

Continents in Cognition

by

Matthew Christopher Harris

Department of Philosophy
Duke University

Date: _____

Approved: _____

Andrew Janiak, Supervisor

Carlotta Pavese

David Wong

Wayne Norman

Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy in the Department of Philosophy
in the Graduate School of Duke University

2019

ProQuest Number: 13885159

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent on the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 13885159

Published by ProQuest LLC (2020). Copyright of the Dissertation is held by the Author.

All Rights Reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ABSTRACT

Continents in Cognition

by

Matthew Christopher Harris

Department of Philosophy
Duke University

Date: _____

Approved: _____

Andrew Janiak, Supervisor

Carlotta Pavese

David Wong

Wayne Norman

An abstract of a dissertation submitted in partial fulfillment of the requirements for the
degree of Doctor of Philosophy in the Department of Philosophy
in the Graduate School of Duke University

2019

PREVIEW

Copyright by
Matthew Christopher Harris
2019

Dedication

This dissertation is dedicated to Hegel, Coltrane and the rights of non-human persons.

PREVIEW

Abstract

Is it racist to think that black people think differently from Asian people or that Asian people think differently from white people? In one sense, we want to avoid assuming that someone's appearance or skin color has any relevance to the intellectually or morally relevant aspects of their being—the 'content of their character' which Martin Luther King jr. hoped everyone would eventually learn to engage when interacting with one another. Still in another way, we seem to care about giving people credit for cultural contributions in a way that suggests that ethnic heritage 'belongs' to groups of persons in ways that are not entirely arbitrary. That is, we seem to intuitively associate black music with black people, mariachi with Mexican people and Indian music with Indian people. Of course, this is not random. Music and language are important to brain development. So it seems tenable that there are mental attributes of cultural identity that vary in ways that we (non-arbitrarily) associate with varied physical appearances.

John Locke discovered that *persons* are distinct from *bodies*. He recognized that the minds of agents are central to moral questions about blame and responsibility. This distinction has endured for centuries and American society is founded on Locke's premise that persons are essentially psychological beings—from our legal system to our regard for mental health. For example, conceiving *persons* psychologically was central to Locke's conception of human nature and political theory of natural rights. An important aspect of personal identity that Locke did not consider when he first analyzed *persons* in mental terms was race, but *persons* inherit cognitive patterns that determine how they perceive themselves and their environments from their cultures. In fact, much of what makes us

ourselves comes by way of mental inheritance which resembles biological inheritance. But we are still unaccustomed to considering how mental patterns across populations shape agency in ways that are similar to how human races are studied in biology. This dissertation attempts to get to the core of the problem by asking ‘What does it mean to *be* a person of a specific ethnicity or culture?’. Methodologically, the approach taken here will be naturalistic, drawing from the best evidence across the sciences, arts and humanities.

I employ meme theory for its simple depiction of cultural identity as inheritance. But the theoretical stances of this dissertation do not depend on meme theory’s correctness or reflect a strong commitment to the theory. I agree with critics of this theory that it exaggerates the resemblance between biology and culture. As it stands, I believe that the theory is very probably false. Still, in this circumstance, it helps to use a very simple model as a place-holder for other theories of cultural transmission. I do not think my account relies on the details in any way that matters.

Since I will be discussing several types of identity in the coming chapters, allow me to provide a few definitions. I use ‘psychological identity’ and ‘cognitive identity’ interchangeably and I use both as broader than ‘narrative identity’. So when I ask what it might mean to be cognitively or psychologically black I mean to ask the same question by both terms. It would be different to ask what it means to be narratively black. When I discuss ‘narrative identity’ I mean a person’s story. I agree that a person’s story is relevant to their psychological identity, but deny that narrative conceptions of identity include everything that is important to identity. Although having a life-story that involves being black is relevant, there is more to being mentally black than having the right story. This

makes my account of identity distinct in two ways. Firstly, having the right narrative is not obviously sufficient for having a black psychological identity. Secondly, it allows that certain non-narrative traits are sufficient for a black psychological identity. To preview, I will be arguing that belonging to ethnic groups involves sharing perceptual and attentional dispositions in common with the group and that many non-propositional mental states are of importance to psychological identity. Many of the most important details of my account do not emerge until the later chapters, so if the reader finds the discussion of race and mind to be too slow or unclear in the earlier chapters, feel free to skip ahead. I think the current order motivates the discussion in a logical fashion, but this might appear to be at the expense holding back on stating my own, more nuanced views for the end.

