

2019

Having Gender in Mind

Nick Brancazio
University of Wollongong, nicolle@uow.edu.au

Follow this and additional works at: <https://ro.uow.edu.au/theses1>

University of Wollongong

Copyright Warning

You may print or download ONE copy of this document for the purpose of your own research or study. The University does not authorise you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following: This work is copyright. Apart from any use permitted under the Copyright Act 1968, no part of this work may be reproduced by any process, nor may any other exclusive right be exercised, without the permission of the author. Copyright owners are entitled to take legal action against persons who infringe their copyright. A reproduction of material that is protected by copyright may be a copyright infringement. A court may impose penalties and award damages in relation to offences and infringements relating to copyright material.

Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.

Unless otherwise indicated, the views expressed in this thesis are those of the author and do not necessarily represent the views of the University of Wollongong.

Recommended Citation

Brancazio, Nick, *Having Gender in Mind*, Doctor of Philosophy thesis, School of Humanities and Social Inquiry, University of Wollongong, 2019. <https://ro.uow.edu.au/theses1/803>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: research-pubs@uow.edu.au



Having Gender in Mind

Nick Brancazio

Supervisors:
Dr. Patrick McGivern
Prof. Shaun Gallagher

This thesis is presented as part of the requirement for the conferral of the degree:
Doctor of Philosophy

University of Wollongong
School of Law, Humanities, and the Arts

November 2019

Abstract

The enactive, embodied approach to cognition gives us new ways of looking at the situatedness of our cognitive processes. Enactivism views cognition in terms of multiple nested processes spanning brain, body, and world. In contrast to more conventional computational or representational accounts of cognition, enactivism emphasizes the non-reductive nature of cognition through its interdisciplinarity and advocacy for dynamical rather than mechanistic explanatory models. Using this framework, I explore the fertile ground at the crossroads of situated cognition, feminist theory, and epistemology. I first argue that the enactive approach provides better resources for discussing epistemic situatedness, as discussed in feminist epistemology and philosophy of science, than computational approaches to cognition. In the following chapter, I demonstrate the connections between critical social epistemology and the enactive approach to language through a discussion of epistemic agency. Next, I offer a way of thinking about how gender influences agency in the phenomenological sense by discussing the dynamics between our minimal and narrative senses of agency. The next chapter provides a more sustained argument for a non-representational approach to the formation and fulfilment of intentions, making new connections between perception, affordance relevance, and language skills. In the following chapter, I make the case that recent accounts of social affordances in the ecological-enactive literature offer limited resources for explaining how marginalization influences affordance perception.

Acknowledgments

To adequately thank everyone who has contributed to my research and my development as a philosopher during this project would take up more room than the thesis itself. My daughters come first in my life, and so they'll come first here: Venice and Linnea, there's no way to thank you for all you've done for me, but I promise to spend my life trying.

I've had the tremendous luck of having the best supervisor I could have possibly had, Patrick McGivern. Patrick has always believed in me, more than I believed in myself most of the time, and I couldn't have done this with anyone else. Patrick's encouragement and generous feedback made me a better philosopher, and his ongoing respect for my voice and my project allowed me to create something that I am incredibly proud of and that is uniquely mine. Patrick, thank you for mentoring me, for caring about me as a philosopher and a person, and for always inspiring me to aim higher. I am also tremendously grateful to my co-advisor Shaun Gallagher, for his unwavering support over the years. Shaun is one of the kindest, most generous, most open-minded people I've met, and I have been fortunate to have been able to work with him and learn from him on two continents now. Thank you for showing me that in this field, you can get weird as long as you do it well.

You learn about much more from grad school and from writing a thesis than the area you study. I've been so very lucky to learn much more about love and friendship during these times than I thought possible, and so I turn to my colleagues. Thomas Mann and Tailer Ransom have been there for me and with me every day of this journey, though we are on opposite sides of the earth, and I thank you both for the love, support, and laughs that never felt a world away. Anco Peeters, thank you for your admirable integrity and strength, and for convincing me that there's always time to dance. I am so proud to be your best friend. Miguel Segundo Ortin, who sees the best in people, you are a brilliant collaborator and I am excited to see what we'll do next. Alan Jurgens, you are a person of real principle, I thank you for your infectious optimism and laudable perseverance. Vern Smith, thanks for making me stop to enjoy the music sometimes. Naomi Becroft, somehow you were able to cram what seems like years of emotional, political, and intellectual support into just these last couple months. And Russell Meyer, who knew that breaking your chair would lead to this?

Thank you for a friendship that has taught me so much about support, caring, acceptance, honesty, and growth. I can't wait for our next adventure.

I also want to give a special thanks to Jonathan Wurtz, Linnea and I are forever grateful to you. Tamsin Kimoto, thank you for being there, and for uncountable hours of discussion of projects that are very close to our hearts. James Zubko, thanks for all the long conversations in front of Clement Hall while I was working out the problem that would eventually become my second chapter. Christian Kronstead (and Kerri!), I am so lucky that our instant kinship developed into an enduring friendship. I also need to express gratitude to Jane Aubourg, Shouta Brown, Ben Curtis, Jarrah De Bourgh, Lorena De Frias, Anika Fiebich, Christina Friedlander, Manuel Heras Escribando, Cameron Lutman, Vasudha Mohanka, Susana Ramirez, Maxwell Ramstead, Ian George Robertson, Kevin Ryan, Gemma Lucy Smart, Antonia Smyth, and Ana Torres. I'm so thankful to you all.

This all began at Cal State Fullerton, where I was fortunate to pursue my first degree in philosophy in a department that truly spoiled me in the best way. I was blissfully unaware of what the academic world is really like, and I know from my experience there that it can be better. I'd especially like to thank Emily Lee, for introducing me to the sub-fields that are now my areas of expertise and for her continued support of my research. Heather Battaly, for keeping it all together and somehow also keeping us all excited. Andrew Howat and Brady Heiner, for being honest with me about the field and encouraging me anyway. Scott Galloway, for many heart-to-hearts and the soundtracks that got me through. And to Gary Jason and Jason Sheley, for investing in me and treating me like a colleague-in-training.

