual in nature, I will show that conceptual capacities are involved in constructing that very experience.

4.1 The Buddhists' Essentialist Non-Conceptualism

The version of the non-conceptualist thesis I'll be focusing on is known as content non-conceptualism, which holds that the representational content of perception is different in kind from the content of conceptual states like beliefs and judgments. The "content view" can be contrasted with the so-called "state view," which maintains that a perceptual state is non-conceptual or not depending on whether a perceiver possesses the concepts that would characterize its content (see Heck 2000). The state view allows in principle that the representational content of perception can be identical with the content of a judgment – for instance, an infant can see a tall palm tree without knowing what it is seeing, while an adult can see the same tree and, by virtue of possessing the requisite concepts, judge that she is seeing a tall palm tree.

Yet, several contemporary defenders of perceptual non-conceptualism have argued that the state view is problematic on any construal that allows the infant's perception to share the same content as the adult's judgment. If the judgment's content is glossed in Fregean terms, i.e., as being a complex of the concepts "tall" and "palm tree" toward which the adult takes a propositional attitude in light of her possessing those concepts, then the infant will have to bear a concept-independent relation to a complex of concepts it does not possess. If concepts are construed as cognitive abilities that are employed whenever a subject entertains some mental content that contains those concepts, then the state view would entail that the infant, in

entertaining the same representation as the adult, would have to exercise cognitive abilities which it does not possess. If the judgment's content is instead construed in Russellian terms, that is, as being structured out of objects and properties themselves, then there is nothing to differentiate the infant's perception from the adult's judgment if both states represent the exact same object and properties. However, we should think that perception generally represents the world differently than a judgment does – for example, there is a robust phenomenological character to sensory representations of the world that a mere verbal judgment about the world obviously lacks. If the attribution of representational contents to the infant perceiver and the adult thinker did not reflect how they grasp the world in different ways, then the notion of representational content would lose its explanatory power. For these reasons, the state view alone is not a viable option for defending a coherent and non-trivial version of the non-conceptualist thesis. The difficulties facing the state view can be removed only by admitting that a subject's concept-independent or concept-dependent relation to some mental state is indicative of a difference in the kind of content that state has, in which case state non-conceptualism would actually entail content non-conceptualism (Heck 2007, Bermúdez 2007, Toribio 2008, Hanna and Chadha 2009; see also Speaks 2005). Accordingly, I will disregard in this chapter the non-conceptualist accounts of both early Buddhist and Nyāya thinkers such as Vasubandhu and

Vātsyāyana, who can be plausibly read as articulating a state view of non-conceptual perception.¹

¹ To summarize the discussion from chapter 2, early Ābhidharma Buddhism as well as early Nyāya can be understood as making a distinction drawn by state non-conceptualists between the non-conceptual perception of an object and the concept-laden state of “perceiving-that” the object is of a certain type. This distinction is evident in a canonical statement found in the Sarvāstivāda text *Vijñānakāya* of Devaśarman, which was often cited by Buddhists in justifying their respective views on non-conceptual perception: “The visual consciousness can only apprehend a blue colour (*nīlam*), but not ‘it is blue’ (*no tu nīlam iti*). Mental consciousness can also apprehend a blue colour. [But] so long as it is not yet able to apprehend its name, it cannot apprehend ‘it is blue’. When it can apprehend its name, then it can also apprehend ‘it is blue’” (Dhammajoti 2007: 108). That is, while both the perceptual awareness and the mental or cognitive awareness apprehend the same object, the latter is distinguished by its linguistic classification of that object. Though, the prevailing view among Abhidharma Buddhists up to Vasubandhu seems to be that even perceptual awareness is inevitably accompanied by

The version of the non-conceptualist thesis that I take as my target here is what Robert Hanna and Monima Chadha (2009) have termed “essentialist content non-conceptualism.” Hanna and Chadha forcefully argue that the only plausible way to interpret the non-conceptualist position, as well as to make the debate over non-conceptualism more than merely terminological, is to take the view that non-conceptual states “have representational content whose semantic structure and psychological function are *necessarily distinct* from the structure and function of conceptual content” (2009: 188). Part of their motivation in casting the non-conceptualist thesis in these terms is to remove the threat posed to the state view by some version of what they call “Highly Refined Conceptualism.” On the standard Neo-Fregean view of concepts that has been accepted by both sides of the contemporary non-conceptualism debate, concepts are the semantic constituents of propositions. Concepts serve to determine what those propositions express, and what it would mean for that proposition to be true. So, if I possess the concept *horse*, then I know what it is for something to be a horse, and thus I can grasp what propositions about horses are referring to, understand sentences about horses, make inferences about horses, and so on. This standard view about concepts and concept possession has led conceptualists like John McDowell (1994) to insist that experience is conceptually structured only when a perceiver possesses the ability to self-consciously and linguistically articulate the normative significance of that experience for the broader epistemic practices of belief-formation and reason-giving. In

conceptual identification (*saṃjñā*), or by some inherent tendency to hypostatize fleeting sensations into stable objects (*svabhāvavikalpa*). Hence, Vasubandhu will say that sensory awareness is non-conceptual (*avikalpaka*) despite containing this inherent and rudimentary form of conceptualization. Full-blown conceptual awareness is marked for him by the presence of two more robust cognitive activities, namely recollection (*anusmaraṇa*) and linguistic categorization (*abhinirūpaṇā*) (see Poussin 1991: 96-8). As to our main point, these Buddhists distinguish non-conceptual and conceptual states according to the presence or absence of attendant cognitive activities, rather than according to a difference in content. Regarding early Nyāya, Vātsyāyana and Uddyotakara did not explicitly distinguish between non-conceptual and conceptualized perceptions. But, they too adopt a distinction between seeing and seeing-that, while claiming that the two states fundamentally share the same perceptual content. The only difference is that a linguistically competent perceiver can additionally associate the perceived object with a name for the sake of communicating to others (see Mondal 1982).

response, state non-conceptualists will of course raise the objection that creatures who lack these higher-order cognitive abilities surely have conscious perceptual experiences.

However, Hanna and Chadha acknowledge that it is still possible for deniers of essentially non-conceptual content to respond to the above objection by adopting a more refined account of concept possession, one will allow that the perceptual states of even ostensibly non-conceptual creatures can count as conceptual in one of two ways: 1) the representational content of such states is conceptually structured even without a perceiver's self-conscious possession of the relevant concepts; and 2) even creatures who cannot articulate the semantic value of a concept can still evince in their intentional behavior a dispositional ability for deploying that concept to identify and recognize relevant objects (2009: 196, 200). Hanna and Chadha therefore claim that the non-conceptualist thesis can be secured only if there are perceptual states whose content cannot be characterized as conceptual even under a Highly Refined Conceptualism. The thesis now under consideration is that conscious perceptual experience contains representational content that is essentially non-conceptual, and necessarily unconceptualizable.

Among Buddhists following after Dignāga and Dharmakīrti, we see that the adoption of an essentialist content non-conceptualism was also accompanied by an acknowledgment that the purposive behavior of non-linguistic creatures is driven by conceptual cognitions. These creatures may not explicitly apply a verbal name to an object, which is what Dignāga primarily took conceptualization to consist in. Yet, they clearly evince the cognitive abilities of object identification and recognition that are necessary for intentional activity with respect to that object. Therefore, in order to exclude even those seemingly non-linguistic cognitions from counting as perceptual, Dharmakīrti offered in his *Nyāyabindu* another definition of *kalpanā*:

"Conceptualization is that awareness which has a phenomenal representation that is fit for association with words" (*NB* 1.5, 25). In stating that a cognition is conceptual if it simply is "fit" for being associated with words, Dharmakīrti's definition will count as conceptual even those cognitions in which a word and object do not appear as associated; in that case, even a newborn infant, who has no obvious mastery of language, and is specifically ignorant of the linguistic conventions that govern how certain words are supposed to signify and name certain objects, could have conceptual cognitions. In his commentary on the *Nyāyabindu*, Dharmottara reasons that a newborn infant would not know to stop crying and place its mouth on a breast it is seeing for the first time were it not for a recognition, based on its previous experience in past lives, that this presently perceived breast is identical in kind with that past breast which was a source of nourishment (see *NBT* 1.5, 26). The infant obviously displays the capacity for re-identifying different instances of the same type of object, where the type in question is also sufficiently abstract—not only would it be identifying a previously and presently perceived physical object as being the same, but it would also be abstractly classifying that object as a source of nourishment or as being desirable.

As implausible as the invocation of past lives to explain the infant's behavior may now seem, this example is significant because it shows how the Buddhists, as well as the Nyāya thinkers following after them, put forward a theory of concept possession based on the operation of memory and recognitional capacities, rather than on the overt presence of linguistic or inferential mastery. That being so, Buddhist and later Nyāya thinkers would not accept the common-place contemporary view that infants and non-human animals are non-conceptual creatures, or the non-conceptualist argument that since we, adult humans, must share some

perceptual experiences with these creatures, we too must be having non-conceptual perceptions (see Peacocke 2001). The more capacious understanding of concepts offered by Buddhists and Naiyāyikas thus allows that conceptual abilities do not necessarily amount to linguistic abilities, and that perceptual content can be conceptually structured independently of having an explicitly linguistic structure. Rather, the conceptual abilities implicated in perceptual experience can be construed as capacities for identifying an object through the visual predication and classification of that object's properties, capacities the exercise of which need not be verbally mediated. As we will see, such an understanding bears more fidelity to the way that concepts are understood in psychological literature on the relation between perception and cognition, and discussions of how “top-down” cognitive influences like knowledge, expectations, and memory influence perceptual processing.

If Dharmakīrti will count as conceptual any cognition whose content can be potentially expressed in language, then non-conceptual perception must accordingly be inexpressible and essentially unconceptualizable. For Dharmakīrti, this essentialist content non-conceptualism is ultimately tied to their metaphysical view that the only real entities in the world are unique, propertyless particulars (*svalakṣaṇa*), which exist only for a moment and lack spatiotemporal parts. Only non-conceptual experience has these particulars as its object, being that only perceptual cognitions are directly caused by them. Conceptual cognitions, on the other hand, inevitably distort reality by hypostatizing momentary particulars into persisting objects, and imaginatively attributing to them abstract class characteristics (*sāmānyalakṣaṇa*). Conceptual cognitions also cannot have momentary particulars as their object because these cognitions are not directly produced by particulars – that is why I can think about an object without its being

spatiotemporally proximate to my senses, whereas the same is not true for the perception of an object. The link is also indirect in the case of pseudo-perceptual conceptual judgments, because memory intervenes between the reception of stimuli by the senses and the production of a conceptual cognition. Drawing from past memory impressions, we are able to make a number of erroneous conceptual judgments about the particulars we see: For example, “This table is the same table that I saw earlier”; or “This table is the same kind as the tables in the other rooms”; or “This table is white.” These are all propositional judgments that falsely identify a perceived particular as enduring, as not being utterly distinct from anything else, and as possessing properties. All of these judgments require mentally pinning down an ultimately momentary object long enough to examine it and compare with other objects that are not presently perceived. But by the time I come to judge the object I saw, it no longer exists – so conceptual judgments always have unreal objects as their contents.

Thus, Dharmakīrti and his followers believe that non-conceptual perception and conceptual cognitions are essentially different. As Hanna and Chadha require, the Buddhists view the two types of cognition as having different functional roles: Given the direct causal link between sense-faculties and the presence of objects, the perceptual cognitions produced by the senses serve to phenomenally represent objects in an intrinsically spatiotemporal manner, whereas conceptual cognitions can think about objects in a manner that is untethered to their actual spatiotemporal location.² Finally, there is an essential difference between perception and conceptual cognitions at the level of content – so much so that the objects of perception can

² Dharmottara (*NBT* 1.5, 26-7) speaks of perceptual representations as having a phenomenal content which is fixed or determined by the spatiotemporal proximity of a particular object (*niyatapratibhāsa*). The unique particulars (*svalakṣaṇa*) of which we are aware in perception are themselves defined by Mokṣākaragupta as being restricted in terms of their spatiotemporal location and form (*deśakālākāranīyata*; *MTaBh* 21). In contrast, neither conceptual cognitions nor their objects are so restricted. See also Hanna and Chadha 2009: 202-10 for more discussion of the intrinsically spatiotemporal character of non-conceptual representations.

never be the objects of conceptual cognitions. Perception neither classifies its objects under general categories, nor predicates to them abstract properties, such categories and properties ultimately being constructions of the mind and fictions of language. Accordingly, the Buddhists claim that the content of perception is fundamentally non-propositional, pre-predicative, and insulated from any influence by cognitive and conceptual processes.

4.2 The Phenomenological Intuitions of Buddhist Non-Conceptualism

Though it owes much to the background assumptions of Buddhist metaphysics, the essentialist content non-conceptualism of Dignāga and Dharmakīrti is also motivated by several of the same phenomenological intuitions motivating contemporary formulations of the non-conceptualist thesis. In particular, the Buddhists offered their own versions of two key arguments for non-conceptualism that appeal to evident facts about perceptual experience – namely, the richness argument and the fineness of grain argument. By considering both the metaphysical and phenomenological implications of the Buddhists' arguments, we can better reconstruct the type of essentially non-conceptual content which they are purporting to establish. I will suggest that the Buddhists again converge with contemporary non-conceptualists by understanding perceptual phenomenology as being grounded upon what Peacocke (1992/2001) calls “scenario content,” i.e., a richly determinate, pre-predicative image of a perceptual scene filled out by spatially located point-instances of sensory qualities.

The richness argument, which can be traced to Heck (2000), asserts that our perceptual experience is quantitatively rich in sense of representing many more details than we can hope to capture with our repertoire of concepts. Looking up from this page, you can reflect on your own

experience now, realize the vast amount of visual detail that is simultaneously present to you – the plethora of shapes, colors, and objects in view – and find that you simply don't have the conceptual vocabulary to describe everything that you are seeing. The conclusion drawn from such reflection is that perceptual experience has non-conceptual content. However, as even several non-conceptualists have noted, the richness argument falls short of proving that perception is essentially non-conceptual. To experience perceptual contents with more representational detail than you can currently describe does not show that it is necessarily impossible to give what Hanna and Chadha call an “adequately individuating conceptual specification” of those contents (2009: 195). It might take an unusually long and complex propositional representation to specify what is seen, but the perceptual content can be conceptually specified nonetheless.³

The Buddhist version of the richness argument doesn't rely on assumptions about a perceiver's limited conceptual repertoire, and so may seem to avoid the flaws of Heck's argument. Dharmakīrti and his followers point out that at the same time you are having a conceptual cognition – say, you are thinking about what you are reading, or what you'll have for dinner tonight – there are objects which are vividly perceived even though you were surely not thinking about them. In this way, perception outstrips conceptual cognition.⁴ If you might insist that you could also be having a conceptual cognition of a perceived object at the same time that you are thinking about something else, then you would run afoul of a principle accepted by both sides of the Indian non-conceptualism debate, namely that one cannot have two conceptual cognitions at the same time. The Buddhists took conceptual cognitions to be ultimately linguistic

³ Similar criticisms of the richness argument are made by Speaks 2005, Matthen 2005a, and Schmidt 2015.

⁴ See *PV* 3.175, 267; *TSP* 1242-44, 1248; *MTaBh*, 8. See also Taber 2005: 34.

– that is, objects appear in a conceptual cognition as associated with a name. So, if you are thinking about the name of one thing or a set of things, you aren't thinking about the name of another. Thus, the Buddhists are arguing that a conceptual cognition can simultaneously coexist with, and yet be outstripped by, perceptual cognition, which shows that perceptual awareness is necessarily distinct from conceptual awareness. Even if a perceiver possesses a vast enough number of concepts to describe and name every single thing she sees, it will always be the case that as she employs one of those concepts to name something she sees, there will be consciously perceived objects which remain unnamed. Hence, absent the omniscient ability to name at once every perceived object and felt sensation that is simultaneously present in a single moment of experience, our conscious awareness always contains an unconceptualized layer of perceptual content.

Still, the Buddhist richness argument does not succeed in establishing the existence of essentially unconceptualizable perceptual content. Even if some things are inevitably perceived without being thought of, there is nothing in the argument to rule out the possibility that when I attend to the unthought object, I can adequately describe it with the concepts in my possession. We will see how the Buddhists respond to this objection with the fineness of grain argument; but for now, we can also cast doubt on the phenomenological picture endorsed by both versions of the richness argument, namely that there are unconceptualized perceptual contents which vividly figure in my experience even while my mind and attention are drawn elsewhere. As Nyāya thinkers recognized, the phenomenon of inattentive blindness gives us reason to doubt that unattended objects are still uniformly and vividly present in perceptual experience.⁵ Inattentive

⁵ For instance, see *NS* 3.2.7, 817: “*apratyabhijñānaṃ ca viṣayāntaravyāsaṅgāt*”; “Non-apprehension [of some object] is due to the fixation [of attention] on a different object.” Also see *NBhu*, 185: “*kiṃ ca suptavyāsaktamanasāṃ cendriyasamnikṛṣṭārthasyāpyapratibhāsanāna manonirapekṣasyendriyasyāpi vyāpāraḥ sambhavati.*”; “The operation of the external sense organs independent of the mental sense faculty is

blindness occurs when a perceiver is unaware that certain obvious changes have taken place in the visual scene, because these changes failed to draw the perceiver's attention (see Simons and Chabris 1999, Simons 2000). That we can often fail to notice large and obvious changes in a visual scene suggests that conscious perceptual experience does not actually acquaint us with a richly detailed visual scene in which objects are simultaneously present and uniformly determinate even when our minds and attention are drawn elsewhere. Rather, objects and their features are represented in stable, vivid detail as long as they figure in focal attention (Rensink 2000). In addition, the range of objects that figure in our conscious experience depends on the visual system's perceptual load, or the cognitive capacity-limits which constrain attention's ability to process information. In cognitively and attentionally demanding situations, there will be less residual attention available for distribution to task-irrelevant stimuli, making these stimuli less likely to enter into conscious awareness (Lavie 2006, Hine 2010). Thus, we can call into question the seemingly self-evident phenomenology supporting both contemporary and Buddhist versions of the richness argument. As I will further argue below, the quantitative richness of experience depends in part upon the conceptually modulated operation of attention and memory.

There is also empirical evidence that conceptual, semantic information can be unconsciously registered even prior to being overtly attended, in which case the Buddhists shouldn't conclude that unattended objects of perception must be unconceptualized. In tests of inattention blindness where an unexpected stimulus is semantically related to an attended, task-relevant stimulus – as, for instance, when during a task where a subject is to recognize an animal from among a set of pictures in a briefly flashed display, the word "cat" appears in the display –

not possible, since, for those whose mental sense faculties are fixated or asleep, there is no phenomenal appearance even of an object that is in contact with an external sense organ.”

the unexpected stimulus is much more likely to be detected than a semantically unrelated stimulus. The takeaway from these tests is that perceived stimuli can be conceptually classified even prior to being attended and consciously detected. Additionally, the semantic content of a perceiver's cognitive states can bias which stimuli enter into conscious perceptual awareness. Thus, even though there is at some level more to what we see than what we directly attend, let alone think about, the richness argument doesn't on its own prove that the perceptual representation of unattended stimuli must be non-conceptual in nature.

At this point, though, non-conceptualists can reply by offering the fineness of grain argument, and citing phenomenological cases in which perceptual detail qualitatively rather than quantitatively outstrips our conceptual capacities (see Peacocke 1992, Kelly 2001). For instance, imagine being presented with two nearly indistinguishable shades of red color – call them red18 and red19. Even though you might only possess the general concept “red,” you still may be able to perceptually discriminate between these two shades – certainly the visual system discriminates them insofar as the shades have subtly different phenomenal appearances. But when you subsequently go to the paint store, you may be unable to reliably reidentify which shade is red18 and which one is red19. Absent this ability for reidentification, non-conceptualists will claim that you lack concepts corresponding to the shades that you can perceptually discriminate, and hence that fine-grained perceptual contents cannot be captured by your conceptual capacities.

However, as Hanna and Chadha point out, the fineness of grain argument as stated still hinges on the issue of concept-possession, and so does not directly establish that perceptual content is necessarily incapable of being conceptually specified (2009: 196). Leaving aside questions of whether concept possession requires the ability for re-identification at all (see

Speaks 2005 and Chuard 2006 for critical discussion), the refined version of conceptualism being targeted by the Buddhists would allow that if one can attend to red¹⁸ and have a cognition expressible in the form, “This shade of red,” “This is different than that,” or even just “This,” then one’s cognition has conceptual content. Accordingly, the Buddhists radicalize the fineness of grain argument by claiming that conceptual judgments fail even to identify unique particulars in the first place, let alone re-identify them across time. Being momentary, the objects of perception no longer exist by the time a conceptual judgment can arise that purports to identify them. And being propertyless and unique, the objects of perception cannot be captured by general concepts or names. Finally, given that conceptual cognitions are causally removed from real particulars, arising several moments after an object has produced a perceptual awareness that in turn awakens latent memory traces, the Buddhists declared in Humean fashion that conceptual cognitions present their objects in a fainter, less phenomenally vivid manner as compared to the phenomenal character of perceptual contents.⁶ For these reasons, the fine-grained quality of perceived objects can never be adequately specified by concepts, making the content of perception essentially distinct from the content of conceptual judgments.

The Buddhists’ dual commitments to phenomenalism and atomism further inform their construal of perceptual experience as being unconceptualizably fine-grained. In reducing the reality of middle-sized physical objects to more fundamental atomic constituents, and further construing these atomic constituents in terms of the sensory experiences they produce in us, the Buddhists came to understand perception as presenting us with an array of *minima sensibilia*. Ultimately, we do not actually perceive ordinary objects like tables, chairs, or even other people,

⁶ See *NBT* 1.11, 40: “*sphuṭābhatvādeva ca nirvikalpakaṃ.... tadasadrūpaṃ vastuno gṛhṇad asannihitārthagrāhitvād asphuṭābhaṃ vikalpakaṃ. tataḥ sphuṭābhatvānnirvikalpakaṃ.*”

such objects being merely convenient conceptual fictions constructed by the mind.⁷ Instead, to the extent that we have experiential access to an external reality at all, perceptual representations acquaint us with aggregates of atomic sensory qualities like color and shape.⁸

Thus, the Buddhists offer another reason to think that perceptual content is essentially non-conceptual – not only do perceptual representations have a fineness of grain or sharper resolution than what can be captured by coarse-grained concepts, but perceptual contents have a totally different type of structure and format than conceptual content. If perception presents neither stable, property-possessing objects nor their shareable properties, then perceptual content would seem to lack the propositional, subject-predicate structure that characterizes the propositional content of conceptual thought and language. Lacking such structure, perceptual content has thus been taken by contemporary non-conceptualists to have an iconic and imagistic format. As with pictorial representations like maps or photographs, perceptual representations are not decomposable into semantically significant constituents in the way that propositions are (Fodor 2007, Heck 2007). Being a mere spatial array of sensory qualities, there is no way to “carve up” or individuate parts of a perceptual representation according to whether they are semantically more significant or not. Unlike the sentence, “There is a yellow square,” where “square” is a more semantically central part of the sentence's content than “a,” and “yellow” is predicated of “square,” the parts of an image of a yellow square are all equally images of the

⁷ In PSV 1.7cd, Dignāga classifies the awareness of conventionally real objects as one type of inherently erroneous cognition: “Cognition of empirical reality (*samvrti-saj-jndna*) is not a true perception because it superimposes something extraneous upon things which are only empirically true (*samvrti-sat*), and thus functions through the conceptualization of forms of these [extraneous things]” (Hattori 1968: 28).

⁸ Different Buddhist schools take different stances regarding the metaphysical status of that composite objects that purport to appear in perceptual experience. Physical objects may be reducible to atoms which themselves have sensory qualities like color or shape (the Vaibhāṣika view); or, objects are reducible to atoms which can be represented as having sensory qualities only when aggregated together (the Sautrāntika view); or, both physical objects and atoms may actually be unreal, so that we are only acquainted with internal mental representations that we mistakenly take to present external objects (the Yogācāra view). See Chu 2006 for more discussion of these three camps.

square-parts – no part of the image is any more central in determining the representation's image-content. As a result, the image itself does not require that it be understood as being a representation *as of* yellow square, or *as of* a hundred adjacent yellow rectangles, etc. – such a “representation *as*” would only arise through a concept-guided interpretation of the image.

In describing the phenomenology of non-conceptual perception as representing to us a holistic array of atomic sensibilia, the Buddhist account of non-conceptual perceptual content can therefore be seen as anticipating what Christopher Peacocke (1992) has called "scenario content" (see also Ganeri 2012a). To briefly summarize, a perceptual representation with scenario content involves the egocentric mapping of a visual scene through specifying the location of sensory features at minimally discriminable points or pixels in visual space. This viewer-dependent visual scenario is filled out by determining at each point the presence of rudimentary sensory features such as color, basic aspects of two-dimensional shape, luminance, orientation, and motion. Additionally, as Austen Clark (2004) argues, scenario content represents these features as being indexed to spatial locations, and not to enduring, property-possessing objects. Scenario content is non-conceptual because its point-by-point specification of sensory features is not constrained by the concepts that a perceiver possesses, nor are concepts constituents of this sort of representational content. Thus, scenario content is essentially non-conceptual in both its structure and function: it is iconic and non-propositional, and it acquaints a perceiver with an egocentric map of sensory features in the absence of any conceptual classification or predication of these features to objects. It bears a close resemblance to how Buddhists would portray the representational content of perception as acquainting us with momentary and unique point-instances of sensory qualities (*svalakṣaṇa*). For the Buddhists, then,

this essentially non-conceptual content exhausts the objective intentional content of conscious perceptual experience.

4.3 Concepts, Attention, and Conscious Visual Experience: Clues from Gaṅgeśa

The model of perception offered by Gaṅgeśa provides an illuminating contrast with that of Dignāga, Dharmakīrti, and the Buddhists. Nyāya philosophers disagreed with Buddhists on just about everything, but Gaṅgeśa and several Naiyāyikas before him did adopt Dignāga's definition of non-conceptual perception (*nirvikalpaka pratyakṣa*) as being devoid of conceptualization (*kalpanāpoḍha*), where conceptualization amounts to the mind's attribution of properties to particular things (*nāmajātyādiyojanā*) (TCM, 857). Like the Buddhists, Gaṅgeśa believes that non-conceptual perception does not classify or attribute features to objects at all; consequently, the content of non-conceptual cognitions can be said to lack the predicative, propositional structure of concept-laden perceptual cognitions (*savikalpaka pratyakṣa*). Of course, the Buddhists think that the notion of “concept-laden perception” is an oxymoron – perceptual awareness is necessarily non-conceptual. That aside, Gaṅgeśa and the Buddhists both believe that there is an essential distinction between the intentional content of non-conceptual and concept-laden states: the structure of the former's representational content is pre-predicative and non-propositional, whereas the content of the latter is predicative and propositional. For Gaṅgeśa, concept-laden perception involves the predicative binding of properties to objects, and seeing both property and object as such – in other words, objects are seen as having certain properties, and properties are seen as qualifying or identifying their objects. To give an example, the concept-laden perception of a red apple involves seeing red color as being predicated to the

apple, and seeing the property of redness as qualifying the particular red color inhering in the apple. The representational content of this perceptual awareness is neither identical with an abstract proposition – the perceptual contents are the objects themselves – nor is the vehicle of this content a linguistic expression (e.g., “This is a red apple”). Nonetheless, the content of this perceptual awareness is analyzable into the compositional, object-property structure that is typical of propositional content.

Yet, as far as the representational and phenomenal content of non-conceptual perception is concerned, there are two fundamental points of disagreement between Gaṅgeśa and the Buddhists. First, keeping in line with Nyāya’s realism about composite substances and universals, Gaṅgeśa and other Navya Naiyāyikas hold that non-conceptual perception directly acquaints us with such objects and the relations that link them. Indeed, it is in order to maintain a direct causal link between the mind and the world that non-conceptual perception is taken by Gaṅgeśa to involve the pre-predicative acquaintance with an object and its properties, albeit without cognizing that object as having properties.⁹ The object and qualifying property are separately registered, as it were – e.g., the non-conceptual state perceptually represents the red color and the apple, but the red color is not yet represented as being a predicate of the apple. It is only later in the perceptual process, when the non-conceptual state gives rise to a concept-laden state, that the object and qualifying property are integrated together to form a coherent perceptual experience of a red apple. Still, Gaṅgeśa’s contention against the Buddhists is that non-

⁹ If an object is perceived only by virtue of being conceptually classified according to some qualifying property, then it must be explained how that qualifying property became a content of that perception; requiring that the perception of that qualifier be itself conceptually classified according to some qualifying property would lead to an infinite regress. This connection further ensures that even when one experiences a perceptual illusion like the case of seeing a rope as a snake, this still tethered to a real object in the external world – the illusory experience arises due to the mind’s mistaken attribution of snakehood to the real and perceived rope. See Phillips 2011: 35-44 for more discussion of non-conceptual perception and perceptual error in Nyāya.

conceptual perception does not merely present us with a holistic and imagistic array of sensory features. Whereas the Buddhists would claim that any grouping of sensory features into a unitary object must be the product of conceptualization, Gaṅgeśa asserts that there is already a form of non-conceptual object individuation, which further grounds the compositional, object-property structure of a subsequent concept-laden perception.¹⁰

Most importantly, Gaṅgeśa breaks from both previous Buddhist and Nyāya accounts in arguing that we have no phenomenological or introspective evidence for the existence of pre-predicative, non-conceptual perceptions. In particular, essentially non-conceptual cognitions are said to be imperceptible (*atīndriya*), because their presence cannot be detected by the mental sense faculty of *manas*, i.e., the faculty of attention and introspection. A concept-laden perception of the red apple can in principle be perceived by a second-order apperceptive cognition expressible in the form, “I see the red apple.” But, non-conceptual cognitions can never be the target of such an apperceptive awareness. Beyond the fact that we never seem to

¹⁰ Matilal (1986: 351) misleadingly asserts that only the qualifying property is cognized in a non-conceptual awareness, and that the qualificand becomes cognized only in a subsequent concept-laden perception. Instead, the Navya Nyāya view is that the qualifier and qualificand must both be presented in a non-conceptual cognition, if not also the relation that links them (see Bhattacharya 1990: 172-6). Still, a non-conceptual perception is known as being a cognition of a qualifier (*viśeṣaṇa-jñāna*) because it is in virtue of cognizing a specific qualifier that it produces a qualificative cognition in which the previously cognized qualifier identifies a particular object. Jayadeva (*TCMA*, 813) points out that relations are to be described in terms of the qualifying relata, not the relata which is qualified, nor both relata (i.e., a *sambandha* is *pratyogī-nirūpya*, not *anuyogī-nirūpya* or *ubhaya-nirūpya*). So, in order to be properly structured, a qualificative cognition which takes a relation as its object (i.e., a cognition which is *vaiśiṣṭya-avaḡāhi*) will be causally generated by a prior cognition of the qualifier. For example, the inherence relation binds a color-trope to the substance; by inhering in the substance, the color is the qualifying relata of the inherence relation. The qualificative cognition which takes that inherence relation as its object will cognize the substance as possessing that color through the property of inherence (e.g., “*rūpavān*”; “the substance has a color”). This qualificative cognition should therefore be produced by a prior cognition of its qualifying relata (*pratyogin*), i.e., the color. If it were the case that a prior cognition of the qualified relata (*anuyogin*) is what generates a qualificative cognition, then we would see the color as possessing a substance (“*dravyavad rūpam*”; “the color has a substance”), which is absurd. (Behind these technicalities, I think there is a prescient insight which militates against Buddhist phenomenalism and other sense-data theories of perception, namely that the object-property structure is deeply embedded into perceptual awareness, and is what explains why we form perceptual beliefs like “the umbrella is orange,” and not “the orange is umbrella-shaped.”) Still, it must be admitted that the qualificand also figures in a prior non-conceptual awareness of a qualifier, even if Naiyāyikas do not admit that the cognition of a qualificand serves a causal role in generating a subsequent qualificative cognition (see chapter 3, fn. 1).

have phenomenological reports of the sort, “I see the red and the apple, but separately,” or “I see the red color and redness, but separately,” there are at least two principled reasons why the Navya Nyāya account could not allow non-conceptual cognitions to be introspectively accessible. To briefly summarize the arguments discussed in chapter 2:

First, non-conceptual states occur at too early a stage in the perceptual process. Basically, the non-conceptual perception of an apple and redness must first give rise to an integrated, conceptually structured awareness of a red apple before there can be an introspective awareness of seeing the red apple. Because of Nyāya’s prior commitments about the duration of cognitive states, Gaṅgeśa will argue that by the time an introspective awareness can arise, the non-conceptual cognition will have already gone out of existence.