Contents

Abstract	v
Acknowledgements	viii
1 Introduction: A Dialogue on Skin, Cognition and Ontology	1
1.1 Embodied Mind Hypothesis	3
1.2 Cross-Modal Integration	5
1.3 The Rubber Hand Illusion.....	8
1.4 Semantic Content in Visual Processing	10
1.5 Closing Summary.....	20
2 Skin and Visual Content	24
2.1 Background.....	36
2.2 Conclusions.....	41
3 Stories, Songs and Identities	46
4 Self and Psychological Origins	79
4.1 Genetics in the Head	81
4.2 Self, Lineage and Imitation.....	86
5 Conclusion: Diversity and Sensory Integration	105
6 References	140
7 Biography	148

Acknowledgements

I would like to acknowledge the contributions of *all* of my psychological predecessors, especially the non-human.

PREVIEW

PREVIEW

Chapter 1

Introduction: A Dialogue on Skin, Cognition and Ontology

The cast gathers on a rounded stage where various speakers have presented new ideas about the societal implications of cognitive science. The audience has finally reduced to an intimate few dozen—these remaining guests await an intimate Q&A session that is scheduled to last until dinner. None of the presentations given were explicitly about race. So it comes as a surprise when a question about a familiar theory of cognition inspires a deep conversation on the link between race and psychological identity.

Seated in the center of the stage is our protagonist Chatter Warmish, a kind, thoughtful and responsive philosopher with an inclination to find balanced, measured solutions. Seated at a desk facing the stage is Ernesta Provoksi, the earnest and inquisitive moderator with a Socratic gift for delivering rich and uncomfortable questions. Seated to the far right, facing Ernesta is Professor Liberto Freedman, a card carrying member of the ACLU who was arrested for protesting the Vietnam war. He is professor emeritus of Evolutionary Psychology at a large Midwestern research university. Seated to the far left, facing Ernesta is Professor P. C. Neverwrong, who owns what is likely the only Model 3 Tesla with a Kerry-Edwards bumper sticker. She is dual professor of Literature and Cognitive Linguistics at a small, private North-Eastern liberal arts college.

ERNESTA PROVOKSI: Thank you all for forgoing the comfort of your hotel rooms to gift us a Q&A session. The audience has voted to choose questions that were submitted for the three of you to discuss. The goal is really just to keep the conversation running and interesting. So if the first question occupies us the entire time that will be fine. Hmm.

The first one is interesting. I'm excited to hear the three of you weigh in on it. Since the ideas at the center of this question was mentioned in all of your talks today, please—anyone feel free to speak first. I won't read the entire thing because it goes on quite a bit in rather technical language, but to summarize the first part of it, it seems our viewers are curious: "What does the Extended Cognition hypothesis suggest for our understanding of racial identity?"

PROFESSOR P. C. NEVERWRONG: I'm not positive that I understand what is being asked. There's certainly no empirical link between race and thinking in any important way, let me just get that out of the way. So it seems more likely that these questions intended to ask how cultural tendencies impact our perceptual lives. Is that right? Could you say it a bit more and let me know if that is the general premise?

ERNESTA PROVOKSI: Thanks professor. No, it is explicitly about racial identity, not culture.

PROFESSOR P. C. NEVERWRONG: I certainly was not expecting this question. I'm really not a fan of it... It's just needlessly provocative. I won't say that this person has a racist agenda, though I'm just not sure how such a question gets motivated.

ERNESTA PROVOKSI: Perhaps our conversation requires a bit of refreshing in case anyone didn't catch today's lecture or needs to be reminded what the Extended Cognition Hypothesis says and is meant to replace. Would someone be willing to explain it?

1.1 Extended Mind Hypothesis

CHATTER WARMISH: Sure, the gist is that the locations that are the physical sites of mental states are not limited to brains, neurons or even nervous systems. Rather, cognitive processes are quite literally extended throughout one's body and environment and do not end at the boundaries of the skull. For example, the physicist Richard Feynman argued that he was not simply doing physics in his head, but rather that his notebook and pencil were contributing in real ways to the activity of configuring and solving computations. The pencil and paper were required hardware—as Richard Feynman could not perform the task by himself any more than a computer is able to function without its motherboard. This is a challenge to the standard position that the physical basis of thinking is in the brain. Let's consider our smartphones for a moment; My iPhone takes over many tasks that we otherwise consider 'mental' when done in the head such as mathematical calculations or the storage and retrieval of memories as well as things like answering questions or navigating home. Extended Cognition theory suggests there is no reason to say that these tasks are not mental because the processing occurs inside of a silicon chip as opposed to a human neuron—but also, in a very real way, that these are still mine in an extended sense, as with Feynman's pencil and paper.