Aside from Shaun, there were a number of others at Memphis that I need to thank. Deb Tollefsen and Stephen Blatti, thank you for being my mentors. Somogy Varga, when I first pitched you a paper on feminist theory and enactive cognition, you told me not to write just one paper because I had too many good ideas. Well, it took me four years but I took your advice. And a huge thanks to Cathy Wilhelm and Connie Diffeo, the heart of the Clement Hall family.

A special thank you goes to Pamela Lyon, for connecting with me, for sharing your process, for many words of encouragement, and for having a way of always rekindling my excitement for the work we do. I'd also like to thank two women who left us way too early: Pleshette DeArmitt and Karola Stotz. You continue to inspire, and I am grateful for the time we had.

Not all of those who have been a part of this were involved through academia, of course. To my brother, Evan, and my sisters Lauren, Teresa, and Sarah, your friendship means the world to me. Truly I could not have been luckier than to be related to some of the best humans on earth. I love you all so much. And to Lies Bruines, you have been a wealth of support and I'm honored to consider you family. Mom and Pat, you have made me proud on your own parallel journey of development alongside me. Dad, you're my rock. You've helped me make some hard decisions for the best and I know I can always count on you. And to Tony, thanks for agreeing to come along for all of this, for all the late nights I've been away, and for everything yet to come.

To Hanne De Jaegher and Michelle Maiese, thank you for your close engagement with my thesis, and for your thoughtful and helpful comments. Lastly, I'd like to thank all of my students, some of whom have become colleagues and close friends. To Ding and Elizabeth Johnstone especially, I am so thankful to be your friend and I'm tremendously excited for a philosophy with you as its future.

Certification

I, Nicolle (Nick) Marissa Brancazio, declare that this thesis submitted in fulfilment of the requirements for the conferral of the degree Doctor of Philosophy, from the University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. This document has not been submitted for qualifications at any other academic institution.

Nicolle Marissa Brancazio
November 18, 2019

Table of Contents

Introduction.....	8
1.1 Introducing the Thesis.....	8
1.2 Key Concepts	9
1.3 A New Naturalism? Situating Scientist and Subject.....	14
1.4 Thesis overview.....	19
Naturalizing Situatedness	22
2.1 Naturalism and Cognition.....	23
2.2 Situatedness in Feminist Epistemology.....	26
2.3 Cognitiv(ist) Difference.....	29
2.4 Feminist Standpoints.....	35
2.5 Situatedness and Enactive Cognition	37
Epistemic Agency in Practice: Linguaging, Knowing, and Epistemic Diversity....	42
3.1 Introduction	43
3.2 The Enactive Framework.....	45
3.3 Epistemic Practices	49
3.4 Epistemic Communities and Epistemic Agency	52
3.5 Epistemic Values and Oppressions	57
3.6 Conclusion	65
Gender and the Senses of Agency	67
4.1 Introduction	68
4.2 Senses of Agency and Intention Formation	69
4.3 Gender and the Narrative Sense of Agency	77
4.4 Gender and the Minimal Sense of Agency	81
4.5 Conclusion	85
Distal Engagement: Intentions in Perception	87
5.1 Introduction	89
5.2 The Ecological-Enactive Approach to Affordance Perception.....	90
5.3 Affordance Seeking: Intentions in Perception	94
5.4 Distal Engagement as a Skill	99

5.5 An Enactive Proposal for Distal Engagement	103
Interpersonal Affordance Perception: Agency and Selfhood	111
6.1 Introduction	112
6.2 Social Affordances	114
6.3 Enactive Autonomy and Interaction	116
6.4 Enactive Selfhood	120
6.5 Interpersonal Affordances between Agents and Selves	124
6.6 Conclusion	130
Concluding Thoughts.....	132
References.....	135

Chapter 1

Introduction

1.1 Introducing the Thesis

My thesis examines enactive cognition through the lens of feminist philosophy of science and epistemology, and vice versa. Enactive cognition is at the forefront of a sea change in the philosophy of cognitive science. The received view of cognition as a computational, representational, and reducible brain-bound process has been challenged by a family of approaches known together as e-cognition. These enactive, embodied, extended, embedded, and ecological approaches differ in their commitments, but all share the view that cognition often or always involves more than what is going on in the head.

Initially, I intended for my thesis to argue that insights from feminist philosophy of science can and ought to be brought to bear on enactive understandings of cognition. Considering the wealth of literature in feminist philosophy I was able to find in epistemology, metaphysics, and many subfields of the philosophy of science, I was disheartened when I found only a handful of such linkages between e-cognition and feminist theory. I wanted to provide a number of arguments to the enactivist community explaining why feminist theory is relevant, crucial even, for our research.

I am pleased to say that I did not write that thesis. I ultimately decided to just go ahead and make these linkages, as a philosopher of enactive cognitive science, rather than dedicate my thesis to justifying a project that I didn't think needed justification. This thesis is thus a collection of contributions to what I call *feminist philosophy of e-cognition*.¹ All chapters but one explicitly connect feminist theory and enactivism, and the chapter that doesn't specifically address feminist theory addresses a gap illuminated through my other work (and with an eye toward providing resources for future work on lived identities).

Feminist scientists and philosophers of science have brought attention to the ways in which gender biases and tropes make their way into empirical research, addressed the situatedness of scientific knowledge, examined how gender is obscured

¹ Some contributors might include Michele Merrit, Hanne De Jaegher, Anne Jaap Jacobson, Michelle Maiese, Elena Cuffari, and Victoria Pitts-Taylor.

or ignored in scientific practice, problematized the treatment of gender as an isolated axis of investigation, proposed alternative scientific methods and theories, and much more. All of this contributes to better scientific practices and better philosophy of science. The philosophy of cognitive science should be no different.

In practicing feminist philosophy of science, my aims are political as well as epistemic. Importantly, I wanted to have the resources for talking about how gender shapes experience in a way that respects agency and foregrounds gender identity. As a non-reductive approach to cognition, enactivism provides resources for thinking about how gender shapes cognition without having to ground those differences in social structures or neurobiology. My work here is thus focused on looking at how the enactive cognitive framework can be adaptable, inclusive, and able to provide resources for resisting essentialist ideologies and transforming oppressive social structures.