Second, the representational content of non-conceptual perception lacks the type of structure required for introspective identification and self-ascription. In the apperceptive cognition, “I see the red apple,” I am identifying myself as having a cognition of the red apple. That cognition itself is further identified according to its objective content, i.e., the object which has been perceptually classified as being a red apple. In Nyāya terminology, the predicative content (*prakāratā*) of the first-order cognition will serve as the mode of presentation (*avacchedaka*) under which the cognition appears within the apperceptive awareness as a qualifying feature of the self. Now, cognitions for Nyāya can only be distinguished according to their objective contents – cognitions themselves are diaphanous otherwise. A second-order apperception thus can identify the first-order perceptual cognition in question because the first-order perception has a red apple, and not something else, as its predicatively structured content. But, since a *nirvikalpaka* cognition has no predicative content whatsoever, its content cannot be

used to pick out the cognition for the purposes of apperceptive identification. In this way, Gaṅgeśa maintains, non-conceptual perceptions remain introspectively invisible to the subject.

I would argue that this invisibility of non-conceptual perception suggests on behalf of Gaṅgeśa a thesis about perceptual consciousness that runs counter to that of Perceptual Non-Conceptualism: namely, that only perceptual representations which are predicatively and conceptually structured are conscious. Now, we may pause to consider what licenses us to think that Gaṅgeśa would actually support this thesis, and would conclude that the introspective inaccessibility of non-conceptual perceptions is proof of their unconscious nature. Admittedly, Gaṅgeśa does not state outright that non-conceptual perceptions are unconscious; nor does he seem to offer in his work a theory of consciousness as such. Yet, while Gaṅgeśa did not explicitly make use of the sorts of distinctions central to current discussions of consciousness – e.g., representational vs. phenomenal contents, phenomenal consciousness vs. access consciousness, qualitative vs. subjective phenomenal character – his views concerning consciousness can nonetheless be reconstructed with these distinctions in mind. Moreover, by pointing out where Gaṅgeśa would concur with previous Nyāya-Vaiśeṣika accounts of consciousness, we can better highlight how his unique stance regarding the introspective invisibility of non-conceptual perception suggests some departure from previous accounts.

First, as Nyāya-Vaiśeṣika articulated what would now be known as an “intentionalist” or “representationalist” theory of consciousness (see also MacKenzie 2007). Both contemporary representationalists and Nyāya-Vaiśeṣika thinkers claim that the fundamental function of conscious states is to (correctly or incorrectly) represent objects and states of the affairs in the world; in Nyāya-Vaiśeṣika terms, cognitive states (*jñāna*) are conscious and essentially

intentional just to the extent that they have the power to “illuminate” objects.¹¹ Additionally, Nyāya-Vaiśeṣika shares with some recent representationalist accounts of consciousness (e.g., Harman 1990; Tye 2002) the intuition that experience is transparent or diaphanous – that is, the qualitative features of conscious experience are ultimately just the features of the objects being experienced. Put another way, conscious representations lack any proprietary phenomenal character of their own; instead, we “see through” these representations to the represented objects themselves. Nyāya-Vaiśeṣika defends this intuition by arguing that cognitive states are *nirākāra*, or “without a phenomenal form” of their own, which to say that cognitions present their objects directly, rather than through the medium of a phenomenal form or mental image that purports to resemble the cognized object.¹² Because they do not carry any phenomenal form apart from the objects they illuminate, cognitions can only be distinguished according to their objective representational contents.¹³ Still, the distinction between phenomenal and representational contents is not totally alien to Nyāya-Vaiśeṣika thinkers – apart from their speaking of as cognitions “illuminating” objects, they used standard terms that straightforwardly denote phenomenal appearances as such, i.e., what appears or is made manifest to the mind.¹⁴

Nonetheless, unlike the Buddhists, Nyāya-Vaiśeṣika would hold that such appearances are

¹¹ For instance, see *NL*, 812-4: “*jñānatve cecchādivyāvṛttasvabhāvāsya viśayapraṇatvam apekṣitam iti*”; *TBh*, 218: “*arthaprakāśo vā buddhiḥ*.” The Sanskrit terms most straightforwardly translated as “consciousness” – “*cit*” or “*caitanya*” – are generally understood in Nyāya-Vaiśeṣika texts as being linked with the terms “*jñāna*” and “*buddhi*,” which denote discrete, transitory states of cognition. The *Nyāyakośa* accordingly defines consciousness/*caitanya* as the property of possessing cognitions/*jñānavatva* (*NKo*, 282). Consciousness for Nyāya, then, just amounts to having states of awareness that illuminate or reveal intentional objects.

¹² *TBh*, 219: “*sarvaṃ ca jñānaṃ nirākāram eva. na tu jñāne 'rthena svasyākāro janyate*.”

¹³ *NKu* 4.4ab: “*arthenaiva viśeṣo hi nirākāratayā dhiyām*.”

¹⁴ These terms primarily include nouns such as “*avabhāsa*,” “*nirbhāsa*,” and “*pratibhāsa*,” which are all derived from the verb root “*bhās*,” meaning “to shine/appear.” Used in the context of denoting the contents of cognitive states, these nouns and their corresponding verb forms typically have the sense of specifying what is present to awareness. Though, it is another question as to whether, when used especially by Navya Naiyāyikas to describe the contents of non-perceptual states like inferential knowledge and testimonial knowledge, verbs like “*bhāsate*” literally connote that the objects of such states have a non-perceptual/cognitive phenomenal character.

ultimately reducible to a cognition's intentional content, or *viṣayatā* – the cognition itself has no phenomenal form or appearance apart from that of its intentional content.¹⁵ Thus, there is ample reason to think that Nyāya-Vaiśeṣika would concur with the central thesis of intentionalism, namely that the representational content of a particular conscious experience determines the phenomenal character of that experience; or, as Byrne (2001: 204) puts the thesis, “There can be no difference in phenomenal character without a difference in content.”

Nyāya's uniform adherence to the above thesis would therefore suggest that if there is an essential difference between the *viṣayatā* of non-conceptual and concept-laden cognitions – which Gaṅgeśa and later Naiyāyikas believed – then there would be a corresponding difference in their respective phenomenal characters. As our surveys of Vācaspati and Kumāriḷa in chapters 1 and 2 showed, once non-Buddhist accounts of non-conceptual perception caught up to the Buddhists in distinguishing between *nirvikalpaka* and *savikalpaka* states at the level of content, they also came to view this content-level distinction as entailing some corresponding differences at the level of phenomenology. Specifically, these states were thought to differ in terms of the structure of their content: While non-conceptual and concept-laden perceptions can both cognize the same set of objects and properties, non-conceptual states lack a predicative structure insofar as they do not clearly differentiate an object from its properties, and therefore fail to identify those properties as being predicated to that object. Accordingly, Kumāriḷa and Vācaspati viewed non-conceptual perceptions as presenting their objects in an unclear or confused manner (*saṃmugdha/saṃkīrṇa*). Whereas Jayanta was at pains to argue against the Buddhists that concept-laden perceptions directly cognize objects and so should not be understood as being less

¹⁵ The *Nyāyakośa* (*NKo*, 627) gives “*viṣayatā*” (“intentional content/intentionality”) as a definition of “*bhāṣana*” (“phenomenal appearance/manifestation”).

phenomenally vivid (*spaṣṭa*) copies of non-conceptual perceptions (*NM* 224, 240), Kumāriḷa in particular offered several examples which suggest that non-conceptual perceptions may actually be less phenomenally vivid than their concept-laden counterparts. For instance, he likens non-conceptual perception to the temporary blindness immediately experienced when one goes from the sunny outdoors to a dark room indoors, or to how a novice musical listener inchoately experiences a song without being able to clearly recognize its distinct notes. Of course, we should not place too much emphasis on Kumāriḷa's examples – suggestive as they are, he ultimately would claim that the enhanced clarity or determinacy of concept-laden perceptions is discursive in nature, rather than being purely phenomenal. For Kumāriḷa, both non-conceptual and concept-possessing perceivers experience the same objects, but only the latter possesses the linguistic mental capacities necessary to form determinate perceptual judgments about the identity of those objects (see Taber 2005: 100-1, 143-4). Still, whether Kumāriḷa or Vācaspati would characterize the clarity of concept-laden perceptions as being genuinely sensory as opposed to being merely discursive or cognitive, the point is that they believed there is some sort of experiential and introspectible difference between non-conceptual and concept-laden perceptions in virtue of how their perceptual contents are differently structured.

Thus, when Gaṅgeśa and later Naiyāyikas go further in claiming that non-conceptual states differ from concept-laden states in having a different kind of intentional content (*viśayatā*) altogether, we should similarly expect that there should be some corresponding difference between these states at the level of phenomenology. However, if Gaṅgeśa were to admit such a difference, then he would have no introspective basis for doing so, given that non-conceptual perceptions are supposed to be introspectively invisible. Other than direct introspection, another

presumptive source of first-personal evidence concerning the existence and character of non-conceptual perception would be subjective report (i.e., *vyavahāra*); but, Gaṅgeśa also denies that non-conceptual states can be subjectively reported because, not only do subjects lack introspective access to them, but verbal reports in the first place can only be generated by conceptually structured cognitions.¹⁶ Indeed, Gaṅgeśa considers the sort of phenomenological report which Kumāriḷa and Vācaspati might cite as illustrating the experiential difference between non-conceptual and concept-laden perceptions – e.g., “I didn’t clearly discern this object previously, but now I clearly discern it” – only to deny that such reports demonstrate the existence of essentially non-conceptual perception: The indistinct character of the previous perceptual awareness is better explained in terms of its having fewer qualifiers as its predicative content, rather than having no predicative content at all.¹⁷ Prior to acquiring the concept *cow*, I may perceive a cow in what Kumāriḷa would consider to be an indistinct or confused manner, that is, I may just see the cow itself without realizing what it is I am seeing – I don’t perceptually identify the cow as being a cow, or as possessing a property of cowness that it shares with other cows. Nonetheless, Gaṅgeśa’s point is that even this indistinct perception is not purely non-conceptual – though I may not yet see the cow as being a cow, let alone as being a jersey cow or a mammal, my perceptual awareness could still identify the cow as at least being an object, as

¹⁶ *TCM*, 857: “*na ca vyavahārah, tasya savikalpakasādhyatvāt.*” As Bhattacharya (1991: 8) points out, the reason non-conceptual states cannot generate verbal reports is that, according to Navya Nyāya, words refer to an object by means of some qualifying property (see also Phillips 2012: 87). Non-conceptual perceptions, on the other hand, are directly acquainted with their objects, and do not cognize them under a qualifier or identifying feature. Consequently, the objective content of non-conceptual perceptions cannot be linguistically reported; only concept-laden states can bring about the linguistic communication of their contents. Aside from subjective reports, Gaṅgeśa would also likely rule out objectively observable behavior as a possible source of evidence for the existence of non-conceptual perceptions, since both Buddhists and non-Buddhists generally came to accept that intentional behavior is caused by concept-laden cognitions. E.g., see *DhPr*, 49: “*yā niyamavatī pravṛtīḥ kvacitprāninaḥ, sā vikalpapūrvikāḥ*”; *TA*, 103: “*naiyāyikamate pravartakam viśiṣṭajñānam...*”

¹⁷ *TCM*, 857: “*nāpīdam na vivecitam pūrvamadhunā vivecayāmītyanubhavapramāṇakālocanavikalpau, bahuviśeṣajñānājñānābhyām tadupapatteḥ.*”

being brown, or being larger than the calf next to it, etc.¹⁸ So, the subjective report of an indistinct, indeterminate perceptual awareness still does not provide for Gaṅgeśa any evidence for what it is like to experience an essentially non-conceptual perception.

If Gaṅgeśa thinks it is impossible to have any first-personal knowledge of non-conceptual perception, then there are two interpretative options for understanding how, on his intentionalist account, the phenomenal character of non-conceptual perceptions is supposed to differ from that of concept-laden perceptions. First, we could read Gaṅgeśa as believing that non-conceptual perceptions have a conscious phenomenal character that is uniquely unavailable to subjective report; following Ned Block, we could hence construe *nirvikalpaka* states as cases of phenomenal consciousness that occur in the absence of access consciousness. At first glance, Gaṅgeśa would seem to be fine with such a construal, since he and other Naiyāyikas accept a version of first-order representationalism (e.g., Dretske 1995), i.e., the view that mental states can be conscious without a subject's being conscious of those mental states themselves. Nyāya believes that conscious states illuminate objects, not themselves; as Gaṅgeśa would put it,

¹⁸ Contemporary defenders of conceptualism adopt a similar strategy in responding to purported examples of perception which seem to outstrip a perceiver's conceptual repertoire (see Gennaro 2012: 176-82). In the case of seeing two fine-grained shades, a perceiver might not fully possess the concepts for specific shades like *red18* and *red19*, but one could still deploy comparative concepts like *lighter than* and *darker than* to identify what one sees. Another case typically offered by non-conceptualists is associative visual agnosia: Due to a brain injury (typically to the left temporal lobe), patients lose the ability to recognize certain types of objects despite their visual perception of those objects still seeming to be intact, as evidenced by their ability to accurately draw what they are seeing. So, a patient may accurately draw a stethoscope upon seeing it, but fail to recognize the object as being a stethoscope – thus showing that we have conscious perceptual experience prior to, and possibly in the total absence of, the deployment of relevant concepts. In one researcher's words, associative agnosia involve the experience of a "normal percept stripped of its meaning" (Teuber 1968). This form of agnosia ostensibly supports the non-conceptualist claim that one can see an object in the absence of conceptualization. However, conceptualists can respond by pointing out that, while patients may be unable to deploy high-level concepts like *stethoscope*, they can still capture what they see in terms of low-level concepts like *long* and *round* which remain at their disposal: An agnosic may hence describe seeing the stethoscope as seeing a "long cord with a round thing on the end" (Rubens and Benson 1971: 308-9). Moreover, it is not clear that associative agnosics still experience a "normal" percept albeit shorn of any conceptual meaning, given the various respects in which associative agnosics still suffer perceptual impairments and abnormalities (see Bauer 2012: 284-252). In particular, associative agnosics may to varying degrees be unable to perceptually integrate objects-parts into a higher-order shape or gestalt (Farah 2004: 77-8).

conscious states are experienced as just having objects in the world as their content – these states are not themselves experienced as being part of that content.¹⁹ One instead becomes self-aware of having a conscious first-order state (*vyavasāya*) only when one has a higher-order state that takes the first-order state as its object, which on the Nyāya account involves having an introspective apperception (*anuvyavasāya*) of the first-order state. Presumably, then, one could also consciously experience *nirvikalpaka* perceptions without their having to be accessed by higher-order states involved in introspection, action, or communication.

Of course, it is not just non-conceptual perceptions that can occur in the absence of higher-order states – concept-laden perceptions can equally occur without being the object of a higher-order state. But whereas we have every reason to think that concept-laden perceptions are conscious, given that they can generate all the sorts of subjective and objective markers of uncontroversially conscious awareness, the prospect of having a non-conceptual perceptual experience which is both phenomenally conscious and totally impossible for one to ever notice that one was having remains dubious both as a theoretical possibility within Gaṅgeśa’s account, and on independent grounds.

For one, not even Gaṅgeśa’s dialectical opponents would go so far to admit that there are contentful, object-directed mental states which are both phenomenally conscious and which one could never in principle realize that one was having. While Dignāga and Dharmakīrti argue that essentially non-conceptual perceptual content necessarily outstrips the conceptual capacities involved in thought, memory, speech, and action, perceptual awareness for them is also intrinsically self-aware. So with perceptual awareness also taking itself as its own object, there is

¹⁹ TCM, 847: “*vyavasāyasyārthaviśayatvamātramanubhūyate na tu svaviśayatvamapi, gauraveṇa tasya svaviśayabhānatayā pravṛttyaheturvāt.*”

some basic sense in which one must always realize that one is experiencing that perception. The vehicle of this basic realization isn't an introspective judgment; unlike the account of reflexive self-awareness given in Prābhākara Mīmāṃsā (see Ram-Prasad 2007: 71-4), the Buddhists are not claiming that as you are having a perception, you are also having the introspective awareness that "I am having a perception." Nonetheless, even the Buddhists don't think that essentially non-conceptual perceptions are fundamentally inaccessible to introspection; in fact, they also argue that the self-aware aspect of perceptual experience is what makes it possible to subsequently introspect or remember that experience's subjective phenomenal appearance, along with the object experienced (Kellner 2010; Ganeri 2012: ch. 9).²⁰ Moreover, to the extent that Buddhists (along with Advaita Vedāntins – see Ram-Prasad 2007: 74-83) acknowledge the existence of rarefied states of meditative consciousness that are self-aware, non-conceptual, and totally unavailable to ordinary cognitive processes of introspection, memory, or speech, they would also assert that such states of consciousness do not have any intentional, representational content. However, Gaṅgeśa would not take recourse to either of these routes for establishing the subjective phenomenal character of essentially non-conceptual perception. He denies that mental states are reflexively self-aware and that awareness can be contentless, in which case he couldn't

²⁰ Ganeri (1999: 472; 2012: 170-1) claims that in positing every conscious awareness of an object to also have a subjective aspect or appearance of itself (*svābhāsa*), Dignāga is not trying to attribute conscious states with a phenomenal character or "what-it's-likeness" that is totally separable from the state's objective intentional content. Still, although Block and others may speak of phenomenal consciousness as being intrinsically non-representational, we need not restrict the notions of "what-it's-likeness" or phenomenal character in this way when explaining the notion of *svābhāsa*. As Ganeri points out, the subjective aspect is better described as being the objective content's mode of presentation: "Given that a mode of presentation is itself a constituent of intentional content," he writes, "the full intentionality of the state will therefore consist in both the object-aspect and the subject-aspect" (2012: 171). A helpful analogy is that of a photograph: A photo can pictorially represent the Eiffel Tower, say, but it also has its own qualities like brightness, saturation, and contrast, which are not qualities of the Eiffel Tower itself. But, it is through having these qualities that the photograph represents its object (Ganeri 1999: 470).

resort to claiming that the presence of reflexive self-awareness or contentless awareness would ensure that even non-conceptual perceptions have an unmistakably conscious character.

With no plausible way of attributing to Gaṅgeśa the view that *nirvikalpaka* perceptions are phenomenally conscious despite their inherent invisibility to a perceiving subject, I would argue that we should instead view Gaṅgeśa as claiming that essentially non-conceptual perceptions are unconscious. In the final section, I examine how this claim, and the corresponding claim about the conscious character of predictively structured perceptual content, can be made plausible in the terms of contemporary vision science. Indeed, I will show that empirical models of visual processing are broadly consistent with Gaṅgeśa's account of essentially non-conceptual perception, and his reasons for thinking that non-conceptual perceptions lack any detectable phenomenal character. Like Gaṅgeśa, these models posit that pre-predicative perceptual representations arise in the early stages of unconscious visual processing.

Moreover, both Gaṅgeśa and the models of visual processing take certain forms of attention and memory to be involved in transforming the unconscious, pre-predicative representations of early vision into the integrated, coherent representations of mind-independent objects that populate conscious perceptual phenomenology. According to the Nyāya account of perception, concept-laden perceptual cognitions are generated with the joint assistance of memory and attention, which can be understood as capacities involved in the visual classification and predication of properties to objects. A refined conceptualism informed by both Nyāya and vision science will thus understand these attention- and memory-based capacities as the means by which concepts are involved in structuring the content of conscious perceptual

representations. If such a refined conceptualist account of perceptual processing is on the right track, then it would be the case that by the time that an intentional representation enters into the stream of perceptual experience such that one could phenomenologically analyze it and report its seemingly fine-grained non-conceptual character, the visual system has carried out a conceptually modulated process of visual predication and classification. And so, if Gañgeśa is right that we can never have any phenomenological evidence for the existence of essentially non-conceptual, pre-predicative perceptual representations, then we can cast doubt on the very evidence that Buddhist and contemporary non-conceptualists cite in arguing that such perceptions exists.

4.4 Attention and Memory in the Stages of Visual Processing

I will now briefly describe the two basic stages of visual processing – early vision and late vision – and the types of perceptual representations that are generated therein. Early vision roughly takes place during the first 100 ms after a stimulus is received by the retina, during which information is directly extracted from retinal input by specialized receptors in the primary visual cortex. These receptors separately detect the presence of rudimentary surface and spatio-temporal features such as color, shape, texture, spatial location, orientation, and motion. This is the stage at which scenario content may arise, where features are separately represented without being predicated to objects. However, the early visual system goes beyond generating a holistic array of features, by further segmenting the visual field into so-called "proto-objects," or sensory representations that allow the visual system to directly individuate objects and track them as persisting across space and time. The representations of proto-objects are fleeting, unstable, and

viewpoint-dependent, as they are constantly updated or overwritten by subsequent sensory information brought about with each new eye movement, and hence are never stored in memory. The representation of a proto-object is non-conceptual in nature because, in primitively individuating an object from a background scene and from other objects, this representation uniquely and demonstratively refers to an object in the world without identifying it as having certain properties, or as being a member of some category. The demonstrative visual index assigned to a proto-object does not retain information about the object's features precisely in order to track that object across changes in its features, as well across the movement of both the object and the eyes. Being unconsciously generated by cognitively impenetrable causal processes, these "featureless" proto-objects are distinct from the stable, three-dimensional, observer-independent objects found in conscious perceptual experience (Raftopolous 2009: 212, 244).

The conscious experience of stable object-representations arises in the stages of intermediate and late vision, at about 150-200 ms after stimulus onset. It is at this point that the activity of selective attention transforms the contents of early vision into the stable, structured, three-dimensional representations of external objects and their properties. Out of the welter of sensory information directly retrieved from a visual scene, and the primitive parsings of this information into multiple and competing proto-objectual representations, attention selects certain relevant stimuli for further processing by the cognitively penetrable stages of "late vision," and by higher-order cognitive processes. Once attention is applied to a certain proto-object, that object-representation takes on a spatio-temporal coherence and stability that allow the object to be seen as being viewpoint-independent, that is, as persisting across, and existing apart from,

changes in the perceiver's perspective. Furthermore, in selecting visual features for further processing, attention encodes these features into a predicatively structured object representation, thereby enriching the organization of perceptual content beyond the rudimentary, proto-objectual binding of spatio-temporal information in early vision. In other words, properties like color and shape now become visually attributed to an external spatio-temporal source; an object itself is hence seen as having these properties, or as being a token instantiation of these properties (Kanwisher 2001: 107-8).

It is in the predicative structuring of object-representations that attention is guided by the concepts and categories stored in memory. Through being transferred into visual working memory, the object-representation selected by attention becomes stable enough that it can be matched against similar representations stored in long-term memory. The presently perceived object with property F is compared with the mnemonic traces of previously perceived instantiations of F, experienced either in different objects or in the same object perceived at a different time, and thereby becomes visually identified as a member of a class. Moreover, so that an object's properties can themselves be perceived as instances of F, attention forms a "higher-level" visual representation of these properties that draws on abstract categories supplied by visual memory (Hollingworth 2005).

What's more, the conceptualization of perceptual contents in late vision serves as a precondition for not only the arising of verbalizable perceptual beliefs, but also for the robust phenomenology of perceiving the three-dimensional shape of objects with inevitably occluded parts. As Raftopoulos (2009) points out, the perceptual experience of an object as having hidden features could not be generated purely by the "bottom-up" processes of early vision, since the

retinas themselves only receive information from the visible surfaces of objects, and obviously receive no sensory input from the parts of an object that are out of view. Accordingly, early vision can ultimately give rise only to what Marr (1982) has called the 2½-dimensional sketch, or a viewpoint-centered array of surface features, textures, and contours, and the respective distances of these surfaces relative to the perceiver. However, when it comes to seeing the visual scene as being comprised of the three-dimensional objects that we ordinarily find in the world – this visual stage being referred to by Marr as the 3D sketch – late vision cannot rely on a retinotopic array of bounded surfaces alone. Instead, the perceptual identification of some segment of the surface array as being an object, and particularly one with a specific three-dimensional shape and structure that can remain constant in spite of changes in perspective and surface features, requires that the visual system augment the data of early vision with top-down information about specific objects stored in memory. Once there is a match detected between perceived representation and a generated memory representation, the input representation is strengthened in visual memory, and the perceiver goes on to experience seeing the object in conscious visual awareness (Kosslyn and Sussman 1994: 1036-7).

4.5 Conclusion – A Naturalized Nyāya Conceptualism

I take this psychological account of late vision to have several philosophical implications for the debates over non-conceptual perceptual contents as waged in both classical Indian philosophy and contemporary philosophy of mind. First, I want to suggest that the psychological model of attention's role in structuring conscious perceptual content is anticipated in broad terms by the classical Nyāya account of *manas* as involving the attentional integration of external

sensory stimuli. On the Nyāya view, the attentional selection of particular sensory inputs is responsible for determining which objects present in the visual scene will be cognized in conscious perceptual experience. Indeed, it is through both the synthesizing and distinguishing functions of unconscious mental processes that a successive stream of stimuli can come to figure as the single intentional object of a perceptual cognition (Ganeri 2012b: 262-3). Moreover, the same faculty of selective attention is also taken to retrieve information stored as memory-traces (*samskāra*). Ultimately, what it means for a perception (or any cognition) to be concept-laden is that the cognition's intentional object is presented under some qualifying property/mode of presentation supplied by memory. We can therefore conclude with Ganeri (2009: 7.1) that Nyāya offers its theory of memory as its theory of concept-possession. Furthermore, through drawing parallels with contemporary theories of perception that link together selective attention, memory, and concept-possession (cf. Matthen 2005b, Raftopoulos 2010), we can elaborate Nyāya's own theory of concept-possession in naturalistic terms, citing the specific psychological mechanisms by which memory-based concepts and categories structure the conscious intentional content of perceptual cognitions.

Second, while the Buddhist non-conceptualists have offered phenomenological arguments to show that scenario content is the only legitimate form of perceptual content, the evidence offered by psychological studies of vision suggests that we must locate essentially non-conceptual scenario content outside of the perceptual representations to which we have ordinary phenomenological access. Moreover, scenario content will have to be distanced even further from the contents of conscious perceptual experience, since the representations of early vision that are eligible to be selected by attention are those that index sensory features to persisting

spatio-temporal objects (or object-files), rather than to spatial point-locations, as contemporary and Buddhist non-conceptualists would have it (see Matthen 2004/2006, Pylyshyn 2007). As a result, the conscious visual experience of a panoramic, uniformly fine-grained sensory layout of spatial locations, which non-conceptualists purport to capture with the notion of scenario content, belies not just the involvement of object-identification in late vision, but also of object-individuation and tracking in early vision. The pre-attentive, non-conceptual parsing of the visual scene into distinct, persisting objects would especially compromise the Buddhist brand of non-conceptualism, which views the apparent experience of persisting, numerically identical objects as a conceptual falsification of one's consciously direct acquaintance with momentary particulars.

To sum up, according to both Nyāya and contemporary psychological models of perception, attention predicatively structures conscious perceptual cognitions by activating in the perceiver's mind the memory traces of previously perceived objects, which in turn causes the perceived object to be categorized and visually attributed with some qualifying property. To the extent that Buddhist and contemporary defenders of essentialist content non-conceptualism must treat scenario content as the sole content of conscious perceptual awareness in order to explain the fine-grained character of ordinary perceptual phenomenology, they overlook the involvement of concept- and memory-guided object identification in generating this phenomenology.

As a more programmatic conclusion, I want to claim that we can actually make philosophical progress in current debates over non-conceptualism and perceptual content by taking as our starting point a naturalized version of the Indian theory of concepts. A naturalized approach also allows us to acknowledge both the promise and perils of phenomenology as a philosophical method in general, and as a tool for doing comparative philosophy in particular.

Finally, we can see how a broader project of naturalizing classical Indian theories of perception and consciousness gives us new frameworks with which to interpret Indian views and to see their contemporary philosophical relevance.

Chapter 5

Concepts and Attention in Skillful Perception and Action

The account of vision developed in the previous chapters has presented several ways in which perceptual concepts are involved in the structuring the representational content of conscious visual experience. In particular, we have seen how the contents of memory influence the attentional selection of sensory features and their integration into a coherent perceptual representation. In this chapter, I wish to show how perceptual concept deployment is not merely a passive, unconscious process that takes place outside of a perceiver's control; rather, perceptual concepts can also be understood as abilities that a perceiver actively and skillfully exercises in experience. The active exercise of these conceptual abilities, I would suggest, relies upon the trained allocation of one's attention to a visual scene. Attentional allocation is a skill which is developed and refined as one acquires perceptual expertise, or an ability to perceptually recognize and categorize objects of a certain domain. Whether it is for recognizing tumors on an x-ray, birds in a forest, or faces in a crowd, one acquires the ability to perceptually classify an object – i.e., one acquires a perceptual concept for an object – in large part by learning to attend to those features of a stimulus which are indicative of an object's membership in some relevant category, and learning to disregard those features which are not. Through granting a perceiver with certain attentional skills, perceptual concept acquisition improves a perceiver's knowledge and epistemic status: Through learning how to properly attend to an object, a perceiver comes to know which object-features are category-diagnostic, where one needs to look to find such features, and how to track those features across their different instantiations. In turn, these skills of allocating attention to relevant features in turn enable a perceptual expert to more efficiently and accurately categorize perceived stimuli than an untrained novice. What's more, not only will the expert be able to recognize an object faster than a novice; the expert will also be able to extract more

information out of given stimuli than a novice, seeing patterns, structures, and subtle differences that are inaccessible to the untrained eye. I will argue that the exercise of attentional skills leads the experience of a perceptual expert to have content which is not available to the perceptual novice. The novice will not see an object as the expert does, given that it does not yet possess the skill of attending to an object's identifying features in the right way.