ERNESTA PROVOKSI: Thank you, that was very clear.

PROFESSOR P. C. NEVERWRONG: Well part of the question asked how this theory of cognition informs us about ourselves in racial terms, which is the part that I take issue with because it turns science into a thorn. We should engage persons as individuals and

only concern the content of their minds. No value is added by attaching this theory to race.

PROFESSOR LIBERTO FREEDMAN: Please allow me to interject... I'm sure the two of you agree that there are consequences to censoring science. We can't just go about as if there are no tough questions to tackle... We must tackle everything, without bias and accept whatever the outcome is... objective truth means your feelings do not matter next to the hard facts of life. Do you want to discover what carves objective reality at its tendons or do you want scientists to write poetry?

CHATTER WARMISH: Perhaps there is a middle ground here too; It is conceivable that this question has potential to reveal unexpected truths that bring us all closer. On the one hand, if we fail to explain how science addresses the concerns that challenge us, people will turn elsewhere. The problem there is that small communities of likeminded individuals can drift to extreme positions. On the other hand, we don't need to search for ways to upset people either. I'm against science being used as a political tool, but I'm also against using political interests to steer scientific progress.

PROFESSOR P. C. NEVERWRONG: I disagree, as I am not sure you fully understand the risks of misusing science. "Progress" sounds wonderful, but never at the cost of human dignity.

PROFESSOR LIBERTO FREEDMAN: Well frankly, I disagree too, as I don't think minorities need to be coddled. So what if someone has motivations we don't like—let the truth sort everything out—come what may.

ERNESTA PROVOKSI: Well if Richard Feynman truly considered his pen and paper to be integrated into the activity of calculating physics, then I don't see why in principle a person's skin couldn't be deployed towards certain ways of thinking. It would be helpful for the audience to hear how someone might link recent findings on visual processing to racial features like skin so that the debate has a context.

1.2 Cross-Modal Integration

CHATTER WARMISH: Well, studies have found that visual information modulates the subjective qualities of our other senses. I'll use a personal example: I love ice cream. Now if you asked me why I have favorite flavors, I would say because I adore how they taste. But surprisingly, science reveals that I don't only appreciate French vanilla for how it stimulates my taste buds, because if it failed to uphold certain visual standards that I have learned, then I would not perceive it as the flavor that I remember. This is counterintuitive, because I've never felt drawn to watching ice cream and I find it awkward to say that yellow #8 is a part of 'French vanilla'. Yet the science is solid that the visual data retrieved from how food looks alters its taste. In a way this is somewhat intuitive. Think about how a picture of a beautiful sandwich can make your mouth water, activate memories, inspire the imagination or trigger emotions and consider that these cross-modal interactions also happening all the time. Recall that on the extended cognition view of the mind, data entering our experience from different sense modalities can still be a piece of the cognitive loop we recognize as tasting blueberry ice cream. It follows that the flavor of blueberry is both in the color and in the molecules that comprise the ice cream. Phew... Now, if I am correct, the question is how the fact that seeing

information modulates our mental lives to the extent of having far-flung consequences for other areas of cognition—how does that impact our understanding of identity, given that persons have different skin colors. If, for instance, a simple alteration of color between white and blue causes cross-modal changes to our perception of a bite of ice cream, is it rational to assume that skin pigments have no impact on human cognition? Is it rational to assume that skin color does not change perception of ourselves or our environments?

PROFESSOR LIBERTO FREEDMAN: Well, if I may weigh in here... I would just like to say that if it turns out that LeBron James' talent comes in part from his skin complexion this should not bother us. As civilized adults, it should not bother us any more than variation in height amongst human populations.

PROFESSOR P. C. NEVERWRONG: Well, if I may add to that thought... You should be very cautious that that sort of idea can lead directly to the most pernicious scientific racism that is only steps away from attributing differences in test scores to skin color and skull morphology. I fully reject such speculation.

PROFESSOR LIBERTO FREEDMAN: Yeah well, I don't know. Kenya produces a lot of fast runners. What's so bad with that? It sounds like a good stereotype to be associated with and if examples pertaining to information that is encoded in the external environment are scientifically viable, then why should data that is encoded or processed by one's external body not be viable? The embodied cognition hypothesis suggests that an agent's body puts constraints on its interaction and perception of its environment.