1.2 Key Concepts

This section provides a brief introduction to some key concepts and discussions in the relevant literatures. First, I give a short primer on enactive cognitive science. I then give a brief overview of some themes and discussions in feminist philosophy of science and epistemology that have structured my approach to doing feminist philosophy of e-cognition. I then provide a brief case study to illustrate the methodology and ethical importance of using a non-reductive naturalism to talk about gender issues.

1.2.1 Enactive and Embodied Cognition

Enactivism is a non-reductive approach to cognition. Rather than looking for explanations of cognitive phenomena by focusing solely on the brain, enactivism posits that cognition is a dynamic process involving the active relationship between the organism's brain, body, and environment (Thompson 2007, Di Paolo et al. 2018). Drawing much from the phenomenological tradition and grounded in the autopoietic notion of organismic self-production, enactivists hold that cognition is a “relational domain enacted or brought forth by [a] being's autonomous agency and mode of coupling with the environment” (Thompson 2007, p. 13). Enactivism takes as its starting point organismic processes of self-maintenance, which provide the basis for how an organism experiences the world—imbued with significance.

This is in contrast to the cognitivist view of cognition, which employs what has been called a ‘sandwich model’ of cognition (Hurley 1998), explaining cognition in terms of inputs-processing-outputs. The processing here involves the manipulation of representations, even if understood minimally as the “neural, maplike representations of relevant facts that constitute normal conditions on the performance of [targeted] functions” (Millikan 1984). Enactivists eschew this schema in favor of the view of cognitive processes as exercises of “skillful know-how in situated and embodied action” (Thompson 2007, p. 13). The world appears as it is relevant to the organism in ongoing activity, not as it is passively received, processed, and then acted upon. Cognition is the active, relational process of an autonomous organism enacting a world that is always already relevant to it through its processes of production and maintenance. As such, enactivists favor the explanatory models of dynamical systems theory, which can include multiple agent and environmental variables over functional or mechanistic explanations or models (Chemero 2008, Meyer 2018).

Assumed in enactivism is the theory of embodied cognition, which broadly holds that cognitive processes constitutively depend on the body. We perceive and interact in the world in ways that are specified through our capacities as embodied agents, disclosed through embodied interactions with others, and habituated through embodied action and interaction (Gallagher 2005). This is closely related to the idea of affordances as used in ecological psychology, a close cousin of enactivism. On this view, much like with enactivism, the organism seeks out what is relevant information in the environment, bringing forth the world in activity. Developed by James Gibson (1977), the ecological approach holds that the main object of perception is affordances, or possibilities for (inter)action. Affordances are not explanatorily reducible to the environment or the agent, but are a complex of the agent-environment relationship. The ‘information’ sought by the agent is not to be conceived of in representational terms, but rather as ‘information-for’ the organism as specified in the relationship and through prior habits of interaction (Segundo Ortin et. al 2019).

1.2.2 Doing Feminist Philosophy of Science & Epistemology

Feminist philosophers of science, like Sarah Richardson, and scientists, such as neuroscientist Gillian Einstein (2012), use feminist theory in a critical or informative sense “to produce more accurate and more empirically adequate knowledge” (Richardson 2013, p. 197). For example, Richardson explains how the influence of

feminist thought in biology, spearheaded by Jennifer Graves, led to a revision of the understanding of genetic sex determination as involving a genetic cascade rather than a 'master gene' (Richardson, 2013). Problems arise when gender assumptions become a factor where they don't belong, or in such a way that they do not reveal the truth, but obscure it. Helen Longino's earlier work states that the goal of a feminist epistemology or philosophy of science is to "reveal or prevent the disappearing of the experience and activities of women and/or [to] prevent the disappearing of gender" (Longino, 1994, p. 50). In other words, Longino's claim advocates for not ignoring or avoiding the ways that gender is ubiquitous in our lived experience, social lives, and relationships.

Feminist epistemology has been largely occupied with ways that traditional epistemology has occluded or denied the social aspects of knowledge production, especially the social position (or situatedness) of the knower. Debates in this area include: how knowledge and knowers are situated (Haraway, 1988; Nelson, 1990); who it is that knows (Nelson, 1990; Tollefsen, 2004); the politics and boundaries of situations; the role of identity in standpoints (Alcoff, 2006; MacKinnon, 1989); and epistemic resources and injustices (Dotson, 2014; Fricker, 2007). Various theorists (Harding, 1986; Intemann, 2010) have usefully divided feminist epistemology into three general approaches: feminist standpoint theory, feminist empiricism, and feminist postmodernism. To be clear, there is no consensus amongst feminist epistemologists on the best way to integrate or understand either the sociality of knowledge production or what it is for a knower to be situated.

In a patriarchal society where gender inequality is the norm, women and those with atypical gender identity or atypical gender/sex relationships could have perspectives that give them an advantage in producing accurate knowledge about the structures of that oppression and the ways in which it manifests. This is the central tenet of contemporary standpoint theory: that oppressed or marginalized groups may have a privileged epistemic standpoint in regard to some phenomena. A standpoint, however, is not merely given by social position, but achieved through collective awareness (MacKinnon 1989) and/or consciousness-raising (Collins 1991, Wylie 2003).

Standpoint theory has been influenced by postmodern theories that encourage a healthy skepticism towards absolute knowledge and objective truth. This is not to say that this necessarily amounts to a wholesale rejection of truth or objectivity, but

that postmodernism has encouraged epistemologists and others to give attention to the practices, language resources, methods, contexts, institutional structures, and other elements of the system(s) that constitute or contribute to the conditions for the possibility of truth. Such considerations, along with the acceptance of the contingencies of social location and identity, cast doubt on the individualistic ideologies of traditional epistemology while working well with naturalistic, holistic, and social approaches (Alcoff 2010).

Some standpoint theorists have suggested that those occupying different standpoints may have differing cognitive styles (Collins 1991). These differences reflect elements of the social location, norms, and roles that define or constitute the standpoint; no essentialist claims about sex difference are being made in these generalizations. As Alison Wylie points out, it is unlikely that anyone in the field would argue that there are essential features of individuals that alone contribute to a collective standpoint (Wylie 2003). To make essentialist claims in explaining what constitutes a standpoint not only ignores the collective aspects of standpoint building and achievement (Wylie 2016), but it confuses the connection between lived identities and the contingent social elements and expectations attributed to them.