Furthermore, it is on the basis of skillfully attending to perceptual objects that we can skillfully act in response to them. By explaining perceptual concepts as entailing abilities for skillfully directing one's attention, we come to understand how perceptual concepts play an indispensable role in the causal chain between the reception of sensory information and the ultimate initiation of an intentional action. Intentional bodily actions rely on perceptually categorizing the objects being acted upon; an object must be seen as being of a certain type in order for a subject to perform the action in a way that is appropriate to objects of that type. One's intentions for acting disposes one to focus on specific action-relevant stimuli. For instance, if I intend to open a door, my past experience with doorknobs will lead me to attend and visually select those object-features present in my visual field – e.g., some protuberance of a certain shape, location, and color – which are relevant to identifying the object as a doorknob. Moreover, there is a specific subset of the doorknob's properties which is directly relevant to the intended action, and which must be selected in particular – the color of the doorknob is not directly relevant to the intended action, and hence should be deprioritized in the process of attentional selection. Having attended to the functional properties of the doorknob, I can subsequently execute the intended motor responses of stretching out my arm, grasping, and turning my hand. Visually selecting the appropriate object of action is necessary because, in the absence of selecting the proper target of action, the intended motor response will miss its mark; reaching out and grasping the door itself or the deadbolt lock will fail to accomplish my goal of opening the door. Through structuring how attention is directed to objects and their features, then, perceptual concepts are integral to the perceptual guidance

of intentional actions (Wu 2008).

Part of the philosophical upshot of establishing a link between perceptual concepts and skillful perception and action is that we can find a middle ground in the noted debate between Hubert Dreyfus and John McDowell over the extent of the mind's involvement in experience. We have seen in chapter one that, according to McDowell, experience can represent the world as being a certain way only if it is suffused with the operation of rational capacities required for knowing the world, namely those capacities required for the normative practices of articulating and evaluating reasons for belief and action. Dreyfus (2007a/b, 2013) on the other hand argues against McDowell that perceptual experience is non-conceptual; but unlike other content non-conceptualists, he rejects the idea that notions of representation or intentional content have any role to play in explaining our experience of the world in its most primary form, that is, at the level of fully absorbed coping with objects. For Dreyfus, notions of representation and rationality introduce a gap between the mind and the world that he thinks does not exist for our ordinary experience. We are normally immersed in an environment of attractive and repulsive affordances, which solicit intentional actions without our having to conceptually judge or think about what it is we are responding to or what it is we are doing. Our absorbed coping with these environmental forces is guided by a non-conceptual, non-propositional, and non-linguistic background understanding or skillful know-how, which is operative before we come to employ concepts in rationally judging and evaluating the world as a totality of propositionally structured facts. So, in Dreyfus's estimation, reaching for a doorknob requires no conceptual capacities even at the perceptual level: "... when I go out the door I needn't attend to the doorknob (be mindful of it), see it as a doorknob, least of all see that it affords opening the door" (2007a: 361).

As a way of responding to the impasse between Dreyfus and McDowell, and continuing our exploration of classical philosophical resources for the sake of reconfiguring contemporary debates, I will show how a skill-based account of perceptual concepts can be rooted in the insights of Classical

Chinese epistemology, as developed most fully in the thought of Mòzǐ (5th cent. BCE) and Xúnzǐ (3rd cent. BCE). Chinese epistemology helps to fill a gap in our revised account of perceptual conceptualism left by Nyāya. While the Nyāya memory-based account of concept possession framed our understanding of how concepts are operative in structuring perceptual representations, their answer to the question of how we acquire concepts is constrained by their broader commitment to the direct perception of universals. For them, one's acquisition of the concept “cow” is ultimately derived from a direct perception of cowness. There is no explicit acknowledgement in Nyāya that coming to perceive a cow as a cow may be a developmental process whereby one gradually acquires a skill to perceptually classify an object as a cow. Such a developmental account of perceptual concept acquisition is much more at home in the context of Chinese epistemology, a guiding assumption of which is that knowledge is intimately tied to action – one has knowledge of a thing to the extent that one can skillfully perform an action appropriate to that thing. Accordingly, perceptual knowledge consists in a skillful ability as well, namely an ability to properly discriminate and categorize relevant features of objects on the basis of observed resemblances with conceptual models. Xúnzǐ in particular suggests that perceptual discrimination is properly understood as a skill whose exercise rests on the application of attention, in that the correct categorization of patterns of stimuli in the world involves attending in the right way to an object and its features. Hence, in order to highlight the practical significance of the interrelation of perception, attention, and concepts, I wish to use Chinese epistemological insights into the skill-based nature of perceptual knowledge to frame a discussion of the phenomena of perceptual learning and expertise, and of how concepts are crucial for guiding the development of skillful abilities for recognizing and attending to visual patterns.

Coupling empirical research on perceptual expertise with the skill-based account of perceptual knowledge in classical Chinese epistemology, we can arrive at alternative answers to some of the important questions that arise in the wake of the Dreyfus-McDowell debate: To what degree is our

basic interaction with the environment devoid of or pervaded by “mindedness”? Must we exclusively identify this mindedness or intelligence with the exercise of higher-order conceptual capacities, as McDowell and Dreyfus do? Are we then left to conclude with Dreyfus that our absorbed engagement with the world is fundamentally non-rational? Or, is there a form of practical rationality to be found in the sorts of skillful activity that Dreyfus considers to be “mindless”? Does Dreyfus overlook the extent to which conceptual capacities are necessarily involved in the perceptual guidance of seemingly mindless skillful activity? And, can perception itself be counted as one of these skillful activities? In this chapter, the path to answering these questions will take us first through an overview of classical Chinese epistemology. Specifically, I will highlight how perceptual knowledge was considered in the Chinese tradition to be a form of actively exercised know-how, resting on concept-guided skills of attentional selection. I then consider the challenge of Dreyfus's non-conceptualist account of absorbed coping, and show that it fails to capture the involvement of memory- and attention-based conceptual capacities in skillful activity. Finally, I examine contemporary studies of perceptual expertise and visual object understanding, in order to establish that perception itself is an activity which is both skillfully absorbed and conceptually minded.

5.1 Perceptual Knowledge in Classical Chinese Epistemology

The philosophers of the Warring States period in China (475-221 BCE) developed their accounts of perceptual knowledge while operating under a rather different philosophical framework as compared to their Indo-European counterparts. For instance, the reality of the external world as we ordinarily perceive it was never brought into serious question by Chinese epistemologists; unlike the Western tradition following from Plato, and a number of Indian traditions which followed from the Upaniṣads and the Buddha, there was not a prevalent sense in classical Chinese philosophy that our experience of the world and ourselves might instead be an illusory veil of appearances concealing a

more fundamental, transcendent reality.¹ This is not to say that Chinese epistemologists were unaware of the possibility that our senses can be deceiving, or that we can be mistaken about how the world actually is; as we will see, Xúnzǐ and the Mohists had much to say about the types and causes of perceptual error. Robust epistemological skepticism was also developed in Daoist philosophy, particularly in the *Zhuāngzǐ*. The *Zhuāngzǐ*'s brand of skepticism was devoted to pointing out the fallibility of our inherently limited epistemic perspectives, and the mistaken reification of our contingent conceptual conventions as being objective, universal, and unchanging – and yet, even the *Zhuāngzǐ* did not countenance the possibility that sense perception fails to acquaint us with an objective world at all.² Scholars such as Jane Geaney (2002: 13, 30-35) and Chris Fraser (2011) have argued that the absence in classical Chinese philosophy of deep skepticism about our knowledge of the external world, or the absence any sustained metaphysical/epistemological dispute between direct realist and idealist views, can be traced in part back to a philosophical context in which no distinction was drawn between a world of phenomenal appearance knowable through the senses, and the world of noumenal, transcendent truths knowable through super-sensory means.

More importantly for our concerns, Geaney and Fraser further claim that the lack of a sharp metaphysical distinction in the Chinese tradition between appearance and reality can be correlated with the development of a non-representational theory of mind and perception. Representations are here being thought of as certain mental entities which mediate our experiential contact with reality, and whose contents truly or falsely depict that reality.³ But if an inevitable gap between how things seems to us and how they actually are in reality is not taken to be a serious possibility, then one's epistemology need not rely on representations to bridge such a gap. Accordingly, taking our direct

1 Starting points for further discussion of Chinese metaphysics and its unique presuppositions can be found in Hall and Ames 1998, and the essays in Li and Perkins 2015.

2 See for instance the interpretations of Hansen 1992: 285-92, and Fraser 2009.

3 Fraser (2011: 130 n. 7) acknowledges that representations do not necessarily have to be construed as indirect intermediaries, and that there can be theories of mental representation which cohere with the stance of Chinese epistemology.

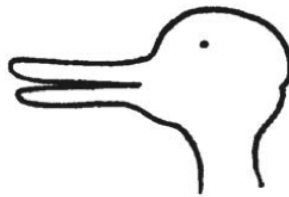
contact with the world to be a given, classical Chinese epistemology understood knowledge (*zhī* 知) in a way that prioritized the optimal pragmatic engagement with the world over the merely correct representation of it. As Fraser argues, classical Chinese philosophy understood knowledge to consist in the ability to correctly and reliably recognize things as being classed under some category or kind (*lèi* 類). Merely understanding that a certain object is denoted by a certain name is not sufficient for having knowledge; instead, one is properly said to have knowledge when one actively displays the ability to pick out that object in a practical context. A passage from the *Mòzǐ* illustrates:

Our master Mòzǐ said, “Now the blind say, ‘What’s bright is white, and what’s dark is black.’ Even the clear-sighted have no basis for changing this statement. But place white and black together and make the blind select among them, and they cannot know them. So as to my saying the blind do not know white and black, it is not on the basis of their naming; it is on the basis of their selecting.” (*Mòzǐ* 47/23–24; trans. Fraser 2011: 133)

Though the blind can understand at a linguistic level the distinction between white and black, they are said to lack knowledge of white and black to the extent that they cannot in practice reliably distinguish between white and black things. The *Mòzǐ* is thereby suggesting that knowledge is grounded upon a perceptually-guided ability to appropriately discriminate between objects on the basis of their category membership. Discrimination, or *biàn* 辨, forms the heart of Mohist epistemology, logic, semantics, and ethics – Mohists took all types of reasoning, judgment, and debate to rest on the proper drawing of distinctions between similar and dissimilar things (Fraser 2013). Thus, being linked through this common activity of discrimination, skills for perceptual pattern recognition and categorization would be epistemically continuous with all other cognitive practices; we might say then that perceptual recognition or “knowledge-of” need not be set apart from the propositional “knowledge-that” of conceptual thought.

Classical Chinese theories of sense perception took the sense organs themselves to be engaged in the activity of discrimination/distinguishing (*biàn* 辨) and differentiation (*yì* 異). Regarding the visual sense, the *Xúnzǐ* for example says, “The eyes distinguish between light and dark, beautiful and

ugly” (Hutton 2014: 27); elsewhere in the text, it is stated that “form, color, and pattern are differentiated by the eyes” (Ibid: 238). For Geaney, the *Xúnzǐ*’s description of the senses as distinguishing and differentiating their respective objects implies an understanding of perception as being akin to what has come to be known, following Ludwig Wittgenstein (1998: sec. 129), as “aspect perception,” or “seeing-as.” Geaney takes the notion of aspect perception to account for a kind of perception which cannot be explained by sense-data theories of perception, theories which, to crudely summarize, construe our perceptual experience of the world as involving the conscious presentation of subjective sensory impressions whose objective significance must be conceptually interpreted or inferred. In the case of aspect perception, however, interpretation is evidently woven into the percept itself. The phenomenon of seeing aspects is well illustrated by the example of Jastrow’s duck-rabbit figure:



The same figure can be seen under different “aspects,” either as a picture of a duck or as a picture of a rabbit. Indeed, the figure can surprisingly shift in our experience from looking like a duck to looking like a rabbit, and vice versa – all without any change in the actual figure itself, or in the stimuli which are presented to the eyes. The lesson to be drawn from the phenomenon of aspect perception most relevant for Geaney’s purposes is this: The sudden shift in a perceptual aspect, and the corresponding change in the intentional and phenomenal content of the perceptual state, indicates that aspect perception “is not a kind of seeing that is followed by thinking and then drawing an inference about what is seen” (2002: 32). In other words, we are not first passively presented with a neutral sensory image that we must then deliberately interpret and classify in a certain way. Rather, perceptual

experience is imbued with significance from the moment the perceptual aspect dawns upon us. Accordingly, when the *Xúnzǐ* says that the eyes themselves distinguish and discriminate their objects, it too can be read as implying that the eyes do not present us with a raw, undifferentiated array of sensory impressions. Instead, Geaney claims that the acts of looking and listening are understood as “organizational”; she writes, “To look and listen is to organize things, in the sense of taking a certain attitude toward them. This is particularly obvious in certain uses of the terms. That is, *shi* 視 (look) can function as 'to consider something to be something,' and *ting* 聽 (listen) can function as 'to judge'.... Because *shi* functions as visually 'consider' and *ting* functions as aurally 'judge,' looking and listening involve deeming things in a certain way” (2002: 43).

The *Xúnzǐ* intimates in several places that there is already some measure of classification and evaluation present at the sensory level. First, it identifies the senses as being the source for our awareness of similarity and difference, along with our corresponding linguistic conventions for using names to group and distinguish objects: “So then on what grounds do we deem things similar or different? I say: On the grounds of the sense organs. As to any creatures of the same kind, with the same affects, how their sense organs detect things is similar. So they converge in how they model things as resembling each other” (*Xúnzǐ* 1966: 1966: 22/14-16; trans. Fraser 2016: 300). On Chad Hansen's reading of this passage (1992: 325), objects are perceptually categorized together within a similarity space that is contributed by the sense organs themselves. And since creatures of the same species generally share the same sense organs, they will share in common a perceptual similarity space that enables them to distinguish the similarities and differences between sensory features in a uniform way, thereby providing a shared basis for their linguistic categorization and communication. As for the evaluative function of the senses, the *Xúnzǐ* speaks of the sense organs as loving (*hǎo* 好) and desiring (*yù* 欲) their respective objects.⁴ The evaluative aspect of vision can also be read out of the eyes' ability

⁴ See *Xúnzǐ* chs. 11 and 23 (Hutton 2014: 104, 248, 250). The notion that the senses themselves desire or are attracted to their objects was common among classical Chinese texts as well; see Geaney 2002 for references.

to discriminate between beauty and ugliness.

That said, the *Xúnzǐ* also acknowledges the integral role that the mind (*xīn* 心) plays in the production of perceptual knowledge.⁵ In one passage, the mind is said to apply the function of *zhēng zhī* 徵知 to the inputs of the “natural officials” (*tiān guān* 天官), i.e., the sense faculties:

心有徵知。徵知，則緣耳而知聲可也，緣目而知形可也，然而徵知必將待天官之當簿其類然後可也；五官簿之而不知，心徵之而無說，則人莫不然謂之不知，此所緣而以同異也。然後隨而命之.... (Xúnzǐ 1966: 22/19-21)

The heart [*xīn* 心] has the power to judge its awareness [*zhēng zhī* 徵知]. If it judges its awareness, then by following with the ears it is possible to know a sound, and by following along with the eyes one can know a form. However, judging awareness must await the Heaven-given faculties to appropriately encounter their respective kinds and only then can it work. If the five faculties encounter them but have no awareness, or if the heart judges among them but has not persuasive explanations [for its judgments], then everyone will say that such a person does not know. This is what one follows and uses to distinguish the same and the different. Only after doing this does one then follow it up by naming things. (Hutton 2014: 238)

I've used Hutton's translation as a starting point because it gives a relatively neutral rendering of *zhēng zhī* 徵知, namely as “judging awareness.” Still, we might narrow in on the *Xúnzǐ*'s intended meaning by noting several of the other ways in which this phrase has been interpreted. Dan Robins suggests translating *zhēng zhī* 徵知 as “sending knowledge,” in the sense that the mind dispatches the sense organs to gather knowledge of objects (2007: 9). John Knoblock (1994: 337) notes that the 9th century commentator Yang Liang interprets *zhēng zhī* 徵知 to mean “summoning knowledge,” in that the mind has the power to summon up any object into its ken and know it. The summoning power of the mind is to some extent suggested by the mind's being described in the *Xúnzǐ* as the “natural ruler” (*tiān jūn* 天君; Xúnzǐ 1966: 17/12) in charge of the lower officials qua sense organs. Though the translation of *zhēng* as “summoning” was rejected by other commentators (see also Cua 1985: 31), we can understand at least one respect in which it is apt, particularly if we follow the translation of Lin Chung-

5 Though I here translate *xīn* 心 as “mind,” many scholars have instead preferred the translation “heart-mind” as being more apt. The term literally refers to the physical heart, which was considered by the Chinese to be an organ that performs both cognitive and affective functions. Though the connotations of the term “mind” in English may side more toward the cognitive as against the affective, my own use of the term in the Chinese context should be understood as encompassing the affective dimension of cognition.

I (2011: 319), who translates *zhēng zhī* as “attention.” According to Lin, the *Xúnzǐ* is here referring to an active exercise of a capacity for perceptual selection, whereby a perceiver directs her attention to some sensory stimuli for the sake of further cognitive processing (2011: 319-20).

We should also note with Lin (Ibid.) that the *Xúnzǐ* takes the mind qua faculty of attention as having some part to play in a perceptual stimulus's rising to the level of awareness. In the passage quoted above, the *Xúnzǐ* notes that one condition for having perceptual knowledge is that there be awareness (*zhī* 知) of what the senses register (*bù* 簿). Elsewhere in the text, we find examples mentioned where, because the mind is not applied to the senses, one fails to perceive what should otherwise be very salient objects: “If the heart does not apply itself to the eyes, then black and white can be right in front of you and the eyes will not see them. If the heart does not apply itself to the ears, then drums and thunder can be right at your side and the ears will not hear them” (Hutton 2014: 224).⁶ A mind which is distracted by anxiety and fear may similarly fall prey to inattentive blindness: “If the mind is anxious and afraid, then the mouth may be filled with fine meats without being aware (*zhī* 知) of their taste; the ears may hear bells and drums without being aware of their sound; the eyes may see fine embroidered emblems without being aware of their shape; and the body may be wearing light, warm clothing and resting on a fine bamboo mat without being aware of their comfort.”⁷

In addition to taking the mind's function of *zhēng zhī* as bound up with the activity of attentional selection, other scholars have pointed out that *zhēng zhī* also amounts to a cognitive capacity for verifying or recognizing the identity of perceived objects. This aspect of verification and recognition is reflected in some of the other translations offered for *zhēng zhī*. Taking *zhēng* as a noun, John Knoblock translates the phrase as the “awareness that the mind has of the defining characteristics that distinguish things” (1994: 129), thus suggesting that the mind, after it is presented with an object by a

6 *Xúnzǐ* 1966: 21/4-5: “心不使焉，則白黑在前而目不見；雷鼓在側而耳不聞....”

7 Ibid: 22/80-81: “心憂恐則口銜芻豢而不知其味，耳聽鐘鼓而不知其聲，目視黼黻而不知其狀，輕煖平簟而體不知其安。”

sense organ, becomes aware of that object's identifying features. Taking *zhēng* as a verbal adjective, Fraser translates *zhēng zhī* as the “verifying knowing,” *zhī* being translated as “knowing” in part to draw an analogy with the Lockean or Kantian faculty of understanding (2011: 134 fn. 15). Antonio Cua takes *zhēng zhī* to be “the confirmatory function of the mind with respect to knowledge” (1985: 32), by which he means that the mind confirms or establishes the identity of a perceived object by recognizing it on the basis of past experience as belonging to a certain class. Further resonances with Kant's account of the understanding can be found in Cua's elaboration of *zhēng zhī* as an “intellectual function of the mind that enables human beings to obtain reliable empirical knowledge. And, acknowledging the conceptual character of this activity,” he continues, “we can accept the view of some recent scholars that *cheng-chih* embraces distinction, classification, selective judgment, or, more broadly analogy, analysis, and synthesis, to which we may add extension and specification of the uses of concepts” (1985: 34). Like Kant, then, the *Xúnzǐ* holds that sensory input must first be selected, classified, and synthesized by the mind before it can attain the status of perceptual knowledge. And as Cua acknowledges, these activities are essentially conceptual in character.

The final feature of the *Xúnzǐ*'s description of *zhēng zhī* and its role in perceptual knowledge is that one cannot be said to have such knowledge unless the mind's activity of *zhēng zhī* is accompanied by “explanation” (*shuō* 說). Lin (2011: 320) further mentions “justification” and “reason articulation” as additional meanings for *shuō* in this context. The *Xúnzǐ* here seems to be claiming that perceptual knowledge requires an ability to explain why one has classified or judged a perceived object in the way that one has. Moreover, this discussion comes in the chapter of the *Xúnzǐ* explicitly concerning the proper use of names (*zhèng míng* 正名), so what is being called for here is likely that a perceiver should be able to explain how her perceptual classifications of an object cohere with the socially acknowledged standards governing that object's linguistic classification. In other words, if one cannot apply the correct name to an object upon perceiving it, and cannot explain why one's perception

justifies the application of that name, then one cannot be said to have perceptual knowledge of that object (Fraser 2011: 138). Fraser hence claims that Xúnzǐ would agree with contemporary thinkers such as Wilfred Sellars and Donald Davidson that perceptual knowledge is “inherently linguistic and conceptualized” (2016: 301).

This necessity of explanation for perceptual knowledge evidently brings Xúnzǐ’s account into close alignment with the conceptualism that John McDowell develops in the wake of Sellars and Davidson. As Lin (2011: 321) points out, *shuō* 說 is fundamentally an activity of reason-giving; so, if *zhēng zhī* must be accompanied by *shuō* in order to have perceptual knowledge, then one would need to be in a position to give reasons for one’s perceptual discriminations. McDowell argues that only types of mental states which support the activity of reason-giving are those which have conceptual content. These are the only types of states that can be drawn into the “logical space of reasons,” and that can have normative significance for our broader web of beliefs. According to McDowell, non-conceptual states can at best stand in a causal, rather than rational, relation to our set of perceptual beliefs and judgments; such states can only offer exculpations, rather than justifications, for why we have the beliefs that we do (1994: 13). Xúnzǐ would seem to concur, insofar as he thinks that we should reserve knowledge for only those who are in a position to not only conceptually classify perceived objects, but also rationally evaluate those classifications. If this evaluation is to be tied up with assessing whether one’s perceptual experience licenses the application of certain names to the objects experienced, then *shuō* is essentially a discursive social practice taking place among members of a linguistic community (Lin 2011: 322). The absence of an ability to justify and articulate the reasons for one’s actions more broadly may be why the *Xúnzǐ* claims that when animals communicate – e.g., when one horse neighs and the other responds – they do so only without knowledge (*zhī* 知); instead, they act in such a way just out of being naturally inclined to do so (*shì rán* 勢然).⁸ For Xúnzǐ as for McDowell, the knowledge

8 *Xúnzǐ* 3/25: “故馬鳴而馬應之，非知也，其勢然也。”

(*zhī* 知) that the senses and mind jointly furnish, and the actions that such knowledge enables, are responsive to reasons and must thereby go beyond being merely blind reflexes to stimuli (see also Sung 2012: 370 fn. 3).

Still, while classical Chinese epistemologists ultimately took perceptual knowledge to entail a practical competency for applying names to perceived objects in accordance with socially governed linguistic conventions, they nevertheless understood the application of names to be grounded upon the activity of perceptually discriminating and recognizing the real similarity relations between objects. It is the joint activity of the sense faculties and the mind that enables us to distinguish between similarity and dissimilarity (*tóng yì* 同異) – and it is only once objects are established as being similar or dissimilar that we have reason to employ names for the sake of grouping or differentiating them. Mohist epistemology delineates the general process by which we can identify an object as belonging to some category (*lèi* 類): We make reference to a conceptual standard, prototype, or paradigm (*fǎ* 法), and take some aspect (*yīn* 因) of that standard as a criterion for the relevant respects in which an object should resemble the standard and hence be included the same category (Liu, Seligman, and van Benthem 2011: 66-68). For instance, a horse may be classified as blind if its eyes are blind, but we shouldn't say that a horse is big just because its eyes are big; blindness and largeness as categories thus take different aspects of the horse to be relevant for determining whether it belongs to these categories (Ibid: 67). The Mohist Canons identify three types of prototypical standards or models used for classifying objects. One such standard can be a mental idea (*yì* 意) – for example, one comes to recognize an object as a circle by its resemblance with one's idea of a circle. Though *yì* 意 is construed as something mental, we should view such mental concepts, as with the Nyāya notion of concepts (Ganeri 2014: 7.1), as being constructed out of objective entities or patterns rather than as subjective fabrications. That is because mental models for the Mohists are on a par with literally objective models like instruments of measurement such as a compass (*guī* 規), or a circle itself (*yuán* 員); all three may

provide reliable standards of comparison in identifying something's being similar to, and thus identifiable as, a circle (Liu, Seligman, and van Benthem 2011: 66).

In the case of perceptual recognition, the aspect of resemblance relevant for determining an object's category membership is its visual appearance – literally, its shape and surface characteristics (*xíng mào* 形貌) (Fraser 2011: 135). Since there is potentially an indefinite number of ways in which objects are similar, appropriate object recognition will involve a set of abilities for selecting and applying an appropriate conceptual model, and then discerning the features of a particular object that are appropriate for judging whether it resembles or “matches” (*hé* 合) the model. These abilities are exercised through the activity of selective attention: One recognizes an object as being of a certain kind through attending to the object in the right way, that is, through perceptually selecting its category-relevant features, and thereby disregarding those features which are category-irrelevant. The Mohist Canons give an example of classifying someone as dark-skinned on the basis of an appropriate aspect or criterion (*yīn* 因) – to perceptually recognize someone as dark-skinned, one would need to attentionally select a person's dark skin color, and disregard dark color of the person's pupils or hair. Similarly, one must perceptually disregard incisors and tails if one is going to perceptually distinguish between oxen and horses, as these features are shared by both animals (Ibid: 136). We may thus conclude that for the Mohists, knowledge that an object belongs to a certain category rests on knowing how to properly discriminate that object under a certain aspect, and that this sort of perceptual know-how is in turn grounded upon our ability to selectively attend to that aspect.

Finally, we can further understand the role of attention in classical Chinese accounts of perceptual knowledge by understanding its role in perceptual error. The *Xúnzǐ* discusses at length the factors that may potentially thwart the acquisition of knowledge; what it finds these factors to share in common is that they all involve “fixation” or “obscuration” (*bì* 蔽). Errors occur when one improperly fixates on some particular element of something and thereby loses sight of the “overall pattern” (*dà lǐ*

大理) (*Xúnzǐ* 1966: 21/1). Fraser thus describes the *Xúnzǐ* as putting forth a part-whole theory of error: Perceptual and cognitive errors arise when a knower fixates on an unrepresentative or irrelevant aspect of a situation and thereby acquires only a partial, one-sided understanding of the situation as a whole. In this way, the *Xúnzǐ*'s account bypasses the possibility of global skepticism; as Fraser writes, “[Error] is due not to subjective misrepresentation of the mind-independent world, nor to a gap between appearance and reality, but to fixing our attention in the wrong direction, such that we consider only some factors rather than all those relevant to discrimination” (Fraser 2011: 138). This improper fixation of the attention, the *Xúnzǐ* claims, ultimately disrupts our ability to “class” (*lún* 倫) things in the right way.⁹

Selectively attending to an object in the wrong way is liable to occur due to a number of factors. Some are internal – the mind may be distracted, beset by personal biases, or disturbed by negative emotions. These internal perturbations of the mind are like mud at the bottom of a pan of water: When the pan is upright and undisturbed, the mud sinks to the bottom and you can then clearly make out the detailed reflection of your face on the surface. Yet when the mud is stirred up from the bottom, the clarity at the surface is disturbed and you can't make out the reflection of even the general outline of your face. In the same way, a mind that is internally “slanted” or biased (*nèi qīng* 內傾) won't be able to determine even the gross patterns of things.¹⁰ Additionally, there can be external factors such as darkness, distance, or drunkenness which make one's sensory observations unreliable – in such cases, external objects won't appear clearly (*qīng* 清) to a mind which is internally unsettled or unstable, and which is further unable to clearly deliberate, in spite of those factors, about what is actually the case and what is not.¹¹ Examples given by the *Xúnzǐ* include a person walking in the dark who sees a stone laying on its side as a crouching tiger, or a tree standing upright as someone following him; a drunk

9 *Xúnzǐ* 1966: 21/7: “是故眾異不得相蔽以亂其倫也。”

10 *Ibid*: 21/54-58. For more discussion of the many facets of the analogy between the mind and a reflective pan of water, see Cline 2008.

11 *Ibid*: 21/67-68: “凡觀物有疑，中心不定，則外物不清；吾慮不清，則未可定然否也。”

person who mistakes a wide gorge for a narrow ditch; and someone standing at the top of a mountain, to whom the trees below appear like chopsticks.

Yet, though the senses may be operating under deceptive conditions, a perceiver who knows what the *Xúnzǐ* (21/28) calls the “arts of the mind” (*xīn shù* 心術) won't herself be deceived. Fraser explains that “*Xúnzǐ* regards the use of the heart to discriminate things and guide action as a field of skill or technique.... As with any skill or art, performance in discrimination can be improved through training and conscientiousness” (2011: 141). Cultivating the “arts of the mind” specifically allows a perceiver to avoid the attentional fixations and biases that disrupt the ability to class and categorize objects appropriately, and that subsequently motivate incompetent action. A cultivated mind will instead maintain an “attentive equilibrium” wherein, like the undisturbed pan of water, it reflects the world clearly (Ibid.). In spite of deceptive external factors, a conscientious perceiver will still attend to the “overall pattern” present in a situation, and won't jump to act on the basis of misleading partial similarities like those which may make a stone look like a tiger in the dark, or those which may make trees look like chopsticks from a distance. By taking a holistic rather than blinkered view, a skilled perceiver can discriminate the other relevant features of a situation that would reveal these partial similarities to be misleading or irrelevant, and can then compensate for the deceptive circumstances in order to still act appropriately.

To sum up, classical Chinese epistemology offers a skill-based account of perceptual knowledge: To have knowledge of an object through the senses is to have an ability for reliably classifying that object under an appropriate category. The *Xúnzǐ* suggests that this classification takes place through the joint activity of the senses and the mind qua faculty of attention – objects are registered within a sensory similarity space, and are brought to awareness, recognized, and categorized through a process of attentional selection. The Mohists specify how conceptual standards determine which object-features are to be selected as relevant for identifying an object's category membership.