PROFESSOR P. C. NEVERWRONG: The Irish, Italians and Russians were previously stereotyped for having innate physical prowess, until they caught up economically and even if skin pigment were correlated to other morphological traits like bone density and jaw length that would not prove that it is correlated to any differences in cognition... unless of course you think that their bodies themselves are differentially suited for cognitive processes. If you are trying to nudge us in that direction, then I should inform you that that direction already has an established name and it is called 'backwards'.

PROFESSOR LIBERTO FREEDMAN: Yeah well, it sure seems like black music sounds black and mariachi music sounds Mexican. I never once mistook a mariachi band for a minuet or a blues song for a Polish folk song. Music is certainly cognitive though and natural selection did select for it in the same environmental conditions that selected morphological traits—so, those correlations aren't arbitrary.

CHATTER WARMISH: Well maybe it is not an unassailable truth that color is entirely insignificant to cognition, but maybe it is also not quite as clearcut as these examples suggest at first glance. In fact, maybe this is where Dr. Neverwrong's original interpretation of the question as one concerning culture becomes appropriate—as there may be some sort of feedback between culture and morphology in the way that Dr. Freedman suggests that causes morphology to be driven and filtered through cultural lenses.

PROFESSOR P. C. NEVERWRONG: That is interesting and I would be interested in hearing you try to balance between the two of us once again, but I am going to need to hear more about this statement.

PROFESSOR LIBERTO FREEDMAN: Yes, please if you will, do try to deliver more middle ground.

1.3 The Rubber Hand Illusion

CHATTER WARMISH: So if we consider the Rubber Hand Illusion... Wait, let me explain first. So a participant's hand is hidden and stimulated in the same manner as a visible rubber hand. After a while, participants start feeling that the rubber hand is theirs —this includes its position and movement in addition to sensations like texture, temperature and pain. Kinda like how phantom limbs can be painful for amputees, but instead of lacking a hand and feeling pain one feels for the fake hand. The degree of similarity one perceives in the experiments that use rubber hands of different colors predicts implicit racial bias. If a white person uses a hand that she perceives to be different, like a hand that she perceives as black, she will feel less of its sensations—researchers call that a reduced empathic response. For instance, the data suggests that she would feel less pain when hands that are darker than my actual hand are injured. But the differences are not arbitrary. People don't feel differently about random colors like purple hands —we feel differently about colors that are associated to race. They hypothesized that hands of the same color as the participant's raise the baseline effect by priming higher cognitive processes involved in body-ownership. So given that culturally specific beliefs are variably linked to skin colors, it seems reasonable to expect other mental

phenomena linked to visual perception to vary with the demands of culturally specific concepts and practices. On top of modulating self-identification and empathic response, skin color has also been shown to alter the perception of external objects... skin color even changes where participants perceive the location of painful stimuli applied to the rubber hand.

PROFESSOR LIBERTO FREEDMAN: Right so, if my skin color informs my brain ‘this is my hand’ such that it affects my feeling of self, then it would seem to be a part of my cognitive identity because this suggests that my skin is the site of the mental trait that philosophers call ‘mineness’. It seems that my complexion is linked to my sense of ‘mineness’ and hence that it is a part of my mind’s representation of its identity. But it wouldn’t end there... as my sense of bodily ownership is deeply connected to my senses of the external world. For example, my sense of ownership over my body affects judgments about the distance and size of external objects. So it is not inconceivable to me that some cultures recruit their skin colors into cognitive processes in ways that would impact their thoughts and reasoning about things and concepts that are not obviously related to color. I bet a blind bluesman who never saw his own skin still used the language and concepts that were designed by bodies with dark skin, so perhaps their ‘blackness’ was purely related to how their nervous systems integrated sensory data...

PROFESSOR P. C. NEVERWRONG: Aye, but not so fast... It seems more likely that the mind is quite malleable and if you got a tan or developed vitiligo that we would not want to say that you became someone else. As such I don’t see any reason to accept that your skin color is any more central to your identity that a hairstyle or professional uniform.

PROFESSOR LIBERTO FREEDMAN: Ok. It seems inevitable that we are going to end up discussing the metaphysics of personal identity, which is fine. But if that is the case then we really should settle the extent to which color perception matters to cognition broadly. Given that it affects my perception of self vs. environment I would venture to guess that the extent is deep-seated as far as cognitive tasks are concerned.

PROFESSOR P. C. NEVERWRONG: On the contrary, I would argue that the contribution of color is exaggerated and could probably be shown less impactful than other traits that we place less cultural emphasis on like visual transparency, opacity and luminosity or physical differences like the fact that humans display a massive variability in the number of rods and cones in their eyes—morphology and culture are connected.