The need to do better science and epistemology, where this means exhuming aspects that support or otherwise reflect the interests and values of dominant groups and their ideologies, here encounters a worry: the problem of bias. Kristin Rolin (2006) describes the paradox of bias as emerging from the tension between the belief that some perspectives are better suited to provide knowledge about phenomena (such as structural oppression) than others, and the belief that there is a way to evaluate this advantage that doesn't inherit the same concerns about the influence of values and ideals. Louise Antony's solution to the paradox, for example, relies heavily on cognitivist frameworks. She handles the paradox by dividing biases into native biases, which are good for knowledge production, and acquired biases, which may or may not be good for knowledge production. This also relies on a specific notion of objectivity, which for her is a notion attributable to an individual's belief (Antony 2002). As Antony puts it, our conception of objectivity should be of information that includes nothing but the (perceptual) facts processed by the cognitive biases, such as induction and inference, that contribute to getting us closer to the truth (Antony 2016). She believes, taking from Quine's understanding of a naturalized epistemology (Quine, 1969), that there are native and acquired cognitive mechanisms at work which make

intelligible the huge amount of perceptual data that we encounter. Should these mechanisms act on this data using problematic acquired biases, such as gender and racial prejudice, the beliefs produced are not objective. On Antony's account, feminist inquiry should aim to point out where gender biases have been incorporated into a knowledge claim in such a way that they contribute something other than the facts relevant to making a determination.

Using this approach to solve the paradox of bias couches epistemic situatedness in terms of the relationship between social location and epistemic access, reducing the importance of representative communities to individual biases or amelioration of bad individual biases. This avoids making essentializing claims while also preserving a strong, individualistic notion of objectivity. However, the classical computationalist framework used by Antony has been increasingly put under pressure by arguments in philosophy of mind and advances in the cognitive sciences. Specifically, the input-output model of classical cognitivism used by Anthony to provide a way of explaining epistemic access has been problematized (Clark, 2016; Stewart et al., 2010).

While there is general acceptance of empirical success as a marker for truth (Longino 2002), reductive or individualized conceptions of objectivity have also been put under increasing pressure in feminist empiricism. Social empiricists like Lynn Hankinson Nelson (1990) and Helen Longino (1994) root objectivity in the community. For both, objectivity is a social virtue; that is, it is something attained or practiced by groups. Objectivity on this conception is practiced by groups, and makes them more capable of recognizing and working towards the removal of the types of biases (for example, prejudicial biases) that hinder scientific aims than individuals (Intemann 2010).

On both accounts, the social position of the individual still matters in understanding the contribution made to achieving objectivity. On the social account, demographic diversity contributes to attaining objectivity because the research community is better equipped to point out the ways that the interests and values of the dominant groups might be included in research and inquiry. However, this is not necessarily so, as those with standpoints or expertise that offer better perspective from which to gauge the ways in which the values and interests of the dominant group(s) affect research and/or research paradigms (Antony, 2016; Harding and Vassallo, 2001) may still not be included, or those with standpoints may be subject to epistemic oppressions, such as epistemic silencing (Dotson 2012).

1.3 A New Naturalism? Situating Scientist and Subject

Because of its commitments to a non-reductive approach to cognitive science and its incorporation of phenomenology, enactivism has had to contend with claims that it does not adhere to a proper methodological naturalism. The conception of methodological naturalism often found in philosophy sees scientific programs as looking for isolatable, or ‘atomistic’, functions or mechanisms to explain phenomena or behavior, and thereby providing explanations free from subjective influence. Shaun Gallagher (2019) poses that the ideal of classical science as free from subjective elements might be more of a philosophers’ depiction than a reflection of practice, where a scientist or researcher must account for “precisely what she has done in setting up the experiment—she has to include her own actions” (p. 126). Rather than aiming to take the scientist or researcher out of nature, Gallagher argues that we need to revise our conception of nature, “where nature is not independent from the perceiver or the agent” (p. 130). He advocates for recasting the scientific picture of nature in a non-reductive way, so that we can have “a conception of nature that allows for irreducible structures” (p. 133).² Using Einstein’s situated neuroscience as an example (2012), I will expand on two lines of thought in Gallagher’s (2019) paper: (i) that there are irreducible aspects of lived experience through which our relations with the world take on significance particular to subjects (both practitioner and subject of study), and (ii) that taking these aspects into account can lead us to develop more fruitful scientific practices.

Concerns about irreducibility and the relationships between gender, embodiment, and experience have been raised by feminist phenomenologists and philosophers of science in arguing that the objectification of nature in the hard sciences, as described by Gallagher, is neither truly objective nor good scientific practice (see Harding 1991, Longino 1990). Feminist scientists and philosophers of science have also long discussed the importance of taking situatedness into account in order to ‘reveal or prevent the disappearing of the experience and activities of women and/or [to] prevent the disappearing of gender’ (Longino 1994, p. 450). Recent work

² The majority of section 1.3 of the introduction was previously published as:

Brancazio, N. (2018) Irreducible Aspects of Embodiment: Situating Scientist and Subject, *Australasian Philosophical Review*, 2:2, 219-223.

in neurofeminism demonstrates the ongoing problems encountered in scientific explanations that attempt to cash out gender differences in terms of sexed brains or functions (Fine 2011). Considerations such as these add a compelling ethical dimension to Gallagher's invitation to re-envision the concept of nature as specified by what he calls 'science in its classic form.'

While Gallagher's concern stems from commitments to a non-reductionist phenomenological program, the call for a non-reductionist approach to cognitive science could benefit from attention to the innovative research being done by feminist scientists, such as Gillian Einstein (2012) and Anne Fausto-Sterling (2016), through the use of pluralistic methodologies.

So as to avoid any ambiguities, it is important to clarify in what sense it is that irreducibility is being used. While Gallagher states that he is focused on issues with Nagelian, or intertheoretic reduction, McGivern (2019) points out that there are other senses of reduction that could also be important in calling for a non-classical conception of nature, such as reductions to causal mechanisms and functional roles. Gallagher seems unlikely to object to this, as his point is not to claim that subjectivity is only intertheoretically irreducible (or that any kinds of irreducibility are mutually exclusive). Gallagher's main target, though, is not reductionism, but a scientific naturalism that demands reductionist methods and explanations. While subjectivity may be irreducible on his account, this only serves to scaffold his argument that subjectivity ought to be centralized in our re-conception of nature, naturalism, and science.