Perceptual knowledge hence consists in a set of abilities for attending to, recognizing, and responding to patterns in the right way. With cultivation, one can exercise these abilities more skillfully and reliably. So at base, perceptual knowledge in classical Chinese epistemology is to be understood as a kind of skillful know-how. The exercise the attention-based abilities of classification and appropriate action grounds our skillful epistemic engagement with the world.

5.2 Dreyfus's Non-Conceptualism

However, for all its emphasis on perceptual knowledge as non-representational and skillful know-how, the classical Chinese epistemologists are not likely to be received amiably by Dreyfus, for as we saw, there is a “McDowellian” streak to the conceptualism of Xúnzǐ and Mòzǐ (or vice versa?). Their account of perceptual knowledge is framed within a general account of knowledge as entailing the practical ability for correctly applying general terms to objects; as a result, one attains knowledge through skillful perceptual discrimination to the extent that one can describe objects appropriately on the basis on perceiving them. Indeed, this is how the Mohist Canons characterizes perceptual knowledge – one knows something through perceptual contact when one can pass by an object and have the ability to describe it.¹² The appropriateness of one's perceptual descriptions and the responses they guide are determined by their coherence with social norms as much as by the categorical features of the objects themselves. And as the *Xúnzǐ* claims, one does not have perceptual knowledge unless one can explain the reasons why one's perception of an object licenses the application of a certain description or name to it.

McDowell, for his part, believes that rationality or “mindedness,” which is supposed to be pervasive throughout both the experience and activity of human adults, consists in a responsiveness to reasons “*as such*.” When a non-rational animal flees from danger, there is of course a good reason why

12 Canon A5: “知，接也。知也者：以其知過物而能貌之。(若見。)” (Johnston 2010: 376). See also Fraser 2017: 5.1.

it does so; nonetheless, such an animal is not able to hold its inclination to flee at arm's length, and raise the normative question of whether it *should* flee, that is, whether it has a good reason for its being so inclined. Rational humans, on the other hand, have the conceptual capacity to step back from their experience and intentional activity, and assess whether their reasons behind their beliefs and actions are warranted. Obviously, we do not always exercise this capacity and self-consciously deliberate about the reasons guiding our absorbed experience and activity; but it is enough for this experience and activity to count as rational that we could exercise it. For McDowell, conceptual capacities are “actualized” in experience and activity even when they are not actively exercised. Additionally, it is because the conceptual capacity actualized in perceptual experience can be the same capacity which is exercised in discursive judgment that perceptual experience entitles us to form a belief about the content of perceptual experience (McDowell 2009: 127-133). Finally, the conceptual capacities which allow one to rationally assess the content of experience are coeval with language; it is through initiation into a language that one has the capacity for responding to reasons as such (Ibid: 168).

The involvement of conceptual capacities in absorbed experience and action can best be appreciated through McDowell's account of a chess master's absorbed activity in playing lightning chess (2013: 45-51). McDowell would claim that even in the flow of playing a move every few seconds, the chess master's conceptual capacities are actualized, giving him an implicit self-knowledge of the reasons why he makes each move. The chess master of course does not articulate those reasons as he is playing; if he were stopped and asked why he made the move he did, his state of flow would be broken. Nor does he have time to deliberately reflect in a self-conscious and detached manner on the reasons behind his moves. And yet, the chess master would not be drawn to make the moves he does without the functioning of a “cultivated rationality.” If the chess master were stopped during the game, he would likely be able to explain without hesitation why he responded to a certain position on the board, and what his overall strategy may have been at the time. McDowell thus concludes that the

chess player must be having knowledge during the flow of play of why he's acting in the way that he does – in short, he must be knowing what he is doing as he is doing it. So, the same conceptual – which is to say rational – capacities that the chess master draws upon in explaining his moves are continuous with the conceptual capacities that are operative in his playing the game itself.

Conversely, Dreyfus is adamant that our primary engagement with the world in the form of absorbed coping need not have anything to do with language, concepts, or rationality. He would claim against McDowell (and Xúnzǐ) that the conceptualist account of perceptual knowledge starts the story of our interaction with the world “too late” – perceptually guided coping activity is both developmentally and logically prior to our acquiring a conceptual ability for discursively articulating and appreciating the epistemic role of our sensory classifications in grounding beliefs and actions. Since McDowell and Xúnzǐ take perceptual knowledge to entail such a conceptual ability, much of our perceptual experience would fall short of counting as knowledge in their view, and so the scope of their conceptualist accounts would be greatly limited; McDowell in particular would be wrong to claim that rational/conceptual mindedness pervades our lives.

We can see how the conceptualist account falls short in Dreyfus's eyes by considering again the example of the chess master. Dreyfus expressly denies that the chess master's moves are guided by reasons or knowledge; the master's rapid play would be no more rational than the non-rational animal's flight from danger. As a matter of fact, it is a special precondition for his being a master that he does not self-consciously act according to reasons, becoming instead “absorbed into a field of attractive and repulsive forces that directly draw him to cope” (Dreyfus 2013: 33). Dreyfus claims that, when reasons for his moves are demanded, all the chess master would offer as an explanation is, “I made the move because I was drawn to make it” (Ibid: 35) – in effect the master is saying that rather than being motivated by a rational thought within his mind, his moves were solicited by the world itself. Were the chess master to eventually articulate a more detailed explanation for his play after the fact, he would be

doing so only on the basis of a “retrospective illusion created by reflection” that he was acting for reasons rather than responding directly and unthinkingly to the concrete forces of the situation (Ibid: 34). Dreyfus's ultimate point is that we too are like the chess master when it comes to the vast array of mundane skills we unthinkingly exercise in our basic bodily comportment to the world. Skillful absorbed coping in all its forms involves an immersion within a field of attractive and repulsive forces, in which our actions are not motivated with even an implicit knowledge of what we are doing. “For there to be knowledge,” Dreyfus writes, “the propositional structures in the mind must correspond to the propositionally structured facts in the world” (Ibid: 17) – but bringing in such a notion of correspondence inherently introduces a gap between the mind and world that does not exist in absorbed experience. Immersed in the field of forces, the world does not stand before us as a set of facts to be known in propositional thought.

To be sure, our mindless coping with the objects around us does rely upon a certain “know-how,” which Dreyfus speaks of as a holistic understanding of norms and practices that imbues the world with meaning and enables it to solicit responses from us. This understanding operates in the background of our absorbed activity, and in fact can only be operative insofar as it remains in the background as unthought. In that sense, the background field of forces within which unthinking activity takes place is itself unthinkable – these forces cannot themselves become objects of thought within our absorbed experience. These forces include the physical objects that populate our world, as well as the sociocultural norms that guide our interaction with those objects. To illustrate our background understanding of the “perceptual/social” field of normative forces, Dreyfus draws upon an example from Heidegger of walking into a familiar lecture hall, starting with the simple act of reaching out to a doorknob and pushing the door to enter. We don't entertain the thought that the door affords opening, or even see the door as a door in order to appropriately respond to what the door affords us; to pragmatically engage with the door, “we needn't apprehend the door at all,” where apprehension

evidently refers to taking something as an object of deliberate thought (Ibid: 18). Then at some point, the professor starts writing on the blackboard (which is presumably on wheels) and says unreflectively, “The board is badly positioned.” Dreyfus and Heidegger would claim that behind this simple assertion is a background understanding of the lecture hall's social context, and all the human perspectives and purposes which constitute it: The board is badly positioned relative to the students in the audience who want to see what's being written; it's badly positioned relative to the professor writing on it who wants the students to see what is being written, and so on. Our background understanding of this meaningful context is fundamentally skill-based – “built up through our attending and giving lectures over the years” – and stands as the condition for the possibility of the lecture hall's manifesting to us as affording a set of possibilities for action, including the action of judging that the blackboard is misplaced. “It is this know-how,” Dreyfus writes, “that orients us in the lecture room and enables us to deal with the things in it” (Ibid: 20).

Dreyfus goes further in characterizing this know-how as non-propositional and hence essentially non-conceptual in structure. It is not simply a contingent fact that we know how to cope with the door or blackboard without apprehending them in conceptual thought; rather, the background know-how underlying our absorbed activity in the lecture hall, and everywhere else, necessarily escapes apprehension in thought, being that it is essentially immune to propositional articulation. McDowell would claim that the absorbed activity of a rational agent is conceptual in nature because there are capacities present in the activity which allow the agent to articulate and deliberate about the reasons motivating its activity – he writes, “That is what it means for capacities to be conceptual in the relevant sense: they are capacities whose content is of a form that fits it to figure in discursive activity” (2013: 42). Conceptual capacities are thus responsible for granting experience and activity with the same sort of intentional content as discursive conceptual thought; and this commonality of content is what makes experience and activity themselves rationally evaluable.

Absorbed coping, however, is directly guided by forces or affordances, not reasons – so there is nothing in absorbed coping for discursive judgments to rationally evaluate. These forces are normative and meaningful, but their meaning outstrips the expressive capacities of language. As Dreyfus writes, “The familiar forces we are absorbed in when we make the judgment that the blackboard is badly placed are not made up of propositional structures to which we can affix bits of language” (2013: 20-21). To the extent that absorbed coping experience and activity has intentional content, it is not the kind of content which can figure in discursive, propositional judgments. Dreyfus instead claims, following Merleau-Ponty, that absorbed coping involves motor intentional content, or an embodied form of intentionality through which our actions are purposively directed toward, and normatively responsive to, affordances in the world, without the mediation of conceptual thought. Propositional contents have binary conditions of accuracy or satisfaction – the content can be either true or false; the world satisfies or does not satisfy a representation. Motor intentional content, on the other hand, is characterized as having conditions of improvement, entailing a continuum on which our bodily coping is moving closer to or further from an optimal state of engagement with the world (Ibid: 31). Thus, since the motor intentional content of absorbed coping is non-conceptual, non-propositional, non-linguistic, and non-rational, there must be no sense in which conceptual capacities are even implicitly present in our absorbed coping.

5.3 Montero and the Conceptual Character of Expertise

A number of objections can be raised against Dreyfus's characterization of absorbed experience and activity as being essentially non-conceptual. To start, it is worth noting Barbara Montero's (2016) refutation of Dreyfus's model of expert-level activity within a state of flow as being non-rational and totally devoid of thought. Though she concedes that everyday activities like opening doorknobs and climbing stairs may be mindless in Dreyfus's sense of the word, she claims that expert activity – i.e.,

the kind of activity which is mastered through years of effortful exertion and training – is thoroughly rational and conceptual.

We can grasp the gist of her argument by looking at her specific response to Dreyfus's interpretation of expert-level chess play. Dreyfus believes that the mark of the chess player's mastery is his ability to act mindlessly and non-rationally, i.e., without having to pay attention to or focus on what he is doing, consult conceptual rules to help decide what moves to make, or deliberately think about possible alternative moves. Through consulting psychological studies of chess play and interviewing chess masters themselves, Montero mounts a response against each aspect of Dreyfus's depiction. Concerning attention, Dreyfus claims that an expert at any skill has to pay attention to what she is doing only when things are going wrong and her flow state is broken; when the expert is in the flow and performing at her best, she responds to objects without attending to their solicitations (2007b: 374).

Montero allows that attention to what one is doing isn't necessary for performing rote skills like walking up stairs or carrying a glass, and may in fact impede performance; yet, when it comes to complex skills like playing chess, she argues that attention – specifically, an intense and sustained focus – is necessary to performing well. In studies where expert players during a game are given distracting tasks that interfere with their attention, their play is diminished; this suggests that experts don't perform at their best in the absence of attending to what they are doing (Montero 2016: 214-5). As for whether experts consciously entertain rules when acting, Montero asserts that while an expert chess player's grasp of basic rules may remain unconscious, experts often consciously consult advanced heuristic rules in judging board situations and seeking justifications for the moves they choose to make in response (Ibid: 218-9). Lightning chess masters also claim to deliberate about possible moves to make; the few seconds they have to make a move may afford them the chance to calculate only a few moves ahead, but they are deliberating nevertheless; and when asked, these players can articulate their in-game thought process out loud. So, rather than being employed only when the state of flow is broken

due to something going wrong, deliberation and calculation are undertaken by the expert within the flow of rapid play (Ibid: 223-5).

Part of the reason why Dreyfus may have thought deliberation and calculation to be absent in expert chess play is because he associates them with the approach that computers take to playing chess. Computer programs play master-level chess using brute computational force, calculating millions of possible moves in seconds, whereas Dreyfus thinks that expert humans have a more holistic ability for immediately “zeroing in” on whichever possibilities are most optimal. Dreyfus speaks of this ability as the “intuition” which artificial intelligence lacks: Instead of calculating millions of possibilities every turn, human experts rapidly cut through those possibilities by perceptually recognizing the similarities that a current situation shares with situations they've previously experienced. Sizing up the whole situation, identifying a pattern which bears relevant similarities to previously experienced patterns, and zeroing in on the available responses which are most appropriate – all this takes place within the expert's instantaneous intuition. Direct intuition further separates masters from novices, who have a smaller set of stored patterns to draw upon, and cannot identify the similarities between patterns as well as masters can. While the expert player, having zeroed in on a set of possibilities, might go on to deliberate about the opponent's possible responses and calculate their relative benefits, Dreyfus argues that these conceptual activities presuppose the non-rational, non-conceptual activity of intuition.

Still, even if Dreyfus is right that expert chess players are able to intuit a set of possible moves faster and more effectively than merely competent players, Montero argues that he is wrong to interpret intuition as being non-conceptual and non-rational. For one, chess experts are able to zero in on possible moves precisely because they are able to conceptualize the pieces on the board under some category; that is, they see a position as being of a certain type. Far from it being the case that “there is no reason to think that one could name or point to what it is about a position that makes it the type of position that requires this particular response” (Dreyfus 2005: 55), chess masters by and large know the

names for a vast array of positions which they can they recognize instantly; and knowledge of these situations is what allows them to point to what it is about a situation that requires a certain response. To show the difference it makes for an expert player's perception of board positions to be conceptualized, Montero (2016: 230) cites a study in which master players were asked to briefly glance at positions on a board and then set up the same positions on a different board from memory. When it was evident that the displayed position was from the middle of a well-played game, chess masters were almost perfect in recreating the displayed position; however, when the pieces were scattered randomly, the experts' advantage over novices in recreating the displayed position was reduced.

One conclusion of such research has been that the experts' superior memory of non-randomly placed pieces stems from their “chunking” the board into meaningful patterns: It is because the experts could immediately recognize the position of the well-played game as belonging to a certain type that they could better retain the position in memory (Ibid.). Montero allows, as do I, that this ability to perceptually categorize and re-identify meaningful patterns counts as a form of conceptualization, even if within the flow of play it typically goes unexpressed in words (Ibid: 233). The expert player's intuition of the board as affording certain optimal responses can thus be understood as being grounded in a conceptual ability, and thereby as being integrated within the player's rational activity. Hence, while absorbed and automatic activities like walking up stairs or opening a door may fail to leave memory-traces for subsequent recall and reasoning, the play of expert chess players does. Expert players have long-lasting memories of the thought processes present in their play; and there would only be something to remember if their play itself was conceptualized from the outset.

Montero ultimately claims the same to be true about expert action in general, extending beyond chess to refute Dreyfus's caricature of all expertise as having to be essentially non-conceptual, non-rational, and unthinking. According to Montero, Dreyfus fails to recognize the disanalogies between ordinary activity and the skilled activity of highly trained experts – in short, the former may often be

mindless, but the latter is thoroughly mindful. She focuses especially on how trained experts constantly rely on concentration, thought, deliberation, and willpower in the course of exercising their complex skills even within a state of automatic flow, and not just when things go wrong as Dreyfus believes. And unlike McDowell, she is unafraid to claim that conceptual capacities are explicitly exercised rather than just implicitly actualized in the absorbed activity of high-level experts.

5.4 The Revised Conceptualist Response to Dreyfus: Concepts, Attention, and Memory in Expert

Intuition

I would further extend beyond Montero's criticism of Dreyfus, and argue that the perceptual intuition essential to all skilled coping is concept-involving. Dreyfus acknowledges that becoming a master in most any domain involves the acquisition of skills for perceptual pattern recognition, while denying that what the master has acquired are concepts. He writes that what masters learn through practice “are not critically justifiable concepts but sensitivity to subtler and subtler similarities and differences of perceptual patterns. Thus, learning changes, not the master’s mind, but his world” (2013: 35). Dreyfus elsewhere states that this acquired sensitivity grants an expert a “rich *perceptual* repertoire – the ability to respond to subtle differences in the appearance of perhaps hundreds of thousands of situations – but it requires no *conceptual* repertoire at all” (2005: 58). Such a non-conceptual repertoire of perceptual abilities is drawn upon in the practice of “refined skills” such as chess, jazz improvisation, athletics, and so on, as well as “everyday skills” like cooking, crossing a busy street, or having a conversation (Ibid.). For Dreyfus, the know-how embodied in these perceptual skills must be essentially non-conceptual: experts don't possess context-independent, abstract concepts or rules for expressing the thousands of situations that are perceptually intuited, especially given that these situations aren't supposed to be nameable or thinkable at all.

However, the revised conceptualism I am advocating would take Dreyfus's perceptual repertoire of skills for pattern recognition and classification as being precisely a sort of conceptual repertoire. So, Dreyfus considers the expert's intuitive pattern recognition to be non-conceptual, whereas I claim it to be conceptual in nature – is the dispute merely terminological, then? I don't think so, because there are certain facts about expert intuition that Dreyfus's non-conceptualism fails to adequately address, and which are better captured by accepting that intuition is not isolated from an expert's cognitive/conceptual capacities, and particularly from those memory- and attention-based capacities which are central to the revised conceptualist account of perceptual experience.

These capacities, it turns out, are also central to a revised conceptualist account of absorbed skillful activity. Dreyfus's non-conceptualist theory of expertise is based in large part of the claim that memory and attention play no role at all in the expert performance of skills. In the next two sections, I will show that this claim is implausible. The perceptual ability for directly intuiting a proper course of action is in fact highly dependent on an expert's possession and retrieval of abstract, conceptual representations from memory; the representations may be retrieved automatically, and may lack any association with words, but they are vital in conditioning how an expert perceptually categorizes a current situation as affording a certain response. Dreyfus also rejects the involvement of attention in absorbed expert activity, claiming that if experts are to be performing at their best in a state of flow, then they cannot be attending to what they are doing or the objects they are acting upon, since attention is a form of conceptual mindedness that is incompatible with the non-conceptual mindlessness of absorbed coping. But, Dreyfus is wrong on this score as well: Though attention may be counted as a form of conceptual mindedness, that doesn't preclude the exercise of attention from playing an integral role in the perceptual-cognitive-motor process of expert intuition. In the third and final section, I will examine how, in line with the approach of classical Chinese epistemology, perception itself can be a

form of expertise, the exercise of which depends on skillfully deploying the cognitive/conceptual capacities of memory and attention.

5.4.1 Memory and Expert Intuition

Consider Dreyfus's belief that the expert's ability for recognizing an innumerable number of situations cannot entail that the expert is retrieving mental representations for these situations. According to him, there is no evidence within the phenomenology of absorbed coping for such a retrieval process; nor would the rapid performance of skillful action allow any time for retrieval to take place. Returning yet again to the case of chess, Dreyfus is skeptical of theories which hold that expert players recognize types of board positions by drawing upon the memory of basic chunks, that is, typical groupings of pieces which are further associated with condition-action rules stating that if the grouping is present, then a certain response is optimal. Because Dreyfus links the reliance on these simple rules with being a non-expert, he claims that the expert must be recognizing the board position as a whole, rather than as made up of component chunks (Dreyfus and Dreyfus 1988: 34). So too with all expertise: The expert's perceptual repertoire of holistic, unchunked situations isn't stored as memory representations in the mind; instead, it is "stored" as bodily dispositions for directly responding to perceived situations without the mediation of memory (Dreyfus 2002: 374).

Yet, Dreyfus's characterization of the perceptual/non-conceptual repertoire is implausible in several ways. There is of course a bodily, kinesthetic memory of habitual routines and reflexes, which is presumably what Dreyfus would think the expert employs in "letting the body take over" the performance of some skill. Nonetheless, expert intuition in a wide variety of domains – including those primarily involving physical skills – has also been shown to rely on chunking, or the formation of meaningful information-patterns encoded in, and retrievable from, long-term memory. These cognitive representations, learned through extensive training, can guide both perceptual intuition and motor

responses to produce the sort of absorbed coping activity that Dreyfus claims to be non-conceptual and fundamentally mindless. One illustration of the relation between the relation between expert cognition, perception, and motor skills comes from a study of indoor rock climbing experts versus non-experts (Bläsing et al. 2014). First, both expert and non-expert groups were shown pictures of various types of indoor climbing grip-holds. While each grip-hold had a disparate visual appearance, expert climbers easily categorized the holds into four groups based on the types of standard grasping actions they afford. The non-experts, on the other hand, classified the grips according to superficial similarities in color and shape. This experiment suggests that the experts' acquired physical mastery of types of grips – e.g., sideways pulls, crimp grips, pocket grips, etc. – has also endowed them with corresponding cognitive categories for those grips, which are stored in long-term memory. And in turn, these cognitive representations enable experts to perceptually categorize distinct grips as equally affording a particular type of motor response.

Dreyfus would likely respond that the experts' cognitive representations of grip-types are not only derivative of their non-cognitive motor skills, but that such cognitive memory-traces would not intervene in the expert climber's automatic sensorimotor responses to environmental solicitations. Here, the 2nd experiment in Bläsing et al.'s study is relevant, in that it sought to measure how the visual perception of grip-holds primes the activation of grasping postures, and determine whether this priming is in fact occurring at a cognitive level. Both expert and non-expert groups were presented with a certain grip hold for 100ms, and were then presented with a target picture in which an arm is shown making a certain grasping posture. With their accuracy and reaction times being recorded, subjects had to determine as quickly as possible whether the grasping posture in the target picture was congruent or incongruent with the grip-hold presented as a prime – for example, if the prime picture was of a crimp grip-hold and the target picture showed an arm making the crimp grip posture, then the subject would judge that the pictures were congruent. The study observed that the climbing experts had much faster

response times when presented with congruent pictures than when presented with incongruent pictures (e.g., a crimp grip-hold prime and a target picture of a sideways pull), whereas the non-expert group displayed no such congruency effect.

Bläsin et al. conclude that the locus of this priming effect could not be purely perceptual. The pictures of grip-holds did not bear any relevant visual similarity with the target pictures of arms making grasp postures, so the observed congruency effect in the expert group can't be attributed to the processing of strictly visual appearances. Nor could this priming effect be taking place at a motor level. That is, the presentation of a crimp grip-hold is priming subjects to press a button on a keypad, rather than to make a crimp grip or sideways pull themselves – so the more rapid processing of congruent pictures, and the more delayed processing of incongruent pictures, could not be due to the direct activation of a corresponding motor response on the part of the subjects. By process of elimination, then, Bläsin et al. infer that the observed congruency effect must be tied to a cognitive level of processing – the rapid detection of congruency must be due to the priming of a cognitive representation relevant to the presented prime. The categorical perception of certain object-features (e.g., the visual shape of a crimp grip-hold) prime the activation of corresponding action-relevant cognitive representations (e.g., the knowledge of how to make a crimp grip), as well as the inhibition of non-corresponding action-representations. In an actual climbing scenario, the cognitive activation of a relevant action-representation would ultimately result in the expert climber's selection of an appropriate motor response, and would influence the subsequent perceptual categorization of motor affordances.

For our purposes, the results of this study serve to vitiate two of Dreyfus's reasons for claiming that expert intuition must be non-cognitive, namely that intuition is (1) automatic, and (2) does not rely on chunking and the storage of categorical representations in memory. Now, it is true that the expert climber's intuition of the appropriate grasping posture is automatic, and takes place without reflective thought: The expert climber does not have to spend minutes strenuously holding a grip on the wall

while self-consciously deliberating about which posture should be chosen for the next hold (Ibid: 10). However, the expert climber's intuition does not bypass cognitive processing, that is, it does not proceed as Dreyfus suggests from a sensory input straight to an automatic motor response, without drawing upon representations of past experiences stored in memory (Dreyfus 2002: 374).¹³ It is instead clear that the instantaneous and automatic nature of the perceptual-cognitive-motor process which Dreyfus calls “intuition” is enabled in large part by the accessing of categorical memory representations or chunks, which, following Zeitz (1997), may be dubbed as “Moderately Abstracted Conceptual Representations.” The combination of component representations into a single meaningful unit or “chunk” undergirds the rapid and efficient retrieval of task-relevant information from long-term memory – basically, information is more easily recalled when it is associated and condensed together within a single meaningful pattern.

Moreover, the chunking of representations together into more complex and abstract patterns enhances the expert's ability for perceptual pattern recognition: Experts recognize relevant patterns in more cases than novices not only because chunking allows for more information to be stored within the constraints of working memory, but also because the abstract character of chunking makes stored information more relevant to a greater number of cases. For instance, one's climbing expertise would be severely limited if one could only recognize green grip-holds as affording a crimp grip posture because one's memory of crimp grip-holds only includes green instances. Instead, by mnemonically grouping

13 Dreyfus is not claiming that past experience has no effect on how we presently perceive and act; past experience, he admits, does shape our perception of affordances. But he considers affordances to exist as part of the world, rather than as representations located in the mind; hence, he speaks repeatedly of expertise and bodily know-how as effecting changes in the expert's world, rather than in the expert's mind (e.g., Dreyfus 2013: 35). A further motivation for Dreyfus's circumscribing of the mind may stem from the traditional phenomenological view that mental acts cannot be genuinely unconscious (see Moran 2002: 9). Overall, Dreyfus's denial of the role that memory representations play in expert intuition seems to be motivated by the presumption that if such representations did play a role, then it would have to follow that experts must be consciously conjuring discrete memory representations in the midst of their absorbed activity. Yet, while it is true that the access to memory representations within expert intuition need not be explicitly conscious, we need not share Dreyfus's overly restrictive theoretical prejudices in accounting for what memory representations are, and how they influence perceptual intuition. We may instead conclude with Vicente and Wang's broad survey of psychological research on expertise that “memory recall performance on meaningful stimuli has almost always been found to be correlated with domain expertise” (1998: 33).

together many visually disparate grip-holds as affording the same type of crimp grip, an expert climber is able to automatically perceive useful similarities and disregard superficial similarities or differences in intuitively selecting an appropriate response. In sum, the automatic intuition that characterizes expertise is ultimately entwined with the chunking of representations in memory (Feltovich, Prietula and Ericsson 2006: 58).¹⁴

5.4.2 Attention and Automaticity

Dreyfus is further led by the automaticity of intuitive expert activity to conclude that experts must not pay attention to what they are doing. He seems to view the exercise of attention as a form of conceptual mindedness that involves taking a self-conscious stance of monitoring one's own experience and activity – being mindful of one's actions in Dreyfus's idiom just is the experience of oneself as a monitoring subject or ego (2007b: 373).¹⁵ But within the flow of absorbed coping, he insists, there is not even a trace of the “I”, nor any minimal awareness of oneself (2007b: 374). The need to monitor or pay attention to one's actions only arises when something has disrupted one's intuitive response. In such

14 Dreyfus made several objections against the initial formulation of chunking theory by Chase and Simon 1973. Chunks, he claimed, are too simple to support an expert chess player's rapid and holistic processing of a board situation. Also, several chunks may be recalled by the same perceived situation, and may each prescribe competing responses, which would obstruct the expert from automatically intuiting an appropriate course of action. Responding to these and other objections to chunking theory, Gobet and Simon (1996) have developed a theory of “templates,” in which low-level chunks are hierarchically structured into higher-order templates which also have slots open for variable information. Whereas low-level chunks are fixed to basic, concrete representations, templates are schema-like structures which can be encoded at a higher level of conceptual abstraction. For more discussion of template theory and expert intuition, see Gobet and Chassy 2009.

15 Though Dreyfus is ostensibly set against McDowell on the issue of mindedness, McDowell insists that Dreyfus has mischaracterized his views at least when it comes to the issue of whether attention and monitoring are involved in minded agency. McDowell's general claim is that, just like experience and the Kantian “I think,” activity implicitly takes the form of the representation “I do.” Yet, it is possible for such a first-personal avowal to accompany a minded agent's absorbed activity because, even without taking a detached stance of reflection, deliberation, or indeed monitoring, the agent nonetheless knows what it is doing. Though McDowell attributes an expert copier with implicit self-knowledge, he nonetheless agrees with Dreyfus that there is no room within absorbed activity for a stance of even minimal self-monitoring (McDowell 2013: 45). Just as an experiential subject does not typically pay attention to how perceptual experience puts her in a position to know how things are, an agentive subject does not typically pay attention to the way in which her activity puts her in a position to know what she is doing. I will show how McDowell has conceded too much on this point – absorbed expert activity can involve attentive monitoring of what one is doing as one is doing it. Totally excising attentive monitoring may lead an expert to become “asleep at the wheel,” thereby becoming less responsive to changing circumstances and more susceptible to performance errors.

a case, paying attention to a solicitation one is acting on will cause one to regress from expertise to mere competence, which is a stage of skill-acquisition characterized by deliberate rule-following (2007a: 361; 2002: 369). Taking a step back and deliberating about the relevant rules for action may be necessary when facing interruptions or obstacles to one's absorbed activity. Nonetheless, Dreyfus writes, "If the expert coper is to remain in flow and perform at his best, he must respond directly to solicitations without attending to his activity or to the objects doing the soliciting" (2007b: 374).

The deeper reason why an expert coper cannot employ attention is that attention not only disrupts absorbed coping, but also brings about a "radical transformation" of its content. Being a form of conceptual mindedness, the content of attentive experience is propositionally structured, and hence is essentially different from the non-propositional content of absorbed experience. Dreyfus asserts that it only when attention is directed to the affordances present in absorbed coping that we can then experience a world of stable objects with abiding properties, or the sorts of objects about which we can rationally form propositional beliefs, judgments, and inferences. Attention thereby conceals the level of non-conceptual perception and coping at which the world is primordially given (Dreyfus 2005: 61; 2007a: 363).

And yet, like in the case of memory, Dreyfus is here taking a skewed and restrictive view of attention that inevitably mischaracterizes its role in absorbed activity. Paying attention is not contrary to automatic and intuitive coping; in fact, it is when the processes of perceptual recognition, cognitive access, and motor response take place automatically that attentional/cognitive resources can be freely re-allocated to the contextual demands of a situation, and to other higher-order functions like planning and self-monitoring (Geeves et al. 2013: 3; Feltovich, Prietula and Ericsson 2006: 53). Sutton et al. propose that the relation between attention and automaticity can be understood within the framework of "Applying Intelligence to the Reflexes," or "AIR" (2011).¹⁶ Though much expertise involves mastering

¹⁶ In more recent work that clearly lays out the theoretical space of debates on automaticity and cognition in skilled action, Christensen, Sutton and McIlwain (2016) have called their approach a "mesh" theory, proposing that cognitive and

skills to the point of being automatic habits, experts often perform in unpredictable contexts with a great number of dynamic variables – in these contexts, totally automatic, inflexible responses will be sub-optimal. So, the AIR model posits that experts can access their seemingly unconscious, automated, stably chunked patterns of behavior and reconfigure them into conscious and flexible responses (Ibid: 96).