1.4 Semantic Content in Visual Processing

CHATTER WARMISH: Both of you raise interesting points. But perhaps the way to balance between the two can be found in existing studies about color perception. On the one hand, it is true that color has far-flung consequences for perceptual processing. For instance, color modulates judgements about information that is derived by touch, including temperature and texture. Like, blue is implicitly linked to ‘cold’. These findings support the hypothesis that the metaphorical meanings associated with skin color contribute to thinking and perceiving via the other senses. On the other hand, given that different cultures divide visible light asymmetrically into different color categories—which are given different semantic associations—the linkage between perceived color and cognition is also malleable. It stands to reason that just as it was recently and

arbitrarily decided that pink is a feminine color, that the perceived hue of a person's skin can vary in its associated content, depending on the historical exposures of the perceiver. Children aren't born with the implicit association of blue to cold even if that is consistent across all cultures. We might not be able to say with certainty that skin color plays no big roles in cognition, but it might also be premature to say that its role is static...It is striking that this all seemed like rather boring science and empirical lab studies, until it was paired with an otherwise respectable theory of cognition.

PROFESSOR LIBERTO FREEDMAN: In other words, if the hypothesis of extended cognition is taken seriously, we might want to think of skin color as an optional resource to be deployed in the processing of other tasks.

CHATTER WARMISH: Actually, you don't need to commit to the extravagant hypothesis of extended cognition for the points you've raised. The more basic hypothesis of embodied cognition would suffice and be less controversial! Rather than saying that the mind can extend into objects in the environment, many more people are willing to accept that the mind is extended to parts of the agent's body besides the brain.

PROFESSOR LIBERTO FREEDMAN: Fine, but my point could even be made without reference to the skin's color. Just imagine you are a security guard and consider the fact that a body's movement style determines how others visually perceive its emotions, speed, motives and size. Well, if I approached you while moving my body in a way that looks threatening, your brain would see my size as larger than if my body moved calmly. Fear and expectation are deeply integrated into our perception of physical objects...

CHATTER WARMISH: Right, this is why arachnophobes overestimate the size and speed of spiders and acrophobic people overestimate the distance of heights.

PROFESSOR P. C. NEVERWRONG: Yes, where are you going with all of this? Are you suggesting that black people use their bodies for metamorphosis and that this is why studies have found that people overestimate their physical size? That can't be correct. It isn't as if spiders grow in size when they are feared.

PROFESSOR LIBERTO FREEDMAN: No! Let me finish... Suppose that a hypothetical culture's style of movement is more emotionally dynamic or more aggressive as a baseline than your hypothetical culture. It might be natural for you to see my body as larger because of how I move. Over time, if you learned to associate my motor tendencies with my skin's color, given the colocation of these differences, you might start to see other similarly colored bodies as larger too. I'm open to calling the latter case an optical illusion, surely. We know that every city walks at a different pace and that cultures walk with different average gait lengths. So maybe the reason people visually overestimate the size of black bodies has its origins in something like the motor tendencies from different cultures? If my motor functions directly modulated your subjective experience of things like my body's size and speed... my skin might get linked to that, perceptually speaking.

CHATTER WARMISH: Maybe you could have made your claim simpler by using an example where another person's skin color actively represents something for the observer, like temperature or empathy?

PROFESSOR LIBERTO FREEDMAN: Sure, that way of thinking fits the concept of a ‘perceptual affordance’. It may simply be the case that having darker hands delivers a better resource for certain tasks by virtue of perceiving a contrasting outline of one’s body against the physical environment or that possessing light hands is inherently less distracting while contemplating complex ideas with a pen. Difficult as it may be, we should accept the science. It is conceivable that skin color affords differences in processing information.

PROFESSOR P. C. NEVERWRONG: Again—I disagree with your interpretation. In fact, this way of thinking about skin color fits better with the notion of an ‘exploitive representation’, similar to the usage of one’s fingers for counting.. The idea is that a subsystem can perform its function without encoding and deploying a particular piece of information, if it is able to track that information another way. Take the example of a car’s odometer. One way for an odometer to track mileage is for it to track wheel rotations and multiply them by the equivalent number of meters. This involves encoding rotations as a number that can be retrieved and then computed to achieve the desired output. An alternative method is for the odometer to just add x meters to the count with each passing rotation. The latter method avoids needing to encode by exploiting morphology and environment. So it is actually not morphology, but the cleverness of an agent that matters here.

CHATTER WARMISH: To be fair, you are both stating related points, as ‘perceptual affordances’ require agents to first perceive them as affordances, whether they are environmental or bodily affordances... and likewise ‘exploitive representations’ require