Rather than focus on the irreducibility of subjectivity in general, I will be concerned with the importance of the incorporation of subjectivity in scientific methodologies and practices. I will use as an example Gillian Einstein's (2012) triangulation of methods (first-person, third-person, and physiological) in studying the effects of female genital cutting (FGC) on the central nervous system of a specifically situated sociocultural group (Somali-Canadians). Einstein's approach, dubbed situated neuroscience, demonstrates how attending to data gained through multiple methods helps in better understanding the data from each, and that the reciprocities between the domains of study, as well as among subject(s) and scientist(s) themselves, should be part of a complete scientific explanation. Her study design thus takes into consideration the situation of the scientist, as part of the study herself, and the lived experiences and sociocultural situation of the subject(s).

In this particular project, Einstein (2012, p. 150) sought to better understand the effects of the traditional cultural practice of FGC, which, as she describes,

in its most extreme examples requires excision of the clitoris (Clitoridectomy), cutting off the labia minora (Excision), cutting the labia majora (Excision), and suturing the labia majora together to make a small hole from which urine and menstrual blood can flow (Infibulation).

She hypothesized that the procedure caused lasting bodily effects, which, in turn, led to differences in the way that recipients experienced the world, in a way that could not be explained simply by looking at the central nervous system itself—the effects instantiated a lived, corporeal embodiment of their culture.

In the design stage, Einstein consulted with midwives and others in community healthcare to ensure the study was attending to the kinds of issues and features of experience important or meaningful to the involved group. Determining how best to collect first-person data involved looking at ways that using certain types of collection methods would encourage or hinder participants and the kinds of concepts considered appropriate or inappropriate to describe their experiences. As Einstein says, “the semi-structured version [of the interview] did not allow women to tell their stories in a way that did justice to the stories themselves” (2012, p. 154), so she chose to do away with questionnaires or shorter interviews to allow for a more narrative approach to gathering first-person qualitative data. Further, as Einstein describes, “[b]ecause pain is so culturally dependent, it became apparent that it was important to give the body a voice as well and to explore how different narratives about pain aligned” (2012, p. 154). Because the sociocultural meaning of the practice was taken seriously as influential in establishing and describing the effects on the embodied experience of the recipients, narratives provided a richer and deeper understanding of the impact of the procedure.

The third-person component involved a measuring of the subjects’ pain threshold at four vulvular regions, or ‘quantitative sensory testing’, in a laboratory setting to determine how the pain appeared on a scale that could be compared to the pain thresholds of differently situated patients. The physiological component incorporated findings from the day-to-day lives of the study participants, including reports of their experiences during and before menses, difficulties lifting their children

or walking during some times of the month, and so on. This data was then compared with reports given by Somali women in diaspora in Finland about pains particular to their population (Tiilikainen 2001).

Though it involved a third-person component, Einstein's methodology was certainly not reductive, but rather attended to the situatedness of both scientist and subjects through thoughtful and deliberate measures. Her situated neuroscience is a paradigm example of how the impact of feminist critiques of objectification has led to richer scientific practices. First, Einstein says,

[I] tried to redress a wrong born of a Cartesian vision of the body comprised of separable parts. I questioned whether the Cartesian model of the separation of body and mind, which undergirds modern biomedicine, is in fact an adequate place to start in describing the biologies of women. (2012, p. 168)

Gallagher similarly, states that “a reductionist program is possible only on an understanding of nature as a partes-extra-partes objective totality, which, along with Merleau-Ponty, we should reject” (2019, p. 134). While Einstein's study purports to focus on the ‘brains’ of participants rather than reducing the effects of FGC to subjects' bodies, it did incorporate some aspects amenable to more enactive and embodied approaches to cognitive science. The interplay between personal narratives, social meaning, and the lived body was taken seriously throughout. For example, it was important to note that women who had the procedure felt that it made them more beautiful, more desirable, and that it gave them more social capital, which is important when looking at how the procedure effects how one carries herself and interacts within a social environment. Through an enactivist lens, one could use the data gleaned from the study to discuss the way that embodying culture makes more salient certain environmental and social affordances (Chemero 2009, Rietveld and Kiverstein 2014). As Gallagher explains it,

“the function of an object is never just purely the function of an object-in-general; what matters are the affordances that an object offers to a particular agent. Accordingly, the object is never neutral, and . . . behaviour simply cannot be reduced to differences in brain function alone, ignoring the details of body and world.” (2019, p. 131)

Second, Einstein's (2012) study involved a mindful situating of herself as researcher,

“thereby recovering for scrutiny in the results of research the entire research process. That is, the class, race, culture and gender assumptions, beliefs and behaviors of the researcher her/himself must be placed within the frame of the picture that she/he paints” (Harding 1987 p. 29, cited in Einstein 2012, p. 168).

Stemming from a rejection of a fact/value distinction, situating oneself brings to the forefront of a study the sociocultural influences on the types of valuations the scientist brings into data collection and interpretation. Another insight from feminist theory that can be seen in Einstein's study is the importance of viewing knowledge production processes as a collective, not individual, endeavour.

Third, Einstein (2012) makes it clear that none of the approaches used in the study, nor the information collected through a particular approach, should be treated as more valuable than another. It was imperative that ‘one field (i.e., social science) is not subordinated or used in the service of the other (i.e., biological science) and especially, that one isn't privileged over the other’ (p. 157). This seems very much aligned with Gallagher's suggestion that rethinking the scientific conception of nature would involve “a multidisciplinary approach that necessarily discounts every single discipline for the sake of the many; where neither neuroscience, nor psychology, nor phenomenology ... gets the final say” (2019, p.135).