This approach to attention and automaticity is also evident in the research of Chaffin et al. (2002, 2009) on Western classical music performance. They theorize that expert musicians select a certain set of “performance cues” from among a vast range of musical features, features which are classified as structural (i.e., the movements, sections and subsections of a piece), expressive (the musical feelings to be conveyed), interpretative (phrasing, dynamics, tempo), and basic (motor techniques, patterns of notes). Through extensive practice, all of these features will have been chunked both in long-term declarative memory as part of a conceptual “road map” of the music, and as part of automatic motor sequences. Performance cues, then, are those musical features to which the musician deliberately attends during performance, without disrupting the automaticity of their practiced skills. These cues serve as “landmarks” on the musician's mental road map that, when attended to, allow for the conscious monitoring and control of otherwise automatic motor routines (Chaffin and Logan 2006: 115). Extending the AIR model beyond Chaffin's paradigm of cues as fixed patterns automatically retrieved from long-term memory, Geeves et al. argue that, during a performance, the expert's mental road map can be reconstructed in light of the demands that emerge from new situational contingencies. That is, there are performance cues which cannot be encoded beforehand in memory or as automatic routines – e.g., audience reaction, spontaneous improvisation, ensemble performance, audio quality, etc. Attention must hence be directed to these cues in order for them to be incorporated on the fly within the musician's cognitive framework. If this process goes smoothly, then the performer may

attentional control is highly integrated with automatic motor processes.

indeed feel like “a mindless Dreyfusian expert,” even though actually “the performer is mindfully engaging in both paying attention to the demands of a particular performance moment and the most efficient way in which to retrieve chunked material in order to effectively meet these demands” (Geeves et al. 2013: 10).

Now, Dreyfus's suspicion that attention disrupts presumably mindless expertise is not totally without support, as there is a substantial amount of evidence suggesting that attending to otherwise automatic motor routines does lead to performance breakdowns, or what is commonly known as “choking” and getting “the Yips.” To take just one example, Beilock et al. 2002 found that the shots of expert golfers who are told to focus on the swing of their club are more inaccurate than the shots of experts whose attention is distracted by an unrelated task (the opposite was true for novices). Similar research concludes that expert athletes should direct their attention outward to some external focal point rather than to their own bodies (see Wulf 2013; Christensen, Sutton, and McIlwain 2015 for review). That being said, experts may also switch their attention internally to kinesthetic cues to ensure the proper execution of bodily movements. Expert golfers may cue themselves with “swing thoughts,” or reminders to focus their attention on the club position at the top of their backswing, or the position of their right elbow, etc. (Toner, Montero, and Moran 2016: 309-10). Long-distance runners will regularly monitor their technique for subtle inefficiencies, and pay attention to various muscles as a way to consciously relax them (Breivik 2013: 101). Dancers may pay attention to kinesthetic feedback not only to mindfully monitor or improve the execution of a difficult move, but also to simply relish and enjoy the execution of that move (Montero 2016: 179-82).

It should be added that while it is possible for experts to direct their attention to low-level aspects of movement such as fine-grained motor mechanics, more often their attention is tracking higher-level patterns of feedback which are more relevant to their movement's practical success. So for example, skilled mountain bikers will monitor their handlebar grip for the kinesthetic feeling of “light

hands,” in order to avoid placing excessive pressure on the front wheel and giving their bodies a higher center of gravity. They may become aware of this feeling not by focusing on the minute motor features of their hand grip – say, how each finger is wrapped around the handlebars – but instead by focusing on a higher-level, abstract property of their grip (Toner, Montero, and Moran 2016: 306). We may follow Richard Shusterman (2008) in speaking of this mode of conscious, proprioceptive introspection, whereby we are mindfully aware of our bodies and can reflectively monitor how our attention is being deployed to the body, as what he calls “acutely attentive somatic self-consciousness,” or “somaesthetic reflection.”

Leaving aside the question of how experts might attend internally to their bodily movements without disrupting their automatic motor routines, Dreyfus is still wrong to claim that experts respond to external solicitations without attending to the objects doing the soliciting. If taken literally, the claim is highly implausible; as one meta-analysis of research on the perceptual-cognitive abilities of expert athletes puts it, “All sport contexts require athletes to focus attention on the most appropriate cues so as to perform effectively” (Mann et al. 2007: 458). In the next section, we will have more to say about about the attentional strategies involved in perceptual expertise, or the perceptual side of the perceptual-cognitive-motor process that is expert intuition. For now, we may note that not only do expert athletes pay attention to environmental solicitations, but that experts are distinguishable from novices in part by how they attend to environmental cues and extract meaningful information from them. For instance, experts locate information-rich, action-relevant areas of a scene more efficiently, fixating their attention in fewer locations but for longer durations; novices, on the other hand, attend to more locations for shorter durations, showing that they are less effective than experts in locating relevant cues (Memmert 2009: 123; see also Reingold and Sheridan 2011). The larger point is that expertise entails the presence of refined attentional skills, rather than the lack of any attention at all.

To Dreyfus's claim that attending to objects interferes with an expert's response to them, a wealth of research shows just the opposite – both expert and novice athletic performance is improved by adopting an external focus of attention, or focusing attention on the effect of one's movement on the environment. To mention just a few examples: Basketball players are more accurate free-throw shooters when they focus attention on the basket; darts players throw more accurately when they focus on the bullseye; and swimmers who were instructed to focus on pushing water back had faster swim times than swimmers who focused on the movement of their limbs. Rather than disrupting skilled motor routines, it turns out that adopting an external focus of attention actually speeds up their automatization and makes them more resistant to disruption (Wulf 2013).

Dreyfus might raise the objection that his claim is not targeting the sort of externally focused attention which conduces to automatic motor responses; instead, it is deliberate and conscious attention which disrupts activity. In response, we may cite Haber and Haber's (2002) study of low-altitude combat aviation, which involves flying at speeds close to the speed of sound at just a few hundred feet above ground level in unstable jet fighters that change velocity and altitude unpredictably. It's the sort of activity that could be expected to highly exemplify Dreyfus's characterization of expert agency as so absorbed that the mind shuts off and the body takes over – the flow of solicitations is so rapid that the pilot must have no time to think about how to respond. Consider how Dreyfus describes an expert automobile driver as operating purely on mindless feel:

The expert driver, generally without any attention, not only knows by feel and familiarity when an action such as slowing down is required; he knows how to perform the action without calculating and comparing alternatives. He shifts gears when appropriate with no awareness of his acts. On the off ramp his foot simply lifts off the accelerator. What must be done, simply is done. (Dreyfus and Dreyfus 2004: 253)

How much more so, we might think, for the highly trained fighter pilot flying upside-down a few feet over a ridge at close to 500 m.p.h.

And yet, Haber and Haber's study finds that because automatic perceptual processes cannot reliably discern velocity and altitude in conditions of low-altitude combat flying, pilots must override these processes with cognitive effort and conscious attention, a conclusion that directly contradicts Dreyfus's own claim that an expert fighter pilot, like all other experts, "can cease to pay conscious attention to his performance and can let all the mental energy previously used in monitoring his performance go into producing almost instantaneously the appropriate perspective and its associated action" (Dreyfus and Dreyfus 1980: 14).¹⁷ Automatic perceptual processes like seeing scene contrast and optic flow (i.e., the appearance of objects as they move past an observer), or the vestibular sensing of G-forces, become deceptive at high speeds. Pilots must therefore deliberately employ controlled perceptual processes like consciously monitoring their instruments; looking for clues such as the

17 We may note that Dreyfus mischaracterizes another recurring aviation-related example of his, namely that of "flying the beam" (2007a: 353; 2013: 30). In the early 20th century, before the invention of radar, pilots flying in low-visibility conditions would navigate towards an airport or orientation point with the help of radio towers that would emit Morse code signals over a certain range. One tower would emit an "A" signal ("dot-dash") in one direction, and another tower would emit an "N" signal ("dash-dot") in another direction. The towers were oriented such that when a pilot was flying on the correct course (the "beam"), the two radio signals would merge and would be heard on the pilot's radio as a single unbroken sound. If the aircraft deviated off the beam to one side or the other, the corresponding "A" or "N" signal would become more distinctly audible, indicating that the pilot was falling off course. Once on the beam, the pilot would follow it into a "cone of silence" directly above the transmitting station where the radio signals could not be received, and would thus know his location relative to a fixed reference point.

These details are relevant because Dreyfus speaks instead of flying on the beam in terms of a pilot who follows an airport radio beacon that only gives a warning signal when the pilot goes off course; when the pilot is "in the flow" of flying on course, he would hear nothing at all. Presuming that to be so, Dreyfus is then able to say, "Thus there is no experience of being on the beam. Rather, when the pilot is on the beam there is no experience at all, but the silence that accompanies being on course doesn't mean the beacon isn't continuing to guide the plane" (2007a: 353). Dreyfus is claiming that since the pilot would not be consciously perceiving any positive sign of his being on-course, he need not have any conscious mental representation of his activity in order for it to be successful. In other words, it is the absence of any conscious auditory representation that indicates the pilot is proceeding toward his goal. Dreyfus's version of staying on the beam therefore serves as a fundamental illustration of how absorbed copers are supposed to act in the flow without any self-conscious knowledge of what motivates their action: "... the absorbed coper behaves like a pilot following a landing beacon. For the pilot there need be no representation of a goal. When things are going well, the beacon is silent" (2013: 30).

But, we can see how the real practice of flying on the beam would be amenable to a totally different picture of expert activity. The pilot would have to pay constant attention to the beeping and buzzing of the radio signals; classify the signals he is hearing as more of an "A" or "N" to judge his location and direction; compare these auditory signals with a navigational map of the signal ranges; coordinate his flight adjustments with the auditory balance of the signals until a steady pulse was heard; and constantly evaluate the auditory quality of the pulse. This is to say nothing of the need to compensate for signal distortions and fluctuations due to weather and geography. Clearly, then, it would be inaccurate to say that a pilot flying on the beam "has no experience at all." I would instead submit that the expert absorbed coper can indeed be analogized to the pilot flying on the beam, in that such coping can often involve the complex integration of attentional, cognitive, and motor skills.

plane's shadow on the ground in order to estimate elevation; and counting the number of seconds it takes an object to pass a fixed distance on the canopy in order to judge its distance from the plane. These perceptual skills, Haber and Haber claim, never become automatic. They instead lay out the controlled, non-automatic processes a pilot must undertake: "First, he has to consciously override automatic processes when they potentially provide him with incorrect information; second, he has to consciously remember to refer to his instruments or other sources for that information; and third, he has to process the alternative sources of information, using focused attention" (Ibid: 46). Because maneuvering at high speeds and low altitudes always presents the prospect of misleading perceptual information combined with the threat crashing into the ground, these conscious cognitive and attentional processes must constantly be engaged.

Cases like low-altitude high-speed flight place in stark relief the fact that failures in the execution of skilled activity are more often caused by inattention to what one is doing and what one is acting upon. Various sorts of performance errors arise due to an over-reliance on automatic responses in the absence of conscious, attentive awareness (Reason 2009; Toner, Montero and Moran 2015). We have already canvassed a number of ways in which attentional monitoring aids the execution of skilled motor routines, and so we can imagine how lapses in monitoring may lead to erroneous execution for everyone from the chess player to musician to mountain biker. Apart from errors in execution, another type of error involves mistakenly selecting which sort of action-plan or problem-solving method will be most successful. For experts, this error often arises when, on the basis of their prior knowledge, they automatically produce a familiar response that is nonetheless an inappropriate solution for a current problem. Though having such knowledge is part of what distinguishes an expert from a novice, it can still lead to mistakes when an expert applies that knowledge unthinkingly. The "Einstellung effect" occurs when a problem automatically triggers certain cognitive states and habitual responses that prevent one from detecting a better solution. Bilalić et al. (2008) studied the occurrence of this effect

among expert chess players, by presenting them with a board situation where checkmate could be reached through a familiar five-move sequence or an uncommon three-move sequence. The experts easily found the five-move sequence; but even when they reported that they were still looking for another solution, they were observed through eye-tracking technology to still be focusing on the features of the problem that were relevant to the solution they had already given. The conclusion drawn was that the problem activated a memory-schema which directs the experts' attention to the features relevant to the familiar sequence, thereby distracting them from the features that would be relevant to another, more simple solution.

Another example of automaticity impeding optimal response-selection comes from Furley et al. (2010) and their study of inattention blindness in basketball players. Subjects were shown a video from a first-person perspective of moving teammates and opposing defenders, and had to decide which teammate to deliver a pass to. In each scenario, one teammate was always unguarded, and a pass to that player would represent the most optimal response to the situation. Subjects were also given an attention-demanding task, such as identifying whether their own defender was near or far away. For the players that failed to notice the unguarded teammate, Furley et al. concluded that the attention-demanding task triggered in those players the automatic application of a strategic rule familiar to most basketball players, namely that if one's own defender is near, then dribble to the basket; if one's own is far, then look to shoot the ball. As this rule is drawn into working memory, it automatically induces an "attentional set," or a certain prioritization of task-relevant stimuli; in this case, the unguarded teammate is not prioritized within the subject's attentional set, and consequently fails to enter into the subject's awareness.

For our purposes, the lessons to be drawn from these studies is that the automatic application of attention may lead to sub-optimal response-selection when one's attentional capacities cannot be flexibly altered in light of unanticipated contingencies. There is a kernel of truth in Dreyfus's claim that

experts do not act by following cognitive rules, in the sense that such rules may have to be abandoned when they are poorly suited for responding to a dynamically changing situation. Yet, Dreyfus is wrong to suggest that experts must therefore be exercising inattention or, on a charitable interpretation, automatic attention. Rather, experts will be better able to respond to changing circumstances by taking endogenous, top-down control of their attentional processes. Through maintaining attentional and cognitive flexibility, experts can inhibit potentially inappropriate automatic responses, ignore distracting stimuli, and direct their attention to monitoring relevant external or internal cues, all without disrupting performance fluency. Toner, Montero, and Moran (2015: 439) liken this flexibility to a form of mindfulness, of the sort fostered through meditative awareness of the present moment. Just as mindfulness meditators flexibly monitor their thoughts without being unduly fixated on any single thought, mindful performers can maintain a flexible awareness of whether their actions are adequate for achieving a desired outcome in a changing environment, without being unduly fixated on a certain stimulus or habitual response. In recognizing how conscious, attentive awareness is necessary for transforming automatic routines into flexible, adaptable responses, the mindfulness approach to expert activity thus offers a plausible alternative to Dreyfus's fundamentally “mindless” paradigm of expertise.

5.5 Concepts, Memory, and Attention in Perceptual Expertise

Though I have criticized Dreyfus's non-conceptualist account of absorbed coping for divorcing skillful motor responses from attention- and memory-based cognitive capacities, we nonetheless agree about the centrality of intuition to expert activity, whether exercised in mundane or rarefied forms of skill. Dreyfus speaks of expert intuition as involving the ability to discern subtler similarities and differences in the appearances of a vast array of perceptual patterns. My goal in this section is to show that this ability is also necessarily integrated with, and influenced by, an expert's conceptual/cognitive abilities – to again use Dreyfus's phrasing, the perceptual repertoire does indeed require a conceptual

repertoire. Under my revised conceptualism, the repertoire of perceptual concepts active in expert intuition should be understood as consisting of abilities for recognizing and categorizing perceptual objects. Following the classical Chinese account of perceptual knowledge as a form of skillful know-how, possession of the perceptual concepts can be viewed as entailing the appropriate exercise of skills for attentional allocation – a perceptual expert who possesses the skillful ability for recognizing a certain type of object will know how to attend to those of the object's features which are diagnostic of its identity and category membership. This skill of selectively attending to relevant features ultimately enables a perceptual expert to categorize perceived objects more efficiently and accurately than an untrained novice. Object recognition is an essential stage of expert intuition, i.e., the ability to “zero in” on a proper response to environmental solicitations. Against Dreyfus's non-conceptualist account of the expert's enhanced perceptual capacities, we will show how semantic memory categories and top-down attention are inextricably involved in visual expertise, a fact which, as Assaf Harel (2016: 97) puts it, “provides a reminder that vision is intrinsically linked with higher-order processes....”

Dreyfus does have one recourse for defending his view that experts learn to discern subtle perceptual similarities and differences in a way that bypasses the conceptual/cognitive mind. He could point to the phenomenon of perceptual learning, in which practice and experience at performing specific perceptual tasks lead over time to changes in how sensory systems process information. Through repeated exposure to a certain task or stimulus, perceivers gain an enhanced ability for performing that task or processing that stimulus. This improved perceptual sensitivity is thought to leave little to no cognitive trace, though it produces long-term adaptations in the parts of the brain responsible for low-level sensory processing. In contrast to declarative learning, which involves acquiring knowledge of facts and events that can be consciously recalled and verbally described, perceptual learning is an implicit process which occurs outside of the perceiver's conscious awareness,

with the perceiver not having any explicit, reportable sense of what has been learned. In terms amenable to Dreyfus's account, Fahle (2002: x) writes that, "Perceptual learning leads to implicit memory, to 'knowing how,' to a 'memory without a record' and is often very specific for rather low-level attributes of the stimulus learned."

Basic discrimination tasks like vernier acuity tests provide examples of how repeated experience can produce acute improvements in low-level visual sensitivity. Vernier acuity refers to the minimum degree of misalignment between two line segments that can be reliably discriminated. Subjects are presented with the task of judging whether one horizontal segment is slightly above or below another segment. The minimum amount of displacement that untrained subjects can detect is already extremely small, less than the aperture size of a single retinal photoreceptor cell. And yet with extended practice, the threshold for subjects to detect a difference can become six times smaller (Saarinen and Levi 1995). Similar improvements have been observed in tasks such as discriminating visual textures and gratings, motion direction, and stereoscopic depth (see Lu et al. 2010). The performance of these sorts of tasks is thought to be determined by the earliest stages of visual processing; EEG evidence of the changes in performance due to perceptual learning have accordingly been detected within 100 ms after stimulus onset, likely before higher-level visual processes would be able to exert any top-down influence (Goldstone and Bygre 2015: 816-7). Additionally, the effects of low-level perceptual learning are highly specific to particular retinal locations and stimuli: For instance, enhanced vernier acuity discrimination for horizontal lines won't transfer over to a task in which the lines have been rotated 90 degrees (Fahle 2002: xii). A trained increase in sensitivity among neurons in one part of the visual field won't transfer to untrained neurons in another part, suggesting again that the learning effect takes place in the earliest parts of the visual cortex where neurons are still retinotopically organized (Karni and Sagi 1995: 96). Low-level perceptual learning is thus cited in support of the claim that early vision is immune to cognitive penetration, since the areas of the visual

system in which the learning effects take place operate independently of the cognitive systems responsible for semantic memory and object recognition (Pylyshyn 1999, Raftopolous 2001, Arstila 2016).

Whether or not low-level perceptual learning is evidence that early vision is cognitively impenetrable¹⁸, it is clear that perceptual learning as a passive, stimulus-driven process is insufficient for developing the sort of expert intuition that is supposed to support absorbed coping in Dreyfus's account. Granted, there is a parallel between perceptual learning and how Dreyfus views the expert's acquisition of an increased sensitivity to perceptual patterns through repeated practice in the absence of declarative learning – but the similarity ends there. It is clear that even rudimentary forms of absorbed coping, like the act of reaching out and turning a doorknob, are too complex to be guided solely by the kinds of perceptual skills acquired through low-level perceptual learning. A learned ability for discriminating a certain low-level feature can't be generalized across retinal locations or even minimally altered stimuli; and yet, we are able to perceptually categorize objects in spite of large differences in viewpoint and perceptual appearance. As we have seen, perceptual categorization is necessary for intuiting an appropriate response – a climber must categorize a perceived grip as being of a certain type in order to intuit the proper grasping posture to adopt; a chess player must categorize a perceived board position as being of a certain type in order to intuit the proper move in response. If perceptual categorization were restricted in the sorts of ways that low-level learning effects are purported to be, then even slight variations in, say, the retinal location of a stimulus would prevent the climber or chess player from recognizing what they are seeing. The perceptual ability invoked in expert intuition is hence one of object recognition, which necessarily abstracts away from variations in sensory features that aren't relevant to an object's category membership. The representations formed in early vision, however, are highly sensitive to such variations – thus, object recognition must draw upon

¹⁸ Defenses of the claim that perceptual learning is cognitively penetrated can be found in Cecchi 2014, and Newen and Vetter 2017.

higher-level areas of vision beyond those affected by purely low-level perceptual learning.¹⁹ As these higher-level areas are more directly influenced by “top-down” cognitive influences like semantic memory and attention, they are the points at which a perceiver's conceptual repertoire becomes especially relevant to the perceptual process.

Accounting for Dreyfusian intuition, then, shifts us from a consideration of low-level perceptual learning to perceptual expertise, understood as the enhanced ability to perceptually recognize and distinguish between similar instances of the same class. Examples of real-world perceptual expertise include: the radiologist's ability to diagnose a condition on the basis of subtle perceptual cues in an x-ray; the sommelier's ability to distinguish subtle tastes and odors of wine; the ability of a bird-watcher to rapidly recognize a species of a bird in a dense forest; and the musician's ability to differentiate two musical tones of similar frequency. In addition, though these examples may give the impression that perceptual expertise is the province of highly specialized experts who have undertaken years of deliberate training, most adult humans have enough practice to be perceptual experts in at least two domains, namely face recognition and fluent reading. For all of these domains of expertise, experts will consistently outperform novices in relevant perceptual categorization tasks. Whereas a novice makes basic-level categorizations (e.g., “bird,” “dog”) faster than subordinate-level categorizations (e.g., “robin,” “terrier”), experts can perceptually categorize objects at both levels equally rapidly. Though, in some tasks where it is more important to identify a basic category rather than differentiate between instances of the same category – e.g., expertise in reading will demand that one can identify the same

19 It is further debatable whether perceptual learning is at all a purely low-level phenomenon occurring only at the earliest stages of vision. While the highly specific and non-transferable nature of basic discrimination skills acquired through perceptual learning has been taken to show that perceptual learning effects changes in early visual cortical areas, Kellman and Garrigan (2009: 72-5) point out that this evidence for the limited transfer of learned sensory acuities is inconsistent and highly variable from task to task. There is also little evidence that perceptual learning brings about structural changes in the early visual cortex. Additionally, performance on low-level perceptual tasks is intertwined with top-down attention and a perceiver's task engagement. Wang et al. 2016 also find evidence for the transferability of basic discrimination skills, and argue that these skills are acquired through the interaction between visual areas and top-down influences.

basic letter regardless of variations in font size or style – experts will also perform basic-level categorizations faster than novices (Palmeri and Gauthier 2004: 297; see also Harel et al. 2011).

The advantages that perceptual experts have over novices in perceptual categorization have been attributed in part to how experts parse visual stimuli differently than novices. In turn, these differences have been linked in part to activity in the fusiform face area (FFA), located in the ventral stream of the visual cortex. The FFA has been implicated in processing stimuli across a wide range of domains beyond just facial recognition – expert performance in visually recognizing cars, birds, butterflies, artificial, novel computer-generated objects, chess positions, and x-rays all have been correlated with increased activity in FFA (see Bilalić 2016). What all these types of stimuli have in common is that they have been found to be processed by experts in a holistic manner – that is, whereas novices selectively attend to a few parts of an object in order to categorize it, experts will attend to the object as an integrated whole. Members of a certain category – such as human faces or chess positions – often share a prototypical configuration of parts, so it makes sense that an enhanced ability for identifying and discriminating between category members would rely on attending to multiple parts and the configural relations between them. A novice who, for instance, is looking for a certain plant in the woods, may have to categorize objects by deliberately following rules – e.g., “look for smooth, non-serrated leaves with an elongated oval shape” – and scanning parts individually. Expert categorizers, however, may shift to holistic processing, which parses complex visual patterns by binding together features into larger configurations that get encoded as a single meaningful unit, in a manner akin to memory-based chunking (Goldstone and Bygde 2015: 821). Unitizing stimuli in this way facilitates expert object recognition, as it allows for an increased amount of perceptual information to be compared with category-exemplars or templates retrieved from memory, a process which is less deliberate and attention-demanding than explicit rule use (Palmeri and Gauthier 2004: 300).

Accordingly, it seems that perceptual expertise is what Dreyfus has in mind when he speaks of the

expert's perceptual repertoire: Perceptual experts have an increased sensitivity to subtle similarities and differences between perceptual patterns; this sensitivity is directly tied to both low-level and high-level areas of visual processing; and this processing seems to be holistic, rapid, automatic, unconscious, non-deliberative, and minimally attention-demanding.

Nonetheless, it must be acknowledged that, especially for real-world forms of perceptual expertise, the differences in how experts and novices visually notice and extract meaningful patterns of information are also tied to differences in their respective levels of knowledge. Knowledge is tied up with a number of top-down cognitive factors that influence visual processing in expert object recognition, including task-relevant expectations and goals, semantic memory, and endogenously controlled attention. Real-world domains of perceptual expertise often require years of practice to acquire the requisite knowledge for making split-second perceptual categorizations, as well as recognizing perceptual cues that novices fail to detect. Though holistic processing is often characterized as a bottom-up, stimulus-driven process, its use in real-world domains of expertise clearly relies on knowledge and other top-down factors. Unlike novices, expert radiologists can immediately locate an abnormality on an x-ray without having to analytically search the image, and often report an accompanying sensation of “knowing” that the image contains a lesion before being able to locate it (Drew et al. 2013: 264). In using holistic processing to obtain a gist or gestalt impression of the x-ray, experts are implicitly drawing upon their past experience with hundreds of thousands of normal and abnormal x-rays, stored as chunks and templates in memory; the immediate detection of an abnormality stems from the rapid comparison between the perceived image and memory representations. Novices will not have amassed such a store of representations, leaving them instead to scan the image more haphazardly and inefficiently.

Even if Dreyfus (or McDowell) were to object that stored memory chunks/templates cannot be counted as knowledge or as part of the conceptual repertoire – a move that revised conceptualism

would reject, and a point to which we will return – it is still evident that explicitly conceptual knowledge is operative in expert recognition. Though the extensive exposure to x-ray images may seem like a method of low-level perceptual learning, a radiology student will also acquire, in conjunction with that exposure, a vast amount of straightforwardly conceptual knowledge about anatomy, diseases, and so on. The same sort of knowledge-acquisition is integral to developing perceptual expertise with respect to birds (James and Cree 2010), cars (Gilaie-Dotan et al. 2012), chess (Gobet 2005), wine (Hughson and Boakes 2002), and more. Part of the importance of knowledge for perceptual expertise is that the features relevant to making a correct categorization might not be readily identifiable unless one knows certain pertinent information. For example, knowing that a patient is a gymnast, hurdler, or long jumper, and knowing that subtle pelvic fractures are common injuries for such athletes, a radiologist can better detect these fractures on an x-ray; otherwise, they may pass unnoticed because they are not themselves visually salient (Donovan 2010: 120-1). And even if a stimulus has been detected, knowledge is necessary for properly classifying it – knowing a patient's case history, facts about anatomy, and even whether the x-ray was underexposed are all important for determining whether a white spot on an x-ray indicates the presence of a lung tumor, a bone, or just a byproduct of the imaging procedure (Wisniewski and Medin 1994: 228).

Another way in which knowledge exerts a top-down influence on perception is through the generation of contextual expectations and predictions. Not only do the features of a certain kind of object appear together in typical configurations, but objects themselves can appear in typical configurations with other objects that tend to be found in the same context. The objects we encounter in everyday experience are seldom perceived in isolation; instead, they are often located in environments in which they bear a semantically coherent relation to other objects – e.g., a microwave is typically seen in a kitchen; a hairdryer is typically seen in a bathroom. With an understanding of the contextual associations between objects, we come to form sets of expectations about the kinds of objects we may

perceive in a given scene, as well as where they may be located, how they may be oriented relative to each other, and so on (Bar 2004: 619). These contextual expectations facilitate the process of object recognition – for instance, when presented with a familiar scene such as a kitchen, subjects more rapidly recognized a contextually related object like a loaf of bread than an incongruous object like a mailbox or drum (Palmer 1975). Context also plays a role in resolving perceptual ambiguities: The same amorphous shape may be identified as a car on the street or as someone's shoe, depending on the scene in which the shape is presented, and the expectations one would have about what sorts of objects would be typically found there (Oliva and Torralba 2007; Bar 2004). Overall, contextual expectations facilitate object recognition by helping to manage the complexity of the visual environment – using knowledge of what sorts of objects are typically found in a certain complex scene, the visual system is better able to group and segment elements of that scene into identifiable objects (Gilbert and Li 2013).

Coming now to the skills involved in perceptual expertise, the neural underpinnings of our knowledge about contextual associations indicate how expectations exert a top-down influence on both the holistic extraction of gist and the rapid recognition of objects. As we have seen, part of the advantage that experts have over novices is that experts, based on their past experience with and knowledge of a certain domain, can form a global impression of a scene that provides a rapid assessment of its overall meaning. Holistic processing thus can give experts a shortcut to recognizing individual objects in the scene, as it helps to form a prediction about what sorts of objects may be present and where they may be located. Research by Moshe Bar and others (Bar et al. 2006; Kveraga, Ghuman, and Bar 2007) offers a model of how the brain extracts the gist of a scene and forms predictions to guide object recognition. This process is initiated by the extraction of low spatial frequency information from a stimulus, which does not represent distinctly individuated objects in sharp detail.²⁰ This information is projected from early visual areas directly and rapidly – at about 130

²⁰ Spatial frequency roughly refers to the amount of detail in a given part of a visual stimulus. Images with high spatial frequencies will have abrupt spatial changes like edges, and generally represent the configuration of distinct features in

ms after stimulus onset – to the prefrontal cortex (PFC), and specifically to the orbitofrontal cortex, via the magnocellular pathway of the dorsal visual stream.²¹ Notably, only meaningful stimuli, i.e., those stimuli resembling objects associated with category- and identity-relevant semantic memories, were found to activate the orbitofrontal cortex; no activation was found for meaningless visual gratings presented with low spatial frequency (Chaumon et al. 2013).

Signals are then projected from the prefrontal cortex to the inferior temporal cortex (ITC), a high-level area of the ventral stream which contains the fusiform gyrus and is associated with representing the complex, viewpoint-invariant structures of perceived objects. Once stored concepts and contextual associations are activated in PFC, they are projected down to ITC so as to provide an initial interpretation of the scene context, as well as predictions about the most likely identities of the objects present therein. These projections reach the ITC around 50 ms before fine-grained, high spatial frequency information arrives from the early visual cortex (Bar 2004; Bar et al. 2006). There are also corresponding projections to ITC from the retrosplenial cortex and parahippocampal cortex (PHC), regions of the medial temporal lobe associated with the long-term storage of memory chunks (Campitelli et al. 2007) and scene-relevant contextual associations (Aminoff, Kveraga, and Bar 2013). Increased activity in PHC has been detected among perceptual experts as compared to novices in several domains, indicating that experts draw upon non-visual associative knowledge about scenes and contexts – e.g., a birder's knowledge of a painted finch's habitat and what its calls sound like, or a radiologist's knowledge of anatomical relations – in order to better recognize objects (see Cheung and Bar 2012: 151-161).

fine-grained detail. Images with low spatial frequencies are more coarse-grained, and represent more general features of shape like orientation and proportion (Bar 2004: 621).

21 The orbitofrontal cortex has been associated with a wide range of cognitive functions, the most relevant for our purposes being the processing of affective value and reward, decision-making, guessing and hypothesis-testing, and the formation of expectations. The relation of these functions to the rapid detection of coarse-grained gist and the formation of top-down predictions about object-identities may be suggested by the possible survival-related benefit that gist detection would have particularly in dangerous situations. It would greatly benefit an organism to have the ability for quickly determining the probable identity of an object on the basis of low spatial frequency information, just like in the analogous case of recognizing objects in peripheral vision where visual acuity is low (see Bar et al. 2006: 453).

The effect of these top-down signals is to bias the competition between competing interpretations of bottom-up visual information, promoting those object-interpretations which are more likely to be accurate given the context, and suppressing unlikely and irrelevant interpretations. These effects are also transferred all the way down to earliest stages of perception: Bottom-up responses in V1 that are incongruent with prior expectations are suppressed, resulting in enhanced or “sharpened” representations with increased information content of expected stimuli (Kok, Jehee, and de Lange 2012). Additionally, prior expectations have been found to evoke a feature-specific pattern of activity in V1 corresponding to the detection of a certain stimulus, even when that stimulus is unexpectedly not present (Kok, Failing, and de Lange 2014). The upshot of these findings is that, by restricting the set of possible interpretations that the visual system has to consider, top-down context predictions lead to more refined and rapid object recognition than what could be achieved in the absence of prior knowledge.

5.6 Against a Dreyfusian Account of Perceptual Expertise

Now, it is true that Dreyfus's account also posits the existence of a background, contextual understanding that orients expert coping: The professor's familiarity with the context of a lecture hall orients his recognition of the blackboard as out of place; Dreyfus's familiarity with the context of his office orients his recognition of a chair as affording him a seat for his work (Dreyfus 2013: 30). But this background familiarity underlying expert coping is thought by Dreyfus to be essentially non-conceptual, being characterized as both non-propositional in nature and mindless in operation. Should the contextual knowledge we've identified as facilitating holistic gist processing and object identification be counted as part of a non-conceptual background? While there is some merit to how Dreyfus would characterize the knowledge that governs high-level object recognition, we can still

reject the implication that this knowledge, along with the perceptual skills that it enables, are essentially non-conceptual.

Consider first the claim that the skilled familiarity underlying perceptual expertise must be non-conceptual because it is mindless, that is, it operates in an unreflective or even unconscious manner.²² For Dreyfus, the fact that some activity is automatic and unthinking suggests that the motivating forces driving the activity are unthinkable, and hence non-conceptual. Perceptual expertise can be viewed as just such an automatic and unthinking activity, being that the processes underlying expert object recognition largely occur outside of the expert's conscious awareness. In the same way as a tennis player's body unconsciously responds to the familiar solicitation of an incoming serve, the expert radiologist's eyes unconsciously respond to the familiar solicitations of an x-ray; the radiologist herself may have no awareness of how her eyes automatically saccade across an image and immediately fixate on a target (Reingold and Sheridan 2011). In fact, similar to how chess experts who fall prey to the *Einstellung* effect do not reliably report how their attention is actually being deployed, expert radiologists' reports of their own visual search methods often diverge from how their eyes are actually scanning an x-ray (Ibid.: 534). Experts may also fail to be consciously aware of what they actually recognize. For instance, studies of radiologists have found that the most common form of false-negative error, where an abnormality on an image fails to be reported, was one in which the radiologists' eyes fixated on the abnormality for a relatively long duration – suggesting that the abnormality was being recognized – and yet the radiologists consciously decided that no abnormality was present. (Ibid.: 540).

Does the automaticity and unconscious character of expert eye movements entail that they, along with object recognition in general, are guided by unthinkable, non-conceptual forces? *Prima facie*, a positive answer seems unwarranted in light of the many cognitive factors that guide expert eye movements. As John M. Henderson helpfully summarizes, “Human eye movement control is ‘smart’ in

²² See Dreyfus 2013: 38 n. 43 for his equation of fully mindless coping with unconscious action, akin to that of a sleepwalker.

the sense that it draws not only on currently available visual input, but also on several cognitive systems, including short-term memory for previously attended information in the current scene, stored long-term visual, spatial and semantic information about other similar scenes, and the goals and plans of the viewer” (2003: 501). Here, the question facing Dreyfus is two-fold: Would his absorbed-coping account of perceptual expertise acknowledge the existence of such top-down cognitive factors? And if so, would he be warranted in assimilating these factors into an expert's background perceptual repertoire? The lines of debate again threaten to become merely stipulative: Revised conceptualism, along with most psychological literature, would view these factors as clearly conceptual/cognitive, whereas Dreyfus would take most of the top-down factors listed to be non-linguistic, non-propositional, unavailable to thought, and hence non-conceptual. However, as was the case with expert motor activity, we can nonetheless side-step the apparently stipulative nature of the debate by showing that Dreyfus's account, being constrained by its extreme anti-cognitivism, would independently fail to capture several important aspects of perceptual expertise.

It would be true to form for Dreyfus to claim that expert object recognition does not simply play a part in enabling the unmediated bodily responsiveness to environmental affordances which defines absorbed coping; rather, object recognition is itself is a form of absorbed coping which is responsive to environmental affordances. Accordingly, a Dreyfusian understanding of perceptual expertise will be closely tied to his understanding of affordance perception. To explain how the environment can directly solicit an absorbed coper's responses, Dreyfus invokes J.J. Gibson's (1979) ecological theory of direct perception, which basically holds that the information required for a perceiver to experience and engage with the world is entirely contained within the “ambient optic array,” or the structured patterns of light that are received from the environment by the retina. Gibson's theory is notably set against traditional theories of perception which claimed that the retinal image array, being sparse and two-dimensional, is alone insufficient for generating our experience of stable three-dimensional objects, and

hence must be supplemented by information from cognitive processes internal to the mind. Gibson, on the other hand, argued that the experience of three-dimensional objects is not constructed by the mind or mediated by imagistic representations inside one's head. This experience arises instead through the direct detection of perceptual invariants, or spatiotemporal patterns of stimulation that remain constant while other parts of the optic array change due to the perceiver's bodily movement. These invariant patterns are thus taken by the visual system to directly indicate the presence of stable and persisting objects in the environment. One type of perceptual invariant is an affordance, which refers to the various possibilities for action that objects in the environment offer to a perceiver. Gibson's notion of affordances is thus useful to Dreyfus because it can take the place of reasons in an explanation of action – different situations reliably elicit a common pattern of response from agents not because they uniformly provide a set of cognitively appreciable reasons for action, but because they share perceptually available invariant structures to which agents can respond without the mediation of reasons.

It is a central tenet of Dreyfus's non-conceptualism that an expert can directly detect and respond to affordances without their being represented by the mind. He illustrates the perceptual system's "mindless" interaction with environmental affordances by using a model of "feedforward simulated neural networks" (2002: 374-7; 2005: 54-55). The idea is that these networks may exemplify how a perceiver can reliably respond to the environment without the brain's having to associate perceptual inputs with particular memory representations or conceptual rules. Theoretically, the simulated neural network would be comprised by multiple layers of feature detectors, organized hierarchically in increasing degrees of abstraction. Nodes in each layer are responsible for detecting the presence of certain patterns among the input from lower-level nodes. The highest level of the network could be abstract enough to detect those features in the ambient optic array that indicate the overall semantic significance of a situation. The network's final output would correspond to the response that

the situation solicits. Dreyfus's claim is that such a network could learn to discriminate between certain stimuli without being given a set of rules for how to do so, or for what input features are relevant for discrimination. The network will produce random responses at first, but, through repeated practice and the reinforcement of its correct responses, it can learn to reliably produce the appropriate response. The fact that the network can learn shows for Dreyfus how perception is informed by past experience without needing to be associated with specific memories. The network does not store particular memory representations with which current perceptual representations are compared and associated. The influence of past experience on present perception would instead be realized through strengthening the connections between neural nodes, such that certain inputs and outputs become more tightly paired together – no mental representations needed. Through a process of what is called Hebbian learning, where the activity of one node or neuron becomes increasingly synchronized with the activity of another, similar inputs will come to produce the same or similar output.

Though the learning process so far seems akin to the passive conditioning associated with low-level perceptual learning, Dreyfus also acknowledges that a network must have the capacity for generalization in order for it to approach the real-world expertise of humans. If a class of similar inputs is going to reliably yield a set of similar or identical outputs, then there must be some way for the neural network to detect relevant similarities across inputs. Given that everything is similar to everything else in some respect, the problem facing both networks and humans is that of placing constraints of relevance on possible generalizations in a way that is still tethered solely to the information available in the ambient optical array. Dreyfus alludes to just a few ways in which disparate inputs may be processed as relevantly similar for producing a certain output response: There could be innate, non-cognitive gestalt structures that group inputs together; the temporal order and frequency of inputs could come to signify a shared relevance for a certain output-response, like how nearby objects which afford a reaching response would be detected more early and often than things

which do not afford reaching; and inputs could be grouped as similar according to whether they tend to produce a practically satisfactory response.

Whatever way in which a neural network or an embodied human perceiver ultimately comes to detect practically relevant similarities among the invariant features present within an ambient array, Dreyfus's overarching point is these features need not be available to the mind. The nodes in the neural network responsible for directly picking high-order invariants such as affordances remain hidden from the view of the perceiving agent. There may even be nodes tuned by past experience which serve the function of top-down expectations and background knowledge, but they too are hidden from view – all an agent observes is that a certain input solicits a certain response. The agent is unable to consciously represent, name, or think of those invariant features which are detected by the brain in soliciting that response. With invariant input features and output responses becoming associated together through situational trial and error, there is no need for the network to be guided by context-free conceptual rules. As Dreyfus summarizes, “Gibson’s account of our direct pick-up of affordances as high order invariants in the optic array, and neural net considerations as to how the brain might detect such invariants, suggest that expertise does not require concepts. Indeed, the basis of expert coping may well be the sort of features that the expert could not be aware of and would not be able to think” (2005: 58). Being unthinkable and unconscious, these invariant features cannot be brought into a McDowellian “space of reasons,” that is, they cannot be taken as reasons for justifying how the perceptual expert categorizes what is seen. Perceptual experts have no conscious access to the abstract, higher-order features that ground their skillful recognition of objects. Even more than Dreyfus's expert chess players, Dreyfus's perceptual experts would be unable to even retrospectively reconstruct the reasons why they categorize the objects in the ways that that they do – for Dreyfus, this inability makes perceptual expertise, along with all expert coping, not even an implicitly rational activity.

Yet, even while granting that a perceptual expert's neural network is subconsciously attuned to detecting abstract features relevant for the rapid categorization of objects, we must acknowledge that perceptual expertise is not exclusively a passive, unconscious, ineffable, bottom-up and feedforward process. While Dreyfus's model captures the sense in which the neural underpinnings of expertise are invisible to an agent, it seems designed to exclude the possibility that expert coping can consciously be guided through agent-directed attention. According to Dreyfus, all that the agent would be consciously aware of is the end-result of the stimulus detection process, namely the response that is issued on the agent's behalf. Nowhere in his feedforward network of feature detectors is there room for a conscious agent who can actively influence the process of stimulus detection, nor does there seem to be a functional analogue for endogenous selective attention. As with most other forms of absorbed coping, perceptual expertise is an active process that can involve conscious and cognitive top-down control. Dreyfus is averse to acknowledging the conscious and cognitive aspects of expert activity, as doing so would not square with his account of absorbed coping as being fundamentally mindless, non-cognitive, and non-representational. We have already canvassed the inadequacies of Dreyfus's "mindless" account of physical skills, particularly with respect to its inability to explain how experts may need to consciously, mindfully monitor their activity, and actively pay attention to what they are acting upon. The same basic inadequacies can also be found in Dreyfus's "mindless" account of perceptual expertise, which is also a form of expertise that requires active attention.

One striking way in which a perceiver can consciously influence the visual processing of objects is by adopting a certain task-relevant intention. This sort of influence is evident in a study by Assaf Harel and colleagues (Harel, Kravitz, and Baker 2014), where subjects were each given a variety of different perceptual identification tasks to be performed while viewing the same stimulus. The tasks were related to either conceptual characteristics of the object or the physical characteristics of the image: For instance, in one trial, subjects would be presented with a picture of a cow and would have to

answer whether a cow is a man-made or natural object; in another trial, the same cow would be presented and subjects would be asked whether the image of the cow was tilted clockwise or counter-clockwise. What the study found was that there were different patterns of activation in the ventral temporal cortex – specifically the posterior fusiform gyrus (pF) – and the lateral prefrontal cortex (LPFC) that corresponded with each task. That is to say, it was not as though the same object-image generated a consistent, bottom-up pattern of activation in the high-level areas of vision, regardless of the task. Rather, the response of these high-level areas to a single object-image varied across each task. The representations in these areas were task-dependent to the extent that, by varying the task context, the ability to decode which object was being perceived from the corresponding pattern of activation in the pF and LPFC was significantly reduced.²³ By contrast, the patterns of activation in the early visual cortex (EVC) were relatively task-independent, in the sense that the same object-information would be present across different tasks – in other words, which object was being seen could be determined from the pattern of activation in the early visual cortex regardless of which task was being performed. Still, the neural response in EVC responded to a given task context by increasing in magnitude, though that increase was linked only with tasks which were relevant to the physical features of the image, and not with the conceptual tasks. On the other hand, the increase in response magnitude was relatively greater for the conceptual tasks in pF and LPFC.

Among the implications of Harel et al.'s study, the most relevant for our purposes is the finding that object representations in the visual stream can be modulated by conscious, personal-level states of the observer. Unlike past knowledge or context associations, which may passively influence perceptual experience at a subpersonal level without a perceiver's having some say in the matter, a given task

²³ Harel et al. add the qualification that “in all visual regions it was still possible to decode object identity across tasks, suggesting that although representations are perturbed, they are not completely changed” (2014: 968). We might say, then, that the top-down influence of behavioral goals or observer intent do not construct an object representation out of whole cloth – they may penetrate the visual processing of visual object representations, but (at least in non-hallucinatory cases) they do not fully replace the bottom-up object information delivered from the early visual cortex.

context prompts a perceiver to deliberately adopt a corresponding intention or behavioral goal. These consciously selected intentions and goals in turn shape the patterns of neural activation in the visual system. Dreyfus's account of absorbed coping, however, views the conscious representation of goals on the part of an agent as anathema to skillful performance. Goals are not consciously represented by the absorbed coper, nor are they unconscious representations which the coper could possibly entertain in conscious thought (Dreyfus 2002: 377-8). Nonetheless, we see in Harel et al.'s study that a perceiver must be consciously adopting the goal of correctly responding to a given identification task, which in turn has a direct effect on how both low-level and high-level stages of the visual system respond to the perceived stimulus.

Dreyfus might object that answering questions about an image falls short of being a form of skillful expertise; as a result, even if a perceiver's conscious intent or adoption of a behavioral goal for answering such questions comes to influence perceptual object processing, those sorts of conscious states would not influence the bottom-up operation of the absorbed expert's neural network and her genuinely mindless performance of skill. In that vein, research on perceptual expertise has tended toward the view that the holistic processing characteristic of expert identification, particularly for objects like faces, is an automatic and passive, stimulus-driven process. Several researchers have claimed that, as a result of long-term perceptual learning which tunes the response of neurons in the visual cortex to trained stimuli, perceptual experts can't "turn off" their holistic processing of those stimuli (e.g., Tarr and Gauthier 2000; Richler, Wong, and Gauthier 2011).

While such a claim would accord well with Dreyfus's mindless, feedforward model of perceptual expertise as extended to perception, it is undermined by competing research which shows perceptual expertise can be agent-driven rather than stimulus-driven, and that the conscious states of an expert perceiver can activate the skills involved in perceptual expertise. Harel et al. (2011) tested the visual recognition abilities of car experts as compared to novices. Subjects were presented with a rapid

series of face, car, and airplane images, and were tasked with detecting whether the same image repeated twice in a row. (Notably, successive car and airplane images were to be judged the same if they both showed the same make and model of car or airplane – e.g., “Honda Civic” – regardless of whether the images differed in color, orientation, or even year of production.) In the first experiment, car experts were predictably much more accurate than novices in recognizing identical cars, whereas no significant difference in accuracy was observed for airplane images. Moreover, fMRI scans of the car experts' brains revealed widespread, car-selective activation that was distributed across neural areas within and outside of the visual system. When experts recognized cars, increased activity was not only observed in the early visual cortex and high-level regions of the ventral stream that are responsive to visual objects, semantic categories, and scene-contexts (e.g., the lateral occipital complex, fusiform gyrus, and parahippocampal cortex); there was also activity found in parietal areas such as the precuneus and intraparietal sulcus, as well as the dorsolateral prefrontal cortex. These regions are together implicated in the fronto-parietal dorsal attention network, which is thought to be responsible for the top-down, voluntary, and goal-oriented allocation of attention (see Corbetta and Shulman 2002). The results of the first experiment lend support to the hypothesis that the neural basis of perceptual expertise for cars extends across a wide range of non-visual areas in the brain, rather being restricted solely to face-selective visual areas like the fusiform face area. Additionally, the activity of the fronto-parietal attentional network suggests that top-down attentional allocation was underlying the perceptual engagement of car experts with the objects of their expertise.

Harel et al. employed a second experiment to test the hypothesis that the neural activity underlying the perceptual expertise of car experts could be controlled in a top-down fashion. Car experts and novices were again presented with a rapid series of car and airplane images, and had to respond when they recognized that the same image was immediately repeated. This time, however, subjects were directed to attend only to car images for one half of the trials, and to airplane images for

the other half. Now, if it were true that perceptual expertise is an automatic and stimulus-driven skill, then the same patterns of neural activation which car experts evince in detecting pairs of repeated and identical car images should be triggered by those pairs even when cars were not task-relevant, i.e., during trials in which the experts were told to attend only to airplane images. Yet, researchers found the opposite of what would be predicted under the hypothesis that perceptual expertise is automatic and purely stimulus-driven. In the trials where cars were not task-relevant and hence were not the subject of experts' top-down attentional engagement, experts did not display the sorts of car-selective patterns of neural activity that were observed in the first experiment; in fact, their neural responses to the task-irrelevant cars were nearly identical to that of novices. This finding suggests that the widespread neural activity characteristic of perceptual experts – activity which undergirds their enhanced abilities for object recognition – is only found in conjunction with the intentional allocation of attention to objects in their domain of expertise. When perceptual experts aren't actively attending to these objects, their perceptual expertise remains inactive.

We can now contrast Harel's findings about the role of top-down attention and explicit intention in perceptual expertise with Dreyfus's claim that such personal-level, agent-driven states should impede an expert's skillful performance. This claim should hold true for the skills of perceptual experts as well – if an expert consciously intends to recognize objects in one's domain of expertise by voluntarily attending to them, then the expert's advantage over a novice perceiver should be degraded. Dreyfus hence seeks to explain the expert's perceptual/non-conceptual repertoire of recognitional abilities in such a way that renders conscious control over these abilities unnecessary, if not impossible. Grounding expert perception on the model of a feedforward neural network gives Dreyfus a way to show how a perceptual expert could skillfully respond to stimuli without the help of conscious representational states. Since the network is exclusively feedforward, there would be no role for top-down feedback from higher layers of the network to lower layers, or from non-perceptual parts of the brain to the

perceptual network itself. Dreyfus does acknowledge that there is a feedback loop between the network's output responses and the environment, which allows the network to passively learn from past experiences in a process of trial-and-error reinforcement. Still, not only does the feedforward model lack any mechanism by which personal-level states could directly modulate the operation of the perceptual network, but the information that the network processes, and the manner in which it produces skillful responses as a result, cannot be consciously represented to a subject; as Dreyfus writes, “Obviously, the sort of knowledge such a system embodies could not be something one was conscious of and so could not be understood as a conscious or unconscious representation” (2002: 383).

However, the dependence of expert object recognition on the voluntary allocation of selective attention gives us further reason to reject a Dreyfusian account of perceptual expertise. Rather than degrading perceptual expertise, Harel's studies have shown that personal-level, agent-driven states like intention and attention actually enable the patterns of neural activity that underlie skillful object recognition. When experts do not actively engage their attention in response to the demands of a specific perceptual task, the patterns of activity exhibited in both low- and high-level visual areas do not differ from those of novices – a finding which would not be predicted if Dreyfus were right that attention should play no role in perceptual expertise, and that expert object recognition is a totally mindless, automatic skill exercised outside of a perceiver's control.

Moreover, in failing to find a place for a controlled deployment of selective attention, Dreyfus's feedforward model of perception would further fail to account for another aspect of real-world perceptual expertise, namely the flexibility with which perceptual experts can access domain-specific knowledge in order to categorize objects at varying levels of specificity. A number of studies have suggested that perceptual experts automatically process objects at a subordinate level (Gauthier et al. 2000; Tarr and Gauthier 2000); stating this conclusion in terms of Dreyfus's model, once an expert's neural networks have been passively sensitized to detect more fine-grained categories, the expert can't

help but effortlessly recognize and discriminate objects under these categories. It is true that subordinate and sub-subordinate category judgments are much easier for perceptual experts to make – for instance, a novice to intermediate birdwatcher might see a bird and think to classify it as a wren, while an expert might see the same bird and think to classify it as a Carolina wren. But, it is not as though in acquiring expertise for at least real-world object domains, perceptual experts are tuned to automatically make subordinate- rather than basic-level judgments, as Dreyfus's model might have it. Otherwise, if subordinate categories replaced basic categories as the default level of judgment for experts, and their subordinate judgments were now automatic, then an expert birdwatcher would make subordinate judgments more efficiently and rapidly than basic judgments – in other words, it would be easier for an expert birdwatcher to see a bird as being a Carolina wren than as simply being a bird (see Johnson and Mervis 1997: 264). Accordingly, in a wide-ranging study of birdwatchers by Johnson and Mervis, experts were found to be equally efficient in perceptually identifying objects at a basic, subordinate, or sub-subordinate level, depending on task demands (Ibid.: 267).

The equal facility of experts with each of these levels of categorization suggests that they can skillfully respond to perceptual tasks by flexibly drawing upon multiple sources of information, drawn in large part from the vast category-relevant knowledge stored in semantic memory. Different information will be pertinent for different levels of classification – e.g., the features which distinguish a white-crowned sparrow from other sparrows would not be sufficient for distinguishing sparrows in general. Perceptual experts will thus have to access different sorts of category-relevant information in order to know which distinguishing features they should attentionally select as being most relevant to an intended level of classification. For forms of real-world perceptual expertise, the knowledge of category-relevant information will also include knowledge of more abstract features as well as features from other sense-modalities. A birdwatcher in the field will often classify some bird not only to according to available visual cues, which may be rather limited in places like a forest, but also with the

help of knowledge like where in a forest the bird is most likely to be found, and what its song sounds like. Through efficiently accessing these perceptual and conceptual sources of information, experts are able to deploy their attention to subtle perceptual features that would otherwise not figure as perceptually salient in the absence of that access (Ibid.: 274).

There are several lessons to be drawn for Dreyfus's feedforward model of perceptual expertise. First, perceptual expertise need not be based upon an automatic, mindless recognition of objects at a fixed level of specificity. Real-world experts are instead capable of flexibly responding to various perceptual tasks that each require objects to be classified at different category-levels. The fact that experts can draw upon multiple forms of knowledge and information in making perceptual category judgments suggests that they exert some conscious control over the process of object recognition, and further that the knowledge embodied in their recognitional skills is not wholly inaccessible to conscious awareness.

Second, a purely feedforward model of object recognition would fail to explain the top-down influence of selective attention on visual object processing. Over time, a purely feedforward neural network could become attuned to the subtle perceptual patterns that experts rely upon in making visual classifications; through Hebbian learning, the connections between the nodes that detect domain-specific features would be strengthened, and the connections between irrelevant feature-detecting nodes would become inhibited. Even so, what a purely feedforward model misses is how top-down attention actively places a thumb on the scales of visual processing through a mechanism which Robert Goldstone (1998: 588-9) calls “attentional weighting”: Selective attention can not only strengthen or amplify the processing of category-relevant features, but can also reconfigure the dimensions along which features are processed as belonging to the same category. In acquiring an ability for perceptual categorization, perceptual experts often learn to ignore sensory features which are otherwise perceptually salient, and focus on more subtle features that are better predictive of category

membership. Together with the development of other top-down influences like expectations and semantic memory, learning to preferentially attend in a certain way leads to the re-weighting of neural responses in visual areas to category-relevant and irrelevant features (Gilbert and Li 2013). In turn, attentional weighting contributes to the reshaping of perceptual similarity space, and the sharpening of perceptual category distinctions. By attending to stimuli within the same category (e.g., color), the perceptual features on that dimension will become stretched relative to features on the unattended dimension (e.g., shape), meaning that their differences from the features on the irrelevant, unattended dimension will become sensitized. As a result, selective attention contributes the development of categorical perception effects whereby intra-category similarities and inter-category differences between stimuli become more perceptually salient (Goldstone and Byrge 2015: 820; see also Nosofsky 1986; Smith and Heise 1992). Ultimately, the power of selective attention and cognitive factors to reweight the neural responses of perceptual systems gives us further reason to think that perceptual expertise cannot be encapsulated within a purely feedforward network, immune to conceptual and conscious influence. As Goldstone and Byrge conclude, “We humans do not simply base our categories on the outputs of perceptual systems independent of feedback. Instead, our perceptual systems become customized to the task-useful categories that we acquire.... [The] fast and widely prevalent recurrent connections from higher to lower cortical regions makes it difficult, sometimes impossible, to identify a ‘forward-volley’ stage of sensory processing that is uninfluenced by attention” (2015: 821).

In sum, we have shown that concepts, memory, and attention – the three things which Dreyfus claims should not be involved in “mindless” expertise – are in fact integral to real-world perceptual expertise. A central part of Dreyfus's non-conceptualism is the view that expert intuition rests on a purely perceptual repertoire of abilities for discriminating a vast array of stimuli and situations; yet, we have seen how the model of perception which is supposed to instantiate these abilities is fundamentally flawed. The neural activity underlying perceptual expertise is widely distributed in the expert

perceiver's brain, extending beyond purely perceptual areas and into areas associated with cognition, memory, and top-down selective attention. Moreover, this distributed activation does not simply indicate that perceptual nodes are passing along their outputs to higher, abstract levels in the network – rather, conceptual information from cognitive areas shapes the outputs of perceptual areas. In contrast to previous accounts which have suggested, in a Dreyfusian vein, that expert object recognition is localized in higher-level areas of the visual stream like the fusiform face area, the work of Harel and others have offered strong evidence that visual areas are the site at which bottom-up and top-down signals are integrated, and where processes underlying both conceptual and perceptual expertise come to overlap. As Thomas James and George Cree suggest, “If, as we argue, objects are not just processed using visual information, but also conceptual knowledge associated with the object, then perhaps the fusiform gyrus does not represent a purely perceptual stage in visual processing, but instead represents a conceptual stage of object processing” (2010: 348). Against Dreyfus, then, we may conclude that perceptual expertise ultimately relies a great deal on the expert's conceptual repertoire. This repertoire contains elements which may be uncontroversially recognized as concepts; skillful perceptual classification requires that experts have learned and stored in semantic memory a vast amount of knowledge concerning their domains of expertise. This repertoire can also incorporate top-down cognitive factors like expectations, context associations, and task-relevant intentions. Finally, on the revised conceptualism being defended, the repertoire can include perceptual concepts, i.e., the skillful abilities for attentional allocation that an expert exercises in knowing how to look at objects in the right way.

5.7 Conclusion: A Final Objection

Though Dreyfus's "mindless" account of expertise may not be rescuable from its failure to account for the fundamental role that attention, memory, and other cognitive factors play in perceptual expertise and expert intuition more broadly, a defender of Dreyfus might still mount a final objection that again raises the charge of arbitrariness against my revised conceptualism: Even if it is granted that expert object recognition cannot be a purely feedforward process, why should we think that the influence of attention and memory should be attributable to the expert's conceptual repertoire? In other words, is it legitimate to identify a perceptual expert's attentional skill as being a kind of conceptual capacity? If the answer is negative, then my revised conceptualist account of expert perceptual intuition would be even more susceptible to the charge of triviality that Dreyfus holds over McDowellian conceptualism. Recall that Dreyfus's non-conceptualism is deeply opposed to McDowell's claim that conceptual capacities pervade the experience and action of rational agents. According to McDowell, the presence of conceptual capacities serves as a transcendental condition for the possibility of treating our perceptual and bodily responses to the world as having rationally evaluable content, allowing us thereby to take a step back from these responses and assess their epistemic and normative status. For Dreyfus, however, the phenomenology of absorbed coping shows us a realm of experience and action which is fundamentally immune to rational articulation, thus casting doubt on the pervasiveness of conceptual capacities throughout even a rational agent's experience. Furthermore, even if our account of conceptuality is somehow weakened such that we count as conceptual the background understanding of cultural norms that unconsciously conditions our absorbed coping practices, this understanding is not still rationally evaluable within the sphere of absorbed coping itself. Hence, this understanding would not serve the role that concepts are supposed to serve for McDowell, which is to explicitly ground our judgments and beliefs on a foundation of reasons, in a self-conscious activity of "adjusting thinking to experience" (McDowell 1994: 47). Dreyfus therefore writes, "It seems that, when a transcendental

requirement runs up against phenomenological counterexamples, saving the pervasiveness claim requires weakening that claim until what remains of it need have nothing to do with the job – in this case justifying judgments – for which it was allegedly required” (2013: 19).

Do the attention- and memory-based capacities that underlie expert perception and action play any role in justifying judgments, such that they may satisfy Dreyfus in grounding a non-trivial account of conceptuality and its pervasiveness? I think that we can answer in the affirmative, provided we adjust some of the underlying assumptions that constrain the terms of the McDowell-Dreyfus debate. Here, we can draw inspiration from the skill-based account of perceptual knowledge offered in classical Chinese epistemology. For Xúnzǐ and the Mohists, having perceptual knowledge pragmatically entails that one can skillfully exercise an ability for appropriate perceptual classification, which further entails that one knows how to properly attend to an object in such a way that facilitates the recognition of its membership under some conceptual category. If, together with the Chinese epistemologists, we can understand perceptual conceptualization as involving the active exercise of attentional skills, then we have a way of demonstrating how these skills can begin to play the epistemic role that Dreyfus requires of concepts. Furthermore, if we leave aside the internalist epistemological presumptions that have constrained the McDowell-Dreyfus debate, according to which the mark of conceptuality is the capacity to self-consciously and discursively articulate the epistemic warrant that experience provides to our beliefs and actions, then we can appreciate how attentional skills support the perceptual judgments of experts, and undergird their privileged epistemic status.