Many feminist philosophers and scientists have been at ease with the kind of methodological naturalism that eschews a priori principles of objectification, hierarchical organization, and reductive explanations. As Einstein says on the implications of her own approach, “a new philosophy of science might allow each field and subfield to have their say, move in their own directions and dictate their own theory” (2012, p. 147). Her methodology seems to firmly reject any kind of theoretical hierarchy. The success of Einstein's methodology adds support to Gallagher's claim that “to reduce the embodied agent to a set of computational- neuronal processes that can be analyzed in terms of physical reality or nature, [scientists] not only miss something important, they frame their explanations in the wrong way” (2019: 128). To reject a priori the role that the body, sociocultural situation, and personal history play for understanding how gender and sex specific practices and norms shape experience

would be to foreclose on a rich research avenue offering nuanced, multidimensional explanations. This becomes an ethical and political issue when we consider that the experiences and values of marginalized groups are often disregarded or treated as anomalous. To simply study or reduce explanations to neural mechanisms and biophysical structures thus doesn't just risk leaving out important details, but often fails to consider who decides which phenomena are important and how. Through the example of Einstein's practice of situated neuroscience, we can see that there are viable scientific methodologies that can incorporate enactive, embodied approaches with other scientific practices and critical theories in offering a feasible way forward in redefining how we approach scientific practices, phenomena of interest, and perhaps nature itself.

1.4 Thesis overview

This thesis is a collection of intertwined studies in feminist philosophy of recognition. Although the chapters contribute to this common project, they have been designed as relatively independent studies suitable for journal submission. Further information on publication status is provided on the introductory page of each chapter.

In chapter two, "Naturalizing Situatedness", I consider how situatedness, as the term is used in feminist theory, might be approached in terms of cognitive processes. The term situatedness is often used in feminist epistemology when discussing how it is that social roles, norms, culture, identities, and other aspects of our social world influence how we understand, create, and participate in knowledge production processes. I describe the advantages and disadvantages of adhering to a computational theory of cognition in discussing situatedness, and argue that cognitivist views of situatedness maintain some problematic Cartesian elements. I then make the case that embodied and enactive theories of cognition have more resources for explaining the many ways that situatedness influences cognition.

In the third chapter, "Epistemic Agency in Practice: Language, Knowing, and Epistemic Diversity", I demonstrate the connections between recent work on language (Di Paolo et al. 2018) and participatory sense-making (De Jaegher & Di Paolo 2007) and work in social epistemology in order to facilitate the exchange of concepts and resources. The notion of epistemic agency that is used in social epistemology is especially useful for building an enactive account of how we conduct ourselves as

knowers. I look at work on epistemic injustice and epistemic oppression to situate the account in concrete interactions. I then show how, by combining these frameworks, we get some new ways of thinking about epistemic diversity.

The fourth chapter, “Gender and the Senses of Agency”, details the ways that gender structures our senses of agency on an enactive framework. While it is common to discuss how gender influences higher, narrative levels of cognition, as with the formulation of goals and in considerations about our identities, it is less clear how gender structures our more immediate, embodied processes, such as the minimal sense of agency. While enactivists often acknowledge that gender and other aspects of our socio-cultural situatedness shape our cognitive processes, there is little work on how this shaping takes place. In order to provide such an account, I first look at the minimal and narrative senses of agency (Gallagher 2012), a distinction that draws from work on minimal and narrative selves (Zahavi 2010). Next I explain the influence of the narrative sense of agency on the minimal sense of agency through work on intention-formation (Pacherie 2007). After a discussion of the role of gender in the narrative sense of agency, I expand on work by Haslanger (2012) and Young (1990) to offer three ways in which gender influences the minimal sense of agency, showing the effect that gender has on how we perceive our possibilities for interaction in a phenomenologically immediate, pre-reflective manner.

The fifth chapter, “Distal Engagement: Intentions in Perception”, follows the previous one in looking at the relationship between pre-reflective and reflective cognition. Non-representational approaches to cognition have struggled to provide accounts of long-term planning that forgo the use of representations. An explanation comes easier for cognitivist accounts, which hold that we concoct and use contentful mental representations as guides to coordinate a series of actions towards an end state. One non-representational approach, ecological-enactivism, has recently seen several proposals that account for “high-level” or “representation-hungry” capacities, including long-term planning and action coordination. In this chapter, co-authored with Miguel Segundo Ortin, we demonstrate the explanatory gap in these accounts that stems from avoiding the incorporation of long-term intentions, as they play an important role both in action coordination and perception on the ecological account. Using recent enactive accounts of language, we argue for a non-representational conception of intentions, their formation, and their role in coordinating pre-reflective action. We provide an account for the coordination of our present actions towards a

distant goal, a skill we call *distal engagement*. Rather than positing intentions as an actual cognitive entity in need of explanation, we argue that we take them up in this way as a practice due to linguistically scaffolded attitudes towards language use.

The sixth chapter, “Refusal to Bring Forth a World: The Limitations of Social Affordances”, points out the limitations in recent accounts of social affordances in providing resources for discussing marginalization in interaction. While the sociocultural shaping of cognition is a fundamental aspect of both ecological psychology and enactivism, the influence of gender and race norms in our cognitive processes are tremendously undertheorized in either literature. This chapter looks at how cis-fragility and white fragility manifest in interactive contexts to attempt to answer the question of how we might understand *not* wanting to understand. I gauge the explanatory power of social affordances (Rietveld et al. 2017, Dijk and Rietveld 2017) in scenarios where marginalization is manifested through refusal to afford possibilities for interaction--where engaging in a participation genre (Di Paolo et al. 2018) is possible but (explicitly or implicitly) refrained from in order to protect the status quo of a privileged participant. Though there are complementarities between the ways that these frameworks might treat the structuring of social interactions by racism, misogyny, and cis-normativity, I argue that the multi-scale agency at the core of the enactive account is vital for understanding how these can (explicitly and implicitly) manifest in social marginalization. I then use this argument to support the broader claim that it is crucial to incorporate insights from the phenomenology of gender and race into the very framework of enactivist and ecological theory and their hybrid accounts or we risk treating these lived identities and experiences as additive to idealized norms or as deviating from them.

The last chapter discusses the significance of this collection of research and ends with some thoughts about the future of feminist e-cognition. Overall, I argue that enactive approaches avoid some problematic issues encountered when theorizing about lived identities on the cognitivist framework. However, I also argue that taking gender, race, sexuality, disability, and other aspects of our lived or visible identities (Alcoff 2006) into account should be an integral part of doing good enactive cognitive science.