At the same time, we would make more plausible a revised version of the pervasiveness claim, which holds that conceptual capacities, construed now as attention- and memory-based skills for perceptual classification, can be present throughout absorbed action and perception. Insofar as attention and memory contribute to the predicative structuring of perceptual experience, they give rise to a form of representational content that can stand in epistemic relations with a subject's other cognitive states.

The relation is also bi-directional, in that an array of cognitive states contribute to the top-down influence that attention and memory exert on perceptual processes. Dreyfus was wary of allowing attention and memory to figure in his account of expert activity for just this reason, as their involvement is supposed to be the first step toward transforming the non-conceptual experience of absorbed coping into an object of detached conceptualization or discursive reflection. We have seen, however, that attention and memory can be employed automatically in expert activity, or can be intentionally controlled in such a way that better facilitates the skillful performance of absorbed activity – either way, the exercise of attention- and memory-based capacities does not inherently expel an expert from the immersive realm of absorbed coping, and in fact may play a necessary role in keeping the expert flexibly responsive to the world. In drawing upon a variety of conceptual abilities, attentive awareness within the flow of perceptually guided action makes our experience of the world both mindful and rationally minded.

Conclusion – Summary and Implications

The overall goal of this dissertation has been to develop a revised account of perceptual concepts and their involvement in structuring the contents of conscious visual experience. This sort of account has been largely absent from prominent contemporary debates over the existence of non-conceptual content. Within these debates, concepts have been variously understood as being abstract constituents of propositional thoughts, or concrete representations of such constituents in the mind, or abilities for understanding and recognizing these constituents' semantic value. Yet, regardless of whatever metaphysical theory of concepts we adopt, both parties to the non-conceptual content debate have presumed that the possession conditions for concepts entails that a subject has the ability to form relevant propositional thoughts that are compositional and satisfy the Generality Constraint, express those thoughts in language, and appreciate the inferential links between those thoughts and other related thoughts. By presuming this model of concept possession to be true, it is no wonder that conceptualists like John McDowell have been met with obvious and compelling objections from defenders of the claim that it is possible to perceptually represent the world without possessing any relevant concepts for what one perceives. Perceiving the world is a manifestly different activity from thinking about the world, and there are many creatures who can have robust perceptual experiences of the world despite lacking higher-order linguistic and inferential abilities. Indeed, if the arguments of some Buddhist and contemporary non-conceptualists are correct, then the above objections don't go far enough: Perceptual contents represent the world in a way that is necessarily incapable of being articulated by any concepts that one can possess.

Chapter 1 of this dissertation thus defends a more capacious account of perceptual conceptualization which recognizes that visual perception can indeed generate representations whose content is propositionally and predicatively structured, and which satisfy a limited version of the Generality Constraint, thereby avoiding the charge that such an account renders the non-conceptual content debate merely terminological. The perceptual concepts involved in both generating and grasping conceptually structured contents need not be linguistic in nature; instead, they are grounded upon more fundamental abilities for identifying objects through the perceptual predication and classification of their features. The chapter discusses how these abilities can count as genuinely conceptual in nature, and offers several criteria for perceptual concept possession. With these criteria in view, it becomes clear that non-linguistic creatures can possess and exercise conceptual abilities in their intelligent responses to their perceived environment.

Chapter 2 surveys how both Buddhist and Nyāya thinkers came to similarly develop a refined account of conceptualization which distinguishes the conceptual abilities involved in perceptual classification from those involved in overt linguistic competency. These thinkers look instead to the activity of attention and memory for explaining how subjects can possess abilities for perceptually grasping sensory features as predicating or qualifying an object. The chapter also shows how Buddhist and Nyāya theories of non-conceptual perception evolved from state views to content views, culminating with the postulation by Buddhists that perception is aware of essentially different objects than and conceptual cognition, and by Naiyāyikas that non-conceptual content has an essentially distinct structure from conceptual content.

In chapters 3 and 4, I develop an argument against classical Buddhist and contemporary non-conceptualism to show that essentially non-conceptual perceptual contents do not enter into the field of conscious perceptual experience. Chapter 3 proposes a reconstructive reading of Immanuel Kant and the Navya Nyāya philosopher Gaṅgeśa, which extracts from their theories of perceptual concepts and apperception a claim to the effect that intentional, object-directed perceptual representations must be conceptually structured in order to have a subjective phenomenal character. Kant and Gaṅgeśa allow that at an early enough stage of visual processing, there may be perceptual representations with pre-predicative, essentially non-conceptual contents. But, they ultimately claim that these representations give way to the conceptually structured representations of conscious visual experience. Their respective accounts ultimately suggest that the conceptual structuring of perceptual representations is closely tied to the possibility of their being integrated into a unified experience belonging to a conscious subject.

Chapter 4 reframes my particular reading of Gaṅgeśa in naturalized terms, showing how perceptual contents arise through the conceptually modulated activity of attention and visual memory. At a stage of early vision, sensory features are separately registered across different retinotopic maps; additionally, there is the unconscious, non-conceptual individuation of proto-objects, which fix the reference of subsequent visual predication and categorization. In the subsequent stages of intermediate and late vision, attentional selection stabilizes the binding of sensory features to proto-objects, such that these features can be encoded as the identifying predicates of the selected object, and the selected object can now be perceived as a token instantiation of its features. Categorical and semantic information stored in memory further

exerts a top-down bias on attentional selection and predicative classification. Together, attention and memory help transform the fleeting, unstable, proto-objectual representations of early vision into the conscious experience of stable, coherent, mind-independent objects. As a result, Gaṅgeśa's account, when bolstered by empirical studies of visual processing, support a revised conceptualist defense against those non-conceptualists, Dignāga and Dharmakīrti included, who employ phenomenological arguments for the existence of essentially non-conceptual perceptual content. Against such arguments, I claim that by the time a perceptual representation has a robust phenomenal character and is capable of being integrated into the perceptual experience of a conscious subject, that representation has already been structured by a conceptually modulated process of object identification and predication.

Finally, chapter 5 shifts to a discussion of classical Chinese epistemology and psychological studies of expertise. Whereas the previous chapters have largely characterized perceptual concepts as attention-based and memory-based capacities that operate prior to the arising of conscious experience, the fifth chapter additionally characterizes perceptual concepts as capacities for allocating attention that can also be actively and skillfully exercised in experience. By taking a skill-based account of perceptual concepts, we can come to understand perception itself as an activity which is both skillfully absorbed and permeated with rationality.

There are several salutary implications of the revised conceptualism defended throughout the dissertation. One main upshot is that, through disentangling perceptual concepts from linguistic abilities, we can recognize that the visual system itself can encode sensory representations with semantic, categorical content as well as a predicative format, making these representations fit to be taken up by higher-order cognitive and motor intentional states.

Perceptual concepts hence enable visual perception to provide reasons for belief and action in the way that conceptualists have demanded. At the same time, once we acknowledge that perceptual contents can have a conceptual/semantic structure that is realized independently of being linguistically/syntactically structured, we can broaden the space of reasons beyond its previously set boundaries. It is not necessary that a perceiver be able to self-consciously articulate the normative significance of their perceptual experience; instead, both humans and non-humans alike can evince their recognition of that significance through their ability to carry out intentional activity on the basis of their experience. As McDowell originally argued, it is through being informed by concepts that perceptual content can attain a level of abstraction and stimulus-independence which enables perceivers to take a rational stance and assess how they ought to respond to their environment, rather than be passively impelled by perceived stimuli in a fixed and inflexible manner. We need not attribute any conceptual grasp of redness to a sensor that merely detects whether something red is present – concepts or other types of mental states like belief and intention are superfluous for explaining such an evidently mindless activity. But, if a bear can distinguish between ripe and unripe wild raspberries according to whether they are red, then attributing to the bear a perceptual concept of redness is warranted. And, if the bear can distinguish between ripe red raspberries and unripe red blackberries, then we can further attribute it with the ability to perceptually identify the more abstract kind *raspberry*. Improving upon McDowell's account, then, a revised conceptualism more plausibly explains how a certain level of abstraction and (relative) stimulus-independence required for recognizing and acting upon perceptual reasons can already be present from the onset of conscious perceptual experience, and also for creatures who fall outside of the space of language.

More speculatively, it is tempting to draw broader metaphysical implications from a revised conceptualism, specifically concerning the reality of universals and the substances which instantiate them. The fact that a wide variety of animal intelligence is grounded upon abilities for perceptual classification and predication could suggest that these abilities evolved in response to the real existence of abstract kinds and substantial property-bearers. This suggestion would cohere with, and perhaps lend some credence to, the commonsense realism of Nyāya-Vaiśeṣika. On the other hand, it is also possible for Dvaita Vedāntin nominalists to interpret the evolutionary prevalence of perceptual concepts as supporting a metaphysical realism about similarity, rather than universals. Even though they reject universals, Dvaita philosophers are even more staunch defenders of concept-laden perception than Navya Naiyāyikas; whereas the latter posit non-conceptual perceptions in part to secure a direct causal relation between concept-laden states and world, the former dispense with non-conceptual perceptions altogether, while still maintaining that concept-laden perceptions are themselves directly arise from sensory contact with the world. Appealing to evolution thus won't settle the debate between these competing realisms, particularly perceptual classification can take place either in terms of categorizing stimuli under discrete kinds or within an ordered similarity space (Matthen 2010).

What's more, Buddhist anti-realists could point out that appeals to evolutionary considerations could actually be counterproductive for either form of realism. Evolutionary fitness is the primary driver of adaptation, and so it is an open possibility that abilities for perceptual conceptualization were adapted by organisms for the pragmatic and non-epistemic purposes of survival, rather than for tracking truth – a view which would dovetail nicely with the Buddhist view that all the ways in which we conceptually carve up the world ultimately stem

from our pragmatic interests, rather than from the reality of natural kinds. Still, short of adopting this debunking strategy wholesale, we might adopt as a compromise the sort of “pragmatic realism” promoted by Dewey and Putnam, according to which our interaction with reality is fundamentally constrained by our given conceptual schemes. Or, more to the point as far as perception is concerned, we could adopt Matthen’s (2005) stance of “pluralistic realism,” which holds that our systems of perceptual classification can accurately or inaccurately correspond with reality, while also acknowledging that different species have different perceptual apparatuses which are adapted for tracking and classifying different types of features in the world.

Whatever metaphysical commitments we wish to adopt concerning the nature of the features that perceptual concepts pick out, it is clear that the deep reach of these attention- and memory-based capacities into the process of vision has significant epistemological implications. If the conceptually modulated activity of attention and memory is responsible for structuring the contents of conscious visual experience, then the acquisition of new perceptual concepts stands to enrich the trained perceiver’s phenomenal awareness with new properties. It could be said that as one’s conceptually-guided skills of attention become more sophisticated, one is correspondingly able to experience more sophisticated perceptual contents, beyond just rudimentary sensory classes. Indeed, perceptual experts exhibit remarkable abilities for classifying and differentiating objects in their respective fields of expertise. A more robust skill-based account of perceptual knowledge could capture how the exercise of abilities for attentional allocation and cognitive access are responsible for the perceptual expert’s enhanced epistemic status and enriched phenomenal experience. Conversely, our epistemic standing could be downgraded when pernicious cognitive and attentional biases penetrate our perceptual

experience. A revised conceptualist account could therefore suggest the regaining of top-down control of attention and the explicit revision of one's implicit cognitive biases as points of intervention in the perceptual process, whereby a perceiver could reshape their experience to more accurately reflect the world as it is.

Works Cited

Abbreviations

- ADV* *Abhidharmadīpavibhāṣāprabhāvṛtti*. 1959. Jaini, P.S., ed. *Abhidharmadīpa with Vibhāṣāprabhāvṛtti*. Patna: Kashi Prasad Jayaswal Research Institute.
- AK(B)* *Abhidharmakośa(bhāṣya)*. 1967. Pradhan, P., ed. *Abhidharmakosabhāṣyam of Vasubandhu*, Patna: Kashi Prasad Jayaswal Research Institute.
- AKBV* *Abhidharmakośabhāṣyavyākhyā*. 1949. Law, N., ed. *Abhidharmakosavyākhyā ("Sphutārtha")*, chapters I-III. London: Luzac.
- An* *Anthropology From a Pragmatic Point of View*. 2006. Loudon, R., trans. Cambridge, UK: Cambridge University Press.
- BP* *Bhāṣāpariccheda*. 1988. Śāstra, Ś., ed. *Kārikāvalī: Muktaḥvalīśahitā, sā ca Prabhā-Maṅjūṣā-Dīnakarī-Rāmarudrī-Gaṅgārāmīti vyākhyāpañcakasamanvitā*. Varanasi: Caukhambā Saṃskṛta Pratiṣṭhāna.
- CPR* *Critique of Pure Reason*. 1996. Pluhar, W., trans. Indianapolis: Hackett Pub. Co.
- DhPr* *Dharmottarapradīpa*. 1971. Malvania, D., ed. *Paṇḍita Durveka Miśra's Dharmottarapradīpa, being a sub-commentary on Dharmottara's Nyāyabinduṭīkā, a commentary on Dharmakīrti's Nyāyabindu*. Patna: Kashiprasad Jayaswal Research Institute.
- JL* *Jäsche Logic*. Young, J.M., ed. and trans. *Lectures on Logic*. Cambridge: Cambridge University Press.
- JLVR* *Jñānalakṣaṇāvicārahasya*. 1958. Bhaṭṭācārya, G., ed. *Jñānalakṣaṇāvicārahasyam of Śrī Harirāma Tarkavāgīśa: with the commentary of Vimarśinī*. Calcutta: Sanskrit College.
- KTaBh* *Tarkabhāṣā* of Keśava Miśra. Iyer, S.R., ed. and trans. *Tarkabhāṣā of Keśava Miśra*. Varanasi: Chaukhamba Orientalia.
- MTaBh* *Tarkabhāṣā* of Mokṣākaragupta. 1942. Krishnamacharya, E., ed. *Tarkabhāṣā: Ed. with a Sanskrit Commentary by Embar Krishnamacharya*. Baroda: Oriental Institute.
- NB(T)* *Nyāyabindu(ṭīkā)*. 1985. Sastri, D., ed. *Nyāyabindu of Acharya Dharmakīrti*. Varanasi: Bauddha Bharati.
- NBh* *Nyāyabhāṣya*. Nyayatīrkatīrtha, T. & Tarkatīrtha, A., eds. 1985. *Nyāyadarśanam: with Vātsyāyana's Bhāṣya, Uddyotkara's Vārttika, Vācaspati Miśra's Tātparyaṭīkā & Viśvanātha's Vṛtti*. New Delhi: Munshiram Manoharlal.
- NBhu* *Nyāyabhūṣaṇa*. Yogindrananda, S., ed. 1968. *Śrīmadācārya-Bhāsarvajña-praṇītasya Nyāyasārasya svopajñam vyākhyam Nyāyabhūṣaṇam*. Varanasi: Śaddarśanaprakāśanapratīṣṭhānam.
- NK* *Nyāyakandalī*. Jetly, J.S., ed. 1991. *Nyāyakandalī, being a commentary on Praśastapaādabhāṣya, with three subcommentaries*. Vadodara: Oriental Institute.
- NKo* *Nyāyakośa*. Jhalakīkar, B., ed. 1978. *Nyāyakośa; or, Dictionary of Technical Terms of Indian Philosophy*. Pune: Bhandarkar Oriental Research Institute.

- NL *Nyāyalīlāvātī*. Sastri, H., ed. 1934. *Nyāyalīlāvātī of Śrī Vallabhācārya with Śaṅkara Miśra's, Vardhamāna's and Bhagīratha Ṭhakkura's Commentaries*. Varanasi: Chowkhamba Sanskrit Series Office.
- NS *Nyāyasūtra*. Nyayatirkatirtha, T. & Tarkatirtha. A., eds. 1985. *Nyāyadarśanam: with Vātsyāyana's Bhāṣya, Uddyotkara's Vārttika, Vācaspati Miśra's Tātparyaṭīkā & Viśvanātha's Vṛtti*. New Delhi: Munshiram Manoharlal.
- NSM(D) *Nyāyasiddhāntamuktāvalī(dinakarī)*. 1988. Śāstra, Ś., ed. *Kārikāvalī: Muktvāvalīśahitā, sā ca Prabhā-Mañjūṣā-Dinakarī-Rāmarudrī-Gaṅgārāmīti vyākhyāpañcakasamanvitā*. Vārāṇasī: Caukhambā Saṃskṛta Pratishṭhāna.
- NVTṬ *Nyāyavārttikatātparyaṭīkā*. 1985. Nyayatirkatirtha, T. & Tarkatirtha. A., eds. *Nyāyadarśanam: with Vātsyāyana's Bhāṣya, Uddyotkara's Vārttika, Vācaspati Miśra's Tātparyaṭīkā & Viśvanātha's Vṛtti*. New Delhi: Munshiram Manoharlal.
- PDS *Padārthadharmasamgraha*. Jetly, J.S., ed. 1991. *Nyāyakandalī, being a commentary on Praśastapaādabhāṣya, with three subcommentaries*. Vadodara: Oriental Institute.
- PP *Prasannapadā*. 1960. Vaidya, P.L., ed. *Madhyamakaśāstra of Nāgārjuna, with the Commentary: Prasannapadā by Candrakīrti*. Darbhanga: The Mithila Institute of Post-Graduate Studies and Research in Sanskrit Learning.
- PV *Pramāṇavārttika*. 1938–1940. Sāṅkṛtyāyana, R., ed. *Dharmakīrti's Pramāṇavārttika with a Commentary by Manorathanandin*. Patna: Journal of the Bihar and Orissa Research Society.
- PVin *Pramāṇaviniścaya*. Steinkellner, E., ed. 2007. *Dharmakīrti's Pramāṇaviniścaya: Chapters 1 and 2*. Beijing: China Tibetology Publishing House; Vienna: Austrian Academy of Sciences Press.
- PS(V) *Pramāṇasamauccaya(vṛtti)*. Steinkellner, E., ed. 2005. *Dignāga's Pramāṇasamauccaya, Chapter 1. A hypothetical reconstruction with the help of the two Tibetan translations on the basis of the hitherto known Sanskrit fragments and the linguistic materials gained from Jinendrabuddhi's Tīkā*. <http://ikga.oeaw.ac.at/Mat/dignaga_PS_1.pdf>
- ŚrBh *Śrībhāṣya*. 1914. Abhyankar, V.S., ed. *Śrī-Bhāṣya by Rāmānujāchārya*. Fergusson College: Poona
- SS *Sarvārthasiddhivṛtti*. 1973. Vīrarāghavācārya, Uttamūr T., ed. *Srimad Vedanta Desika's Tattva Mukta Kalapa and Sarvartha Siddhi with Sanskrit Commentaries*. Ubhayavedāntagranthamālā: Śrīnilaya.
- ŚVpp *Ślokavārttika, pratyakṣapariccheda*. 2005. Taber, J., ed. *A Hindu Critique of Buddhist Epistemology*. London: RoutledgeCurzon.
- ŚVVT *Ślokavārttikavyākhyatātparyaṭīkā*. Sastri, S.K.R., ed. Madras: University of Madras, 1971.
- TBh *Tarkabhāṣā*. Iyer, S.R., trans. 1979. *Tarkabhasa of Keśava Miśra*. Varanasi: Chaukhambha Orientalia.
- TCM *Tattvacintāmaṇi*. Tatacharya, N.S.R., ed. 1973. *Tattvacintāmaṇi: With Prakāśa of Rucidattamiśra and Tarkacūḍāmaṇi on Prakāśa of Dharmarājadhvarin*. Tirupati: Kendriya Sanskrit Vidyapeetha.

TrBh	<i>Triṃśikābhāṣya</i> . 1980. Chatterjee, K.N., ed. <i>Vasubandhu's Vijnapti-matrata-siddhi (With Sthiramati's Commentary)</i> . Varanasi: Kishor Vidya Niketan.
TSop	<i>Tarkasopāna</i> . 1956. Tucci, G., ed. <i>Minor Buddhist Texts, Part 1</i> . Rome.
TS(P)	<i>Tattvasaṃgraha(pañjikā)</i> . Shastri, D., ed. 1981–82. <i>Tattvasaṃgraha of Śāntarakṣita with the Tattvasaṃgrahapañjikā of Kamalaśīla</i> . Varanasi: Bauddha Bharati.
VL	<i>Vienna Logic</i> . Young, J.M., ed. and trans. <i>Lectures on Logic</i> . Cambridge: Cambridge University Press.
VP	<i>Vākyapadīya</i> . 1966. Iyer, K.A.S., ed. <i>Vākyapadīya: With the Vṛtti and the Paddhati of Vrsabhadeva</i> . Poona: Deccan College Post-graduate and Research Institute.
VS	<i>Vaiśeṣikasūtra</i> . Misra, N., ed. 1969. <i>Vaiśeṣikasūtropakṣāra of Śriśaṅkaramiśra</i> . Varanasi: Chowkhamba Sanskrit Series Office.

- Allais, Lucy. 2009. "Kant, Non-Conceptual Content and the Representation of Space." *Journal of the History of Philosophy* 47(3), 383–413.
- Aminoff, Elissa M., Kestutis Kveraga, and Moshe Bar. 2013. "The Role of the Parahippocampal Cortex in Cognition." *Trends in Cognitive Sciences* 17 (8), 379–90.
- Andrews, Kristin. 2011. "Animal Cognition." In *Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta.
- Arstila, Valtteri. 2016. "Perceptual Learning Explains Two Candidates for Cognitive Penetration." *Erkenntnis* 81 (6), 1151–72.
- Baars, Bernard J. 1988. *A Cognitive Theory of Consciousness*. Cambridge University Press.
- Baillargeon, R. 2008. "Innate Ideas Revisited: For a Principle of Persistence in Infants' Physical Reasoning." *Perspectives on Psychological Science* 3 (1), 2–13.
- Bar, M., K. S. Kassam, A. S. Ghuman, J. Boshyan, A. M. Schmid, A. M. Dale, M. S. Hämäläinen, M.S., Marinkovic, K., Schacter, D.L., Rosen, B.R., Halgren, E. 2006. "Top-down Facilitation of Visual Recognition." *Proceedings of the National Academy of Sciences of the United States of America* 103 (2), 449–54.
- Bar, Moshe. 2004. "Visual Objects in Context." *Nature Reviews Neuroscience* 5 (8), 617–29.
- Beilock, Sian L., Thomas H. Carr, Clare MacMahon, and Janet L. Starks. 2002. "When Paying Attention Becomes Counterproductive: Impact of Divided versus Skill-Focused Attention on Novice and Experienced Performance of Sensorimotor Skills." *Journal of Experimental Psychology: Applied* 8 (1), 6.
- Bermúdez, Jose Luis. 1998. *The Paradox of Self-Consciousness*. Cambridge, MA: MIT Press.
- Bermúdez, Jose Luis. 2007. "What is at stake in the debate about nonconceptual content?" *Philosophical Perspectives* 21, 55–72.
- Bhattacharyya, Sibajiban. 1990. *Gadādhara's Theory of Objectivity, Part 2*. New Delhi: Indian Council of Philosophical Research, 1990.
- Bhattacharyya, Sibajiban and Karl Potter. 2011. *Encyclopedia of Indian Philosophies, Vol. 13: Nyāya-Vaiśeṣika philosophy from 1515 to 1660*. Delhi: Motilal Banarsidass.

- Bilalić, Merim, Peter McLeod, and Fernand Gobet. 2008. "Why Good Thoughts Block Better Ones: The Mechanism of the Pernicious Einstellung (set) Effect." *Cognition* 108 (3), 652–61.
- Bilalić, Merim. 2016. "Revisiting the Role of the Fusiform Face Area in Expertise." *Journal of Cognitive Neuroscience* 28 (9), 1345–57.
- Block, Ned. 1995. "On a Confusion about a Function of Consciousness." *Brain and Behavioral Sciences* 18 (2), 227–247.
- Block, Ned. 2007. "Consciousness, Accessibility, and the Mesh between Psychology and Neuroscience." *Behavioral and Brain Sciences* 30 (5), 481–548.
- Block, Ned. 2011. "Perceptual Consciousness Overflows Cognitive Access." *Trends in Cognitive Sciences* 15 (12), 567–75.
- Block, Ned. 2014. "Consciousness, Big Science and Conceptual Clarity." In *The Future of the Brain: Essays by the World's Leading Neuroscientists*, edited by Gary Marcus and Jeremy Freeman, 161–76. Princeton: Princeton University Press.
- Bläsing, Bettina E., Iris Guldenpenning, Dirk Koester, and Thomas Schack. 2014. "Expertise Affects Representation Structure and Categorical Activation of Grasp Postures in Climbing." *Frontiers in Psychology* 5.
- Breivik, Gunnar. 2013. "Zombie-Like or Superconscious? A Phenomenological and Conceptual Analysis of Consciousness in Elite Sport." *Journal of the Philosophy of Sport* 40 (1), 85–106.
- Brinck, Ingar and Rikard Liljenfors. 2013. "The Developmental Origin of Metacognition." *Infant and Child Development* 22: 85–101.
- Burge, Tyler. 2003. "Concepts, Conceptions, Reflective Understanding: Reply to Peacocke." In *Reflections and Replies: Essays on the Philosophy of Tyler Burge*, edited by Martin Hahn and B. Ramberg. Cambridge: MIT Press.
- Buroker, Jill Vance. 2006. *Kant's Critique of Pure Reason: An Introduction*. Cambridge; New York: Cambridge University Press.
- Byrne, A. 2001. "Intentionalism defended." *The Philosophical Review* 110, 199–240
- Cecchi, Ariel S. 2014. "Cognitive Penetration, Perceptual Learning and Neural Plasticity." *Dialectica* 68 (1), 63–95.
- Chakrabarti, Arindam. 2000, "Against Immaculate Perception: Seven Reasons for Eliminating Nirvikalpaka Perceptions from Nyāya," *Philosophy East and West*, 50(1), 1–8.
- Chaffin, Roger, and Topher Logan. 2006. "Practicing Perfection: How Concert Soloists Prepare for Performance." *Advances in Cognitive Psychology* 2 (2-3), 113–30.
- Chaffin, Roger, Gabriela Imreh, and Mary E Crawford. 2002. *Practicing Perfection: Memory and Piano Performance*. Mahwah: Lawrence Erlbaum Associates.
- Chaffin, Roger, Topher R. Logan, and Kristen T. Begosh. 2011. "Performing From Memory." *Oxford Handbook of Music Psychology*, 352.
- Chase, William G., and Herbert A. Simon. 1973. "Perception in Chess." *Cognitive Psychology* 4 (1), 55–81.
- Chaumon, Maximilien, Kestutis Kveraga, Lisa Feldman Barrett, and Moshe Bar. 2014. "Visual Predictions in the Orbitofrontal Cortex Rely on Associative Content." *Cerebral Cortex* 24 (11), 2899–2907.

- Cheung, Olivia S., and Moshe Bar. 2012. "Visual Prediction and Perceptual Expertise." *International Journal of Psychophysiology* 83 (2), 156–63.
- Christensen, Wayne, John Sutton, and Doris J.F. McIlwain. 2016. "Cognition in Skilled Action: Meshed Control and the Varieties of Skill Experience." *Mind & Language* 31 (1), 37–66.
- Christensen, Wayne, John Sutton, and Doris McIlwain. 2015. "Putting Pressure on Theories of Choking: Towards an Expanded Perspective on Breakdown in Skilled Performance." *Phenomenology and the Cognitive Sciences* 14 (2), 253–93.
- Chu, Junjie. 2006. "On Dignāga's Theory of the Object of Cognition as Presented in PS(V) 1." *Journal of the International Association of Buddhist Studies* 29, 211–253.
- Chadha, Monima. 2001. "Perceptual Cognition: A Nyāya-Kantian Approach", *Philosophy East and West* 51 (2), 197–209
- Chadha, Monima. 2004. "Seeing Without Recognizing? More on Denuding Perceptual Content", *Philosophy East and West*, 54(3), 365–367
- Chadha, Monima. 2006. "On Perceiving Properties", in *Universals, Concepts and Qualities: New Essays on the Meaning of Predicates*, edited by P.F. Strawson, and Arindam Chakrabarti, 309-319. Aldershot: Ashgate.
- Chadha, Monima. 2009. "Contents of Experience." *Sophia* 48: 237-251.
- Chadha, Monima. 2014. "On Knowing Universals: The Nyāya Way." *Philosophy East and West* 64(2), 287-302.
- Chuard, Philippe. 2006. "Demonstrative Concepts Without Re-Identification." *Philosophical Studies* 130 (2), 153–201.
- Clark, Austen. 2000. *A Theory of Sentience*. New York: Oxford University Press.
- Cline, Erin M. 2008. "Mirrors, Minds, and Metaphors." *Philosophy East and West* 58 (3), 337–57.
- Collins, Jessica A., and Ingrid R. Olson. 2014. "Knowledge Is Power: How Conceptual Knowledge Transforms Visual Cognition." *Psychonomic Bulletin & Review* 21 (4), 843–60.
- Corbetta, Maurizio, and Gordon L. Shulman. 2002. "Control of Goal-Directed and Stimulus-Driven Attention in the Brain." *Nature Reviews Neuroscience* 3 (3), 201–15.
- Cox, Collette. 1992. "Mindfulness and Memory: The Scope of Smṛti from Early Buddhism to the Sarvāstivādin Abhidharma." In *In the Mirror of Memory: Reflections on Mindfulness and Remembrance in Indian and Tibetan Buddhism*, edited by Janet Gyatso, 67–108. New York: SUNY Press.
- Cua, Antonio S. 1985. *Ethical Argumentation: A Study in Hsün-Tzu's Moral Epistemology*. Honolulu: University of Hawai'i Press.
- Del Toso, Krishna. 2015. "The Function of Saññā in the Perceptual Process According to the Suttapiṭaka: An Appraisal." *Philosophy East and West* 65 (3), 690-716.
- Desimone, Robert., and Duncan, John. 1995. "Neural Mechanisms of Selective Visual Attention." *Annual Review of Neuroscience* 18, 193–222.
- Dhammajoti, Kuala Lumpur. 2007. *Abhidharma Doctrines and Controversy on Perception*. Centre of Buddhist Studies: Hong Kong.
- Donovan, Tim. 2010. "Attention and Medical Diagnosis." In *Encyclopedia of Perception*, edited by E. Bruce Goldstein. Los Angeles: SAGE. 119–21

- Drayson, Zoe. 2012. "The Uses and Abuses of the Personal/subpersonal Distinction." *Philosophical Perspectives* 26 (1), 1–18.
- Drew, Trafton, Karla Evans, Melissa L.-H. Vö, Francine L. Jacobson, and Jeremy M. Wolfe. 2013. "Informatics in Radiology: What Can You See in a Single Glance and How Might This Guide Visual Search in Medical Images?" *RadioGraphics* 33 (1), 263–74.
- Dreyfus, Georges B. J. 1997. *Recognizing Reality: Dharmakīrti's Philosophy and Its Tibetan Interpretations*. Albany: State University of New York Press.
- Dreyfus, Hubert L., and Stuart E. Dreyfus, 1988. *Mind over Machine: The Power of Human Intuition and Expertise in the Era of the Computer*. New York: Free Press.
- Dreyfus, Hubert L., and Stuart E. Dreyfus. 2004. "The Ethical Implications of the Five-Stage Skill-Acquisition Model." *Bulletin of Science, Technology & Society* 24 (3), 251–64.
- Dreyfus, Hubert L. 2002. "Intelligence Without Representation – Merleau-Ponty's Critique of Mental Representation the Relevance of Phenomenology to Scientific Explanation." *Phenomenology and the Cognitive Sciences* 1 (4), 367–83.
- Dreyfus, Hubert L. 2005. "Overcoming the Myth of the Mental: How Philosophers Can Profit from the Phenomenology of Everyday Expertise." *Proceedings and Addresses of the American Philosophical Association* 79 (2), 47–65.
- Dreyfus, Hubert L. 2007a. "The Return of the Myth of the Mental." *Inquiry* 50 (4), 352–65.
- Dreyfus, Hubert L. 2007b. "Response to McDowell." *Inquiry* 50 (4), 371–77.
- Dreyfus, Hubert L. 2013. "The Myth of the Pervasiveness of the Mental." In *Mind, Reason, and Being-in-the-World: The McDowell-Dreyfus Debate*, edited by Joseph K. Schear, 15–40. London: Routledge.
- Dunne, John D. 2004. *Foundations of Dharmakīrti's Philosophy*. Cambridge MA: Wisdom Publications.
- Evans, Gareth. 1982. *The Varieties of Reference*. Oxford: Oxford University Press.
- Fahle, Manfred. 2002. "Introduction". In *Perceptual Learning*, edited by Manfred Fahle and Tomaso Poggio, ix-xx. Cambridge: MIT Press.
- Feltovich, Paul J., Michael J. Prietula, and K. Anders Ericsson. 2006. "Studies of Expertise from Psychological Perspectives." *The Cambridge Handbook of Expertise and Expert Performance*, 41–67.
- Fernández Prat, Olga. 2002. "Perceptual Demonstratives and Attention: Conceptual and Epistemological Aspects of Perceptual Consciousness." Ph.D. Dissertation, Universitat Autònoma de Barcelona.
- Frege, Gottlob. 1960. *Translations from the Philosophical Writings of Gottlob Frege*. 2nd edn. Oxford: Blackwell.
- Fodor, Jerry A., and Zenon W. Pylyshyn. 1988. "Connectionism and Cognitive Architecture." *Cognition* 28 (1-2), 3–71.
- Fodor, Jerry A. 2007. "The Revenge of the Given." In *Contemporary Debates in Philosophy of Mind*, edited by Brian P. McLaughlin and Jonathan D. Cohen, 105–16. Blackwell.
- Franco, Eli. 1984. "On the Interpretation of *Pramāṇasamuccaya*(*vṛtti*) I, 3d." *Journal of Indian Philosophy*, 12(4), 389–400.
- Fraser, Chris. 2009. "Skepticism and Value in the Zhuangzi." *International Philosophical Quarterly* 49 (4), 439–57.

- Fraser, Chris. 2011. "Knowledge and Error in Early Chinese Thought." *Dao: A Journal of Comparative Philosophy* 10 (2), 127–48.
- Fraser, Chris. 2013. "Distinctions, Judgment, and Reasoning in Classical Chinese Thought." *History and Philosophy of Logic* 34 (1), 1–24.
- Fraser, Chris. 2017. "Mohist Canons." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Spring 2017. Metaphysics Research Lab, Stanford University.
- Funayama, Toru. 1992. "A Study of kalpanāpodha: A Translation of the *Tattvasamgraha* vv. 1212–1263 by Śāntarakṣita and the *Tattvasamgrahapañjikā* by Kamalaśīla on the Definition of Direct Perception." *Zinbun* 27: 33–128.
- Furley, Philip, Daniel Memmert, and Christian Heller. 2010. "The Dark Side of Visual Awareness in Sport: Inattentional Blindness in a Real-World Basketball Task." *Attention, Perception, & Psychophysics* 72 (5), 1327–37.
- Ganeri, Jonardon. 2011. *Artha: Meaning – Testimony and the Theory of Meaning in Indian Philosophical Analysis*. Oxford: Oxford University Press.
- Ganeri, Jonardon. 2012a. "Apoha, Feature-Placing, and Sensory Content." In *Apoha: Buddhist Nominalism and Human Cognition*, edited by Mark Siderits, Tom J. F. Tillmans, and Arindam Chakrabarti. New York: Columbia University Press.
- Ganeri, Jonardon. 2012b. *The Self: Naturalism, Consciousness, and the First-Person Stance*. Oxford: Oxford University Press.
- Ganeri, Jonardon. 2015. "Analytic Philosophy in Early Modern India." In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta, Summer 2015. Metaphysics Research Lab, Stanford University.
- Ganeri, Jonardon. 2017. *Attention, Not Self*. Oxford: Oxford University Press.
- Garcia-Carpintero, Manuel. 2000. "A Presuppositional Account of Reference-Fixing." *Journal of Philosophy* 97 (3), 109–147.
- Gardner, Sebastian. 1999. *Routledge Philosophy Guidebook to Kant and the Critique of Pure Reason*. New York: Routledge.
- Gauthier, I., P. Skudlarski, J. C. Gore, and A. W. Anderson. 2000. "Expertise for Cars and Birds Recruits Brain Areas Involved in Face Recognition." *Nature Neuroscience* 3 (2), 191–97.
- Geaney, Jane. 2002. *On the Epistemology of the Senses in Early Chinese Thought*. Honolulu: University of Hawai'i Press.
- Geeves, Andrew, Doris J. F. McIlwain, John Sutton, and Wayne Christensen. 2014. "To Think or Not To Think: The Apparent Paradox of Expert Skill in Music Performance." *Educational Philosophy and Theory* 46 (6), 674–91.
- Gennaro, Rocco J. 2012. *The Consciousness Paradox: Consciousness, Concepts, and Higher-Order Thoughts*. Cambridge, Mass.: MIT Press.
- Gethin, Rupert. 1986. "The Five Khandhas: Their Treatment in the Nikāyas and Early Abhidharma." *Journal of Indian Philosophy* 14, 35-53.
- Gibson, James J. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Gilaie-Dotan, Sharon, Assaf Harel, Shlomo Bentin, Ryota, Geraint Rees. 2012. "Neuroanatomical Correlates of Visual Car Expertise." *Neuroimage* 62, 147–153
- Gilbert, Charles D., and Wu Li. 2013. "Top-down Influences on Visual Processing." *Nature Reviews Neuroscience* 14 (5), 350–63.

- Gobet, Fernand, and Herbert A. Simon. 1996. "Templates in Chess Memory: A Mechanism for Recalling Several Boards." *Cognitive Psychology* 31 (1), 1–40.
- Gobet, Fernand, and Philippe Chassy. 2009. "Expertise and Intuition: A Tale of Three Theories." *Minds and Machines* 19 (2), 151–80.
- Gobet, Fernand. 2005. "Chunking Models of Expertise: Implications for Education." *Applied Cognitive Psychology* 19 (2), 183–204.
- Goldstone, Robert L., and Lisa A. Byrge. 2015. "Perceptual Learning." In *The Oxford Handbook of Philosophy of Perception*, edited by Mohan Matthen, 812–832. New York: Oxford University Press.
- Goldstone, Robert L. 1998. "Perceptual Learning." *Annual Review of Psychology* 49 (1), 585–612.
- Goldstone Robert L., and Hendrickson, Andrew T. 2009. "Categorical Perception." *Wiley Interdisciplinary Reviews: Cognitive Science* 1 (1), 69–78.
- Gomes, Anil. 2014. "Kant on Perception: Naive Realism, Non-Conceptualism, and the B-Deduction." *Philosophical Quarterly* 64 (254), 1–19.
- Goupil, Louise, Margaux Romand-Monnier, and Sid Kouider. 2016. "Infants Ask for Help When They Know They Don't Know." *Proceedings of the National Academy of Sciences* 113 (13), 3492–96.
- Haber, R. N., and L. Haber. 2003. "Perception and Attention During Low-Altitude High-Speed Flight." In *Principles and Practice of Aviation Psychology*, edited by P. S. Tsang & M. A. Vidulich, 21–68. Mahwah: Lawrence Erlbaum Associates.
- Hall, David L., and Roger T. Ames. 1998. *Thinking from the Han: Self, Truth, and Transcendence in Chinese and Western Culture*. Albany: State University of New York Press.
- Hanna, Robert. 2005. "Kant and Non-Conceptual Content." *European Journal of Philosophy*, 13(2), 247–290
- Hanna, Robert. 2011. "Kant's Non-Conceptualism, Rogue Objects, and the Gap in the B Deduction." *International Journal of Philosophical Studies*, 19(3), 399–415.
- Hanna, Robert, and Monima Chadha. 2011. "Non-Conceptualism and the Problem of Perceptual Self-Knowledge." *European Journal of Philosophy* 19 (2), 184–223.
- Hansen, Chad. 2009. *A Daoist Theory of Chinese Thought: A Philosophical Interpretation*. New York: Oxford University Press.
- Harel, Assaf, Dwight J. Kravitz, and Chris I. Baker. 2014. "Task Context Impacts Visual Object Processing Differentially across the Cortex." *Proceedings of the National Academy of Sciences* 111 (10), E962–71.
- Harel, Assaf, Shimon Ullman, Danny Harari, and Shlomo Bentin. 2011. "Basic-Level Categorization of Intermediate Complexity Fragments Reveals Top-down Effects of Expertise in Visual Perception." *Journal of Vision* 11 (8), 18–18.
- Harel, Assaf. 2016. "What Is Special about Expertise? Visual Expertise Reveals the Interactive Nature of Real-World Object Recognition." *Neuropsychologia* 83, 88–99.
- Harman, Gilbert. 1990. "The intrinsic quality of experience." *Philosophical Perspectives* 4, 31–52.
- Hattori, Masaaki. 1968. *Dignāga, On Perception*. Cambridge, MA: Harvard University Press.

- Heck, Richard Jr. 2000. "Nonconceptual Content and the "Space of Reasons." *Philosophical Review* 109:4, 483–523.
- Heck, Richard Jr. 2007. "Are There Different Kinds of Content?" In *Contemporary Debates in Philosophy of Mind*, edited by Jonathan Cohen & Brian McLaughlin, 117–138. Oxford: Blackwell.
- Henderson, John M. 2003. "Human Gaze Control During Real-World Scene Perception." *Trends in Cognitive Sciences* 7 (11), 498–504.
- Hine, Rik. 2010. "Attention as Experience: Through 'Thick' and 'Thin.'" *Journal of Consciousness Studies* 9-10, 202-20
- Hollingworth, Andrew. 2005. "Memory for Object Position in Natural Scenes." *Visual Cognition* 12:6, 1003–16.
- Hughson, Angus L., and Robert A. Boakes. 2002. "The Knowing Nose: The Role of Knowledge in Wine Expertise." *Food Quality and Preference* 13 (7–8), 463–72.
- Hutton, Eric L. 2016. *Xunzi: The Complete Text*. Princeton: Princeton University Press.
- Jacob, Anjana. 2012. "Perceiving Multiplicity." PhD Dissertation, University of Pittsburgh.
- James, Thomas W., and George Cree. 2010. "Perceptual and Conceptual Interactions in Object Recognition and Expertise." In *Perceptual Expertise: Bridging Brain and Behavior*, edited by Isabel Gauthier, Michael J. Tarr, and Daniel Bub, 333-352. New York: Oxford University Press.
- Johnson, Kathy E., and Carolyn B. Mervis. 1997. "Effects of Varying Levels of Expertise on the Basic Level of Categorization." *Journal of Experimental Psychology: General* 126 (3), 248–77.
- Johnston, Ian. 2010. *The Mozi: A Complete Translation*. New York: Columbia University Press.
- Kanwisher, Nancy. 2001. "Neural Events and Perceptual Awareness." *Cognition* 79, 89–113.
- Kellman, Philip J., and Patrick Garrigan. 2009. "Perceptual Learning and Human Expertise." *Physics of Life Reviews* 6 (2), 53–84.
- Kelly, Sean D. 2001. "Demonstrative Concepts and Experience." *Philosophical Review* 110:3, 397–420.
- Knoblock, John. 1994. *Xunzi: A Translation and Study of the Complete Works*. Stanford: Stanford University Press.
- Kok, Peter, Janneke F. M. Jehee, and Floris P. de Lange. 2012. "Less Is More: Expectation Sharpens Representations in the Primary Visual Cortex." *Neuron* 75 (2), 265–70.
- Kok, Peter, Michel F. Failing, and Floris P. de Lange. 2014. "Prior Expectations Evoke Stimulus Templates in the Primary Visual Cortex." *Journal of Cognitive Neuroscience* 26 (7), 1546–54.
- Kriegel, Uriah. 2009. *Subjective Consciousness: A Self-Representational Theory*. Oxford: Oxford University Press.
- Kuan, Tse-fu. 2008. *Mindfulness in Early Buddhism: New Approaches through Psychology and Textual Analysis of Pali, Chinese and Sanskrit Sources*. London: Routledge.
- Land, Thomas. 2011, "Kantian Conceptualism," In *Rethinking Epistemology*, edited by Günter Abel and James Conant, 197–239. Berlin: DeGruyter.
- Land, Thomas. 2015. "Nonconceptualist Readings of Kant and the Transcendental Deduction." *Kantian Review* 20 (1), 25–51.

- Laurence, Stephen, and Eric Margolis. 2008. "The Scope of the Conceptual." In *The Oxford Handbook of Philosophy and Cognitive Science*, edited by Eric Margolis, Robert Samuels, and Stephen Stich, 291–317. Oxford: Oxford University Press.
- Lavie, Nilli. 2006. "The Role of Perceptual Load in Visual Awareness" *Brain Research* 1080:1, 91–100.
- Li, Chenyang, and Franklin Perkins. 2015. *Chinese Metaphysics and Its Problems*. Cambridge: Cambridge University Press.
- Lin, Chung-I. 2011. "Xunzi as a Semantic Inferentialist: Zhengmin, Bian-Shuo and Dao-Li." *Dao: A Journal of Comparative Philosophy* 10 (3), 311–40.
- Liu, Fenrong, Jeremy Seligman, and Johan van Benthem. 2011. "Models of Reasoning in Ancient China." *Studies in Logic* 4 (3), 57–81.
- Lu, Zhong-Lin, Tianmiao Hua, Chang-Bing Huang, Yifeng Zhou, and Barbara Anne Doshier. 2011. "Visual Perceptual Learning." *Neurobiology of Learning and Memory* 95 (2), 145–51.
- Mach, Ernest. 1959. *The Analysis of Sensations*. Translated by C. M. Williams. New York: Dover Publications.
- Mackenzie, Matthew. 2007. "The Illumination of Self-Consciousness: Approaches to Self-Awareness in the Indian and Western Traditions." *Philosophy East and West* 57, 40–62.
- Mandal, Pradyot K.R. 1987. "Some Problems of Perception in Navya-Nyāya." *Journal of Indian Philosophy* 15, 125-148.
- Mann, Derek T. Y., A. Mark Williams, Paul Ward, and Christopher M. Janelle. 2007. "Perceptual-Cognitive Expertise in Sport: A Meta-Analysis." *Journal of Sport & Exercise Psychology* 29 (4), 457–78.
- Marr, David. 1982. *Vision: A Computational Investigation into Human Representation and Processing of Visual Information*. New York: Freeman.
- Marui, Hiroshi. "Some Notes on the Controversies between the 'Ācāryāḥ' and the 'Vyākhyātārah' in the Nyāyamañjarī." *Journal of Indian and Buddhist Studies* 54(3), 1145-1153.
- Matilal, Bimal Krishna 1968. *The Navya-nyāya Doctrine of Negation: The Semantics and Ontology of Negative Statements in Navya-nyāya Philosophy*. Cambridge, MA: Harvard University Press.
- Matilal, Bimal Krishna 1985. "Awareness and Meaning in Navya-Nyāya." In *Analytical Philosophy in Comparative Perspective: Exploratory Essays in Current Theories and Classical Indian Theories of Meaning and Reference*, edited by Bimal Krishna Matilal and Jaysankar Lal Shaw, 373–91. Dordrecht: Springer Netherlands.
- Matilal, Bimal Krishna. 1986. *Perception: An Essay on Classical Indian Theories of Knowledge*. Oxford: Clarendon.
- Matthen, Mohan. 2004. "Features, Places, and Things: Reflections on Austen Clark's Theory of Sentience." *Philosophical Psychology* 17:4, 497-518.
- Matthen, Mohan 2005a. *Seeing, Doing, and Knowing: A Philosophical Theory of Sense Perception*. New York: Oxford University Press.
- Matthen, Mohan. 2005b. "Visual Concepts." *Philosophical Topics* 33:1, 207-33.
- Matthen, Mohan. 2006. "On Visual Experience of Objects: Comments on John Campbell's Reference and Consciousness." *Philosophical Studies* 127, 195-220.

- Matthen, Mohan. 2008. "Seeing, Doing, and Knowing: A Précis." *Philosophy and Phenomenological Research* 76 (2), 392-399.
- McAllister, Patrick. 2011. "Ratnakīrti's *Apoḥasiddhi*: A Critical Edition, Annotated Translation, and Study." Ph.D. Dissertation, Universität Wien.
- McCrea, L., and P. G. Patil. 2006. "Traditionalism and Innovation: Philosophy, Exegesis, and Intellectual History in Jñānaśrīmitra's *Apoḥaprakaraṇa*." *Journal of Indian Philosophy* 34, 303–366.
- McDowell, John. 1994. *Mind and World*. Cambridge: Harvard University Press.
- McDowell, John. 2006. "Conceptual Capacities in Perception." In *Kreativität*, edited by G. Abel 1065-79. Hamburg: Felix Meiner Verlag.
- McDowell, John. 2009. *Having the World in View: Essays on Kant, Hegel, and Sellars*. Cambridge: Harvard University Press.
- McDowell, John. 2013. "The Myth of the Mind as Detached." In *Mind, Reason, and Being-in-the-World: The McDowell-Dreyfus Debate*, edited by Joseph K. Schear, 41–58. London: Routledge.
- McLear, Colin. 2011. "Kant on Animal Consciousness." *Philosophers' Imprint* 11 (15), 1-16.
- McLear, Colin. 2014. 'The Kantian (Non)-conceptualism Debate'. *Philosophy Compass*, 9(11), 769-90.
- McLear, Colin. 2015. "Kant: Philosophy of Mind." *Internet Encyclopedia of Philosophy*.
- Memmert, Daniel. 2009. "Pay Attention! A Review of Visual Attentional Expertise in Sport." *International Review of Sport and Exercise Psychology* 2 (2), 119–38.
- Mohanty, J.N. 1989. *Gaṅgeśa's Theory of Truth: Containing the Text of Gaṅgeśa's Prāmāṇya (Jñāpti) Vāda with an English Translation, Explanatory Notes, and an Introductory Essay*. Delhi: Motilal Banarsidass Publishers.
- Mohanty, J. N. 2000. *Classical Indian Philosophy*. Lanham: Rowman and Littlefield.
- Montero, Barbara. 2016. *Thought in Action: Expertise and the Conscious Mind*. Oxford: Oxford University Press.
- Moran, Dermot. 2002. *Introduction to Phenomenology*. London: Routledge.
- Mòzǐ. 1986. *A Concordance to Mòzǐ 墨子引得*. Harvard-Yenching Institute Sinological Index Series, Supplement no. 21 (reprint). Shanghai: Shanghai Guji.
- Nes, Anders. 2006. "Content in Thought and Perception." D.Phil. Dissertation, Oxford University.
- Newen, Albert, and Petra Vetter. 2017. "Why Cognitive Penetration of Our Perceptual Experience Is Still the Most Plausible Account." *Consciousness and Cognition* 47, 26–37.
- Noë, Alva. 2002. "Is Perspectival Self-Consciousness Non-Conceptual?" *The Philosophical Quarterly* 52, 185-194.
- Noë, Alva. 2006. *Action in Perception*. Cambridge: MIT Press.
- Nosofsky, Robert M. 1986. "Attention, Similarity, and the Identification–categorization Relationship." *Journal of Experimental Psychology: General* 115 (1), 39–57.
- Oliva, Aude, and Antonio Torralba. 2007. "The Role of Context in Object Recognition." *Trends in Cognitive Sciences* 11 (12), 520–27.
- Palmer, Stephen E. 1975. "The Effects of Contextual Scenes on the Identification of Objects." *Memory & Cognition* 3 (5), 519–26.

- Palmeri, Thomas J., and Isabel Gauthier. 2004. "Visual Object Understanding." *Nature Reviews Neuroscience* 5 (4), 291–303.
- Patil, Parimal, 2009. *Against a Hindu God: Buddhist Philosophy of Religion in India*, New York: Columbia University Press.
- Peacocke, Christopher. 1989. "Perceptual Content." In *Themes from Kaplan*, edited by Joseph Almog, John Perry, and Howard Wettstein, 297–329. New York: Oxford University Press.
- Peacocke, Christopher. 1992. *A Study of Concepts*. Cambridge, MA: MIT Press.
- Peacocke, Christopher. 2001. "Does Perception have a Nonconceptual Content?" *Journal of Philosophy* 98:5, 239–69.
- Phillips, Stephen H. 2004. "Perceiving Particulars Blindly: Remarks on a Nyāya-Buddhist Controversy." *Philosophy East and West* 54(3), 389-403.
- Phillips, Stephen H. 2012. *Epistemology in Classical India: The Knowledge Sources of the Nyāya School*. London: Routledge.
- Phillips, Stephen H., & Tatacharya, N. S. R. 2009. *Epistemology of Perception: Transliterated Text, Translation and Philosophical Commentary of Gaṅgeśa's Tattvacintāmaṇi (Jewel of reflection on the truth), Pratyakṣa-khaṇḍa, The Perception Chapter*. Delhi: Motilal Banarsidass Publishers.
- Poussin, Louis De la Vallée. 1991. *Abhidharmakośabhāṣyam of Vasubandhu, Vol. 2*. Berkeley: Asian Humanities Press.
- Phillips, Stephen H. 2011. *Epistemology in Classical India: The Knowledge Sources of the Nyāya School*. New York: Routledge.
- Pylyshyn, Zenon W. 1999. "Is Vision Continuous with Cognition? The Case for Cognitive Impenetrability of Visual Perception." *Behavioral and Brain Sciences* 22 (3), 341–65.
- Pylyshyn, Zenon W. 2001. *Seeing and Visualizing: It's Not What You Think*. Cambridge, MA: MIT Press.
- Pylyshyn, Zenon W. 2007. *Things and Places: How the Mind Connects with the World*. Cambridge, MA: MIT Press.
- Raftopoulos, Athanassios. 2001. "Perceptual Learning Meets Philosophy: Cognitive Penetrability of Perception and Its Philosophical Implications." In *Proceedings of the 23rd Annual Conference of the Cognitive Science Society*, edited by Johanna D. Moore and Keith Stenning, 802–8. Mahwah: Lawrence Erlbaum.
- Raftopoulos, Athanassios. 2009. *Cognition and Perception: How Do Psychology and Neural Science Inform Philosophy?* Cambridge, MA: MIT Press.
- Raftopoulos, Athanassios. 2010. "Can Nonconceptual Content be Stored in Visual Memory?" *Philosophical Psychology* 23:5, 639-68.
- Ram-Prasad, Chakravarthi. 2007. *Indian Philosophy and the Consequences of Knowledge: Themes in Ethics, Metaphysics and Soteriology*. Aldershot, England; Burlington, VT: Ashgate Publications.
- Reason, James. 2009. *Human Error*. Cambridge, UK: Cambridge University Press.
- Reingold, Eyal M., and Heather Sheridan. 2011. "Eye Movements and Visual Expertise in Chess and Medicine." In *The Oxford Handbook on Eye Movements*, edited by Simon Liversedge, Iain D. Gilchrist, and Stefan Everling, 528–50. Oxford: Oxford University Press.

- Rensink, R.A. 2000. "The Dynamic Representation of Scenes." *Visual Cognition* 7, 17–42.
- Richler, Jennifer J., Yetta K. Wong, and Isabel Gauthier. 2011. "Perceptual Expertise as a Shift from Strategic Interference to Automatic Holistic Processing." *Current Directions in Psychological Science* 20 (2), 129–34.
- Roskies, Adina L. 2008. "A New Argument for Nonconceptual Content." *Philosophy and Phenomenological Research* 76, 633–659.
- Saarinen, Jukka, and Dennis M. Levi. 1995. "Perceptual Learning in Vernier Acuity: What Is Learned?" *Vision Research* 35 (4), 519–27.
- Sastri, S. Kuppaswami. 1951. *A Primer of Indian Logic According to Annambhaṭṭa's Tarkasamgraha*. Madras: Kuppaswami Sastri Research Institute.
- Schlicht, Tobias. 2011. "Non-Conceptual Content and the Subjectivity of Consciousness." *International Journal of Philosophical Studies* 19 (3), 491–520.
- Schmidt, Eva. 2015. *Modest Nonconceptualism: Epistemology, Phenomenology, and Content*. Cham: Springer.
- Sellars, Wilfrid. 1991. *Science, Perception and Reality*. Atascadero, CA: Ridgeview Publishing Company.
- Shaw, J. L. 1996. "'Cognition of Cognition', Part II, Anuvyavasāya of Pandit Visvabandhu, Translated From Bengali With Explanatory Notes." *Journal of Indian Philosophy* 24, 231–264.
- Shaw, J.L. 2010. "Navya-Nyāya on Subject-Predicate and Related Pairs." *Journal of Indian Philosophy* 38, 625-642.
- Simons, Daniel J. 2000. "Current Approaches to Change Blindness." *Visual Cognition* 7, 1-15.
- Simons, Daniel J. and Christopher F. Chabris. 1999. "Gorillas In Our Midst: Sustained Inattentive Blindness for Dynamic Events." *Perception* 28, 1059-74.
- Smith, A.D. 2002. *The Problem of Perception*. Cambridge, MA: Harvard University Press.
- Smith, Linda B., and Diana Heise. 1992. "Perceptual Similarity and Conceptual Structure." *Advances in Psychology, Percepts, Concepts and Categories*, 93 (January), 233–72.
- Speaks, Jeff. 2005. "Is There a Problem about Nonconceptual Content?" *Philosophical Review* 114, 359–98.
- Spelke, Elizabeth S. 1990. "Principles of Object Perception." *Cognitive Science* 14 (1), 29–56.
- Sutton, John, Doris McIlwain, Wayne Christensen, and Andrew Geeves. 2011. "Applying Intelligence to the Reflexes: Embodied Skills and Habits between Dreyfus and Descartes." *Journal of the British Society for Phenomenology* 42 (1), 78–103.
- Taber, John A. 2005. *A Hindu Critique of Buddhist Epistemology: Kumārila on Perception: The "Determination of Perception" Chapter of Kumārila Bhaṭṭa's Ślokavārttika*. London: RoutledgeCurzon.
- Tacca, Michela C. 2011. "Commonalities between Perception and Cognition." *Frontiers in Psychology* 2:358.
- Tarr, Michael J., and Isabel Gauthier. 2000. "FFA: A Flexible Fusiform Area for Subordinate-Level Visual Processing Automatized by Expertise." *Nature Neuroscience* 3 (8), 764–69. *The Behavioral and Brain Sciences* 30, 481–548.
- Tatacharya, N.S.R. 1992. *Pratyakṣatattvacintāmaṇivimarśaḥ*. Tirupati: Rāṣṭrīya Saṃskṛta Vidyāpīṭha.

- Toner, John, Barbara G. Montero, and Aidan Moran. 2015. "The Perils of Automaticity." *Review of General Psychology* 19 (4), 431–42.
- Toner, John, Barbara Gail Montero, and Aidan Moran. 2016. "Reflective and Prereflective Bodily Awareness in Skilled Action." *Psychology of Consciousness: Theory, Research, and Practice* 3 (4), 303–15.
- Toribio, Josefa. 2007. "Nonconceptual Content." *Philosophy Compass* 2/3, 445–460.
- Toribio, Josefa. 2008. "State Versus Content: The Unfair Trial of Perceptual Nonconceptualism." *Erkenntnis* 69 (3), 351–61.
- Tye, Michael. 2002. "Representationalism and the transparency of experience." *Nous* 36, 137–151.
- Tye, Michael. 2006. "Non-Conceptual Content, Richness, and Fineness of Grain." In *Perceptual Experience*, edited by Tamar Shapiro Gendler and John Hawthorne, 504–526. Oxford: Oxford University Press.
- Vecera, Shaun P. 2000. "Toward a Biased Competition Account of Object-Based Segregation and Attention." *Brain and Mind* 1, 353–384.
- Vicente, Kim J., and JoAnne H. Wang. 1998. "An Ecological Theory of Expertise Effects in Memory Recall." *Psychological Review* 105 (1), 33–57.
- Williams, Paul M. 1980. "Some Aspects of Language and Construction in the Madhyamaka." *Journal of Indian Philosophy* 8 (1), 1–45.
- Winawer, Jonathan, Nathan Witthoft, Michael C. Frank, Lisa Wu, Alex R. Wade, and Lera Boroditsky. 2007. "Russian Blues Reveal Effects of Language on Color Discrimination." *Proceedings of the National Academy of Sciences of the United States of America* 104 (19), 7780–85.
- Wisniewski, Edward J., and Douglas L. Medin. 1994. "On the Interaction of Theory and Data in Concept Learning." *Cognitive Science* 18 (2), 221–81.
- Wittgenstein, Ludwig. 1998. *Philosophical Investigations*. Cambridge: Blackwell.
- Wu, Wayne. 2008. "Visual Attention, Conceptual Content, and Doing It Right." *Mind* 117 (468), 1003–33.
- Wulf, Gabriele. 2013. "Attentional Focus and Motor Learning: A Review of 15 Years." *International Review of Sport and Exercise Psychology* 6 (1), 77–104.
- Xu, Fei. 1999. "Object Individuation and Object Identity in Infancy: The Role of Spatiotemporal Information, Object Property Information, and Language." *Acta Psychologica* 102 (2–3), 113–36.
- Xúnzǐ. 1966. *A Concordance to Xúnzǐ* 荀子引得. Harvard-Yenching Institute Sinological Index Series, Supplement no. 22. Cambridge: Harvard University Press.
- Zeitz, Colleen M. 1997. "Some Concrete Advantages of Abstraction: How Experts' Representations Facilitate Reasoning." In *Expertise in Context*, edited by P. J. Feltovich, K. M. Ford, & R. R. Hoffman, 43–65. Cambridge: MIT Press.