Chapter 2

Naturalizing Situatedness *

Abstract:

Accounts of epistemic situatedness describe how it is that social roles, norms, culture, identities, and other aspects of our social world influence how we understand, create, and participate in knowledge production processes. In this chapter, I consider how situatedness might be discussed in terms of cognitive processes. I describe the advantages and disadvantages of adhering to a computational theory of cognition in discussing situatedness, and that cognitivist views of situatedness maintain some problematic Cartesian elements. I then make the case that embodied and enactive theories of cognition have more resources for explaining the many ways that situatedness influences cognition. The chapter concludes with some thoughts on the resources that embodied and enactive cognition can offer naturalized feminist epistemologies.

Chapter 2

Naturalizing Situatedness

2.1 Naturalism and Cognition

Common to feminist epistemologies is the idea that social roles, gender norms, and other aspects of our social world shape knowledge and knowledge production processes. Arguments that the analysis of knowledge in traditional epistemology failed to consider the social aspects of our conceptualization of knowledge and objectivity (Haraway 1988), the ways subjectivity is overlooked in paradigm epistemic examples (Code 1995), the social nature of epistemic agency (Nelson 1990), the differences in available hermeneutical resources (Fricker 2007), and how knowledge is expressed and accepted by different groups (Hill Collins 1991), for instance, have inspired a host of literature demonstrating the importance of taking sociocultural and contextual particulars into account when looking at knowledge and belief. This notion of *situatedness*, as it has been called, has been indispensable in standpoint theory and much of feminist philosophy of science, and has informed methodological approaches in many non-philosophical fields.³

However, despite the influence of the concept of situatedness over the last few decades, there has not been much discussion about what it means, cognitively, for our epistemic processes to be situated. Instead, the focus has largely been on the ways this situatedness manifests in our experience and social structures, even though we lack a fully developed picture of what this might mean in terms of cognitive processes. While there has been empirical research on inter-cultural cognitive differences in processes such as perception and visual attention (Nisbett and Masuda 2003), various kinds of problem solving (e.g. arithmetical processing) (Tang et al. 2006), and so on, little attention has been paid to intra-cultural differences. A naturalized explanation of situatedness, one that benefits from theorizing in feminist philosophy of science and epistemology, might have much to offer in understanding the epistemic value of situatedness.

Naturalistic epistemology provides us with no unified method for gaining clarity on this, for naturalism and epistemological inquiry can both be said to have multiple

³ The concept of situatedness is also used in phenomenology, and similar notions can be seen in early pragmatism (see Gallagher 2017, Ch 3, for discussion).

senses. In the Quinean sense (1969), naturalism implies a continuity between philosophical theorizing and the sciences. In the methodological sense, using a naturalistic methodology means avoiding any a priori assumptions about the object of inquiry—which in this case would be the phenomenon of interest to epistemology. This phenomenon is similarly indeterminate. Should the investigation be of knowledge *qua* knowledge, any normative theorizing may put epistemology at odds with methodological naturalism. However, Quinean naturalists can look to our social sciences, practices, and institutions to assess the role that knowledge plays in our lives.

It is in this sense, by examining the social practices that support and maintain the idea of knowledge *qua* knowledge, it has been argued (Rooney 2003), that feminist epistemology can be seen as a naturalistic project. Feminist epistemology and naturalism are not clear allies for important reasons (Ásta 2015, Rooney 2003); on one hand, feminist theory has been influenced by postmodern theories that encourage a healthy skepticism towards claims about knowledge or objectivity. This is often brought up as a criticism of theories that discuss situatedness or epistemic standpoints. However, this skepticism should not be understood as involving a wholesale rejection of the possibility of knowledge; it should be read as encouragement for epistemologists to assess the practices, linguistic resources, methods, contexts, institutional structures, and other elements of the system(s) that create the conditions for the possibility of having or sharing knowledge. Taking into account these similarities between feminist epistemology and Quinean naturalism, naturalism and feminist epistemology, broadly construed, do not necessarily have a direct conflict. Concerns about objectivity and truth may only provoke further considerations about how we evaluate the best naturalistic approaches to these concepts, and, along with the acceptance of the contingencies of social location, give us pause about the privileged status of the individual (or some particular individuals) in the normative theorizing of analytic epistemology.

On the other hand, feminist theorists overwhelmingly reject the idea that we can get a fundamental, definitive, or *essentialist* explanation of the influence of gender in epistemically relevant processes by appealing to any one scientific framework, such as neurobiology (Grosz 1994). The burgeoning field of neurofeminism has shown that explanations relating gender-related traits to hormones or brain structure are deeply flawed—often failing to take socialization and neuroplasticity into account, or

over-generalizing from very small groups and providing results that draw from researchers' own very socio-culturally specific ideas about gender norms.

That said, neither the naturalization of epistemology, generally speaking, nor issues about epistemic normativity will be my main concern in what follows. My focus will be the naturalization of *situatedness* itself and the way that it is and can be used in feminist epistemology. Specifically, when discussing the particularities of situatedness, I will focus on issues caused by retaining some of the core beliefs or language of a naturalistic epistemology that formed largely alongside and in line with cognitivist approaches to the mind.

In its most basic formulation, a cognitivist approach to mind posits that cognition is essentially the computational processing of representations, understood as “a mental structure (concept, thought, image) with semantic properties (content, truth conditions, reference), or a state of process involving such a structure” (Thompson 2010, 25). Computational processing proposes what Susan Hurley has called a “sandwich view” of cognition (1998), where from representations are created from sensory inputs, evaluated utilizing previous data and mental states by means of inferential mechanisms, and result in further mental states or behavioral outputs (Fodor 1975, Pylyshyn 1984). The traditional conception of this representational and contentful processing holds that it is internal and brain-bound (Adams and Aizawa 2008). Put simply, cognitive processes are individualistic and involve the manipulation of mental states.

Admittedly, cognitivism is still one of the dominant theories for explaining cognition. Computational explanations and metaphors are pervasive in the sciences of mind and folk psychology alike. Many perceive it to have the strongest naturalistic foundations and explanatory power (Milkowski 2013). Given this, describing epistemic differences, whether theoretically or cognitively, without using cognitivist language is difficult.

However, enactive understandings of cognition have been gaining wider acceptance since they were first introduced by Varela, Thompson and Rosch (1991). Informed by Merleau-Ponty's work in phenomenology (2012) and Maturana and Varela's work in biology (1980), especially on the notion of organismic self-production (autopoiesis), the enactivist paradigm holds that cognition is “a relational domain enacted or brought forth by [a] being's autonomous agency and mode of coupling with the environment” (Thompson 2010, 13). The mode of coupling here is embodied,

meaning that the body is a constitutive aspect of cognition—the world is brought forth through the particularities of our body’s capacities and habits of comportment. Further, enactivists hold that cognition is not representational in nature—rather, the aforementioned coupling involves dynamic sensorimotor loops and perception-action cycles, through which we exercise “skillful know-how in situated and embodied action” (Thompson 2010, 13).

Given the vast differences between the cognitivist and enactivist frameworks, and given the common ground between enactivist conceptions of how cognition is situated and the views of many feminist epistemologists about situatedness and knowledge, it might seem that these areas have much to offer each other. Still, though, they remain fairly isolated (Solomon 2006). Further, in attempting to give over-arching theoretical accounts of cognitive processes or concepts such as agency, habit, perception, and the like, enactivists have generally not been attentive to the specific ways that these may differ given our social situations and history.

In examining situatedness, I will look at whether the cognitivist paradigm is necessary or strategically advantageous for addressing issues of particular importance to feminist theorizing—in particular, problems having to do with cashing out cognitive differences in ways that respect the intra- and inter-cultural diversity of those that identify as or have been subject to the social norms associated with a gender. The aim will be both critical and positive: I will consider some of the seeming advantages of using cognitivist language in doing naturalistic feminist epistemology before showing that there is a preferable alternative in embodied and enactive approaches to cognition.

The first section will explain the idea of situatedness. The second section will show how epistemic difference has been discussed on the cognitivist framework, and will describe how this framework might be seen as advantageous for avoiding essentialist explanations. The third section will discuss how standpoint theory contributes to better research on situatedness in terms of cognitive processes. The fourth section will focus on embodied and enactive cognition as an alternative way of understanding situatedness, giving some reasons for preferring the latter framework.

2.2 Situatedness in Feminist Epistemology

In feminist epistemology, situatedness has largely been discussed in terms of our social status and social norms affecting or structuring our experience, conception of knowledge, knowledge formation processes, or ways we understand justification such

that it makes a substantial epistemic contribution.⁴ There is a general consensus amongst naturalistic feminist epistemologists that the influence of gender on the epistemic situation of an individual and their values is through the influence of social position and their attendant social norms or schemas (Haslanger 2012). To be clear, claims about the epistemic significance of gender shouldn't be taken as claims that gender tracks fixed social, sex-related, or cognitive differences by virtue of which groups produce different knowledge or understand knowledge differently. Situatedness and situated knowledge are generally understood in such a way that does not imply *essentialism*, or claims that people with different sex markers or gender identities have innate or fixed differences in cognitive styles or capacities.

Arguments against essentialism run broad and deep in feminist theory. In brief, there are serious reasons to avoid making essentialist claims, such as the possibility of (and indeed, long history of) normative claims about the capacities of people of certain genders, and their basis in assumed relationships between gender traits and sex differences. It would obviously be worrisome to make claims about the natures of women based on traits shaped through sociocultural norms that, in many cases, have served to sustain economic, political, and social oppression. Specific to the cognitive sciences are concerns that attempts to explain feminine and masculine traits by appealing to differences in brain structure, hormone levels, and the like overlook the influence of social factors (Fine 2011, Jordan-Young 2012). In fact, much recent work in the area of neurofeminism is dedicated to showing how gender specific traits or capacities are assumed in scientific research as natural phenomena for which we can get reductive (i.e. functional or mechanistic) explanations (Einstein 2012). The danger here is that where correlations are found, they are treated as though they justify assumptions about the innateness of gender-related traits without taking into account the ongoing influence of enculturation and habit in brain development (neuroplasticity). Making these kinds of claims about cognitive differences can be both politically problematic and methodologically flawed.

Further, to summarize Louise Antony, essentialism supports both deterministic claims about what women *can or cannot* do, and paternalistic claims about what women *should* do (Antony 2000). Deterministic claims are those that specify what cannot be

⁴ There has been some debate about whether individuals or communities should be thought of as primary epistemic agents (Nelson 1993, Tollefsen 2004); while the focus of this paper is on the epistemic situatedness of individuals, this, hopefully, does not commit me to a position on the fundamentality of any epistemic agent (individual, group, or community) over another.

changed about our natures—an example would be the claim that women are much better at listening because they are *disposed* to be more empathetic. Paternalistic claims, usually undergirded by deterministic claims, are those that specify that we should pursue or avoid certain activities because it goes against our nature, and is therefore in our best interest—such as the claim that men should not be the primary caregivers for children because they will feel unfulfilled (which is based on an implicit deterministic claim that caregiving goes against their nature).

Though this paper draws on work about gender, this is not to suggest that gender should be conceived of as a fixed kind of experience or phenomena for analysis. To treat it as such does injustice to the ways that gender is particular given our multiple lived or visible identities and axes of experience (Alcoff 2006). The meaning of gender and the social expectations built around gender are always inextricably bound with our other identities, and I will be using gender loosely (without making definitive claims about what gender is) in light of this. What matters for the following is that our gender or non-binary identity is an important facet of who we are, and that essentialist claims about what gender *is* are not just scientifically and epistemically wrong, but can themselves be a means of oppression. The challenge for naturalistic feminist epistemology, then, has been to explain differences in knowledge creation or knowledge had by different groups (in this case, groups sharing gender identities) without appealing to cognitive differences in any way that claims or implies that there are fixed variances in the epistemic capacities between these groups.

Discussions of *epistemic* differences that involve individual cognitive processes, such as the holding or articulation of beliefs and knowledge, have largely focused on how we create or come to process representations or high-level, propositional content in a way that is amenable to computational frameworks. For example, when discussing the importance of including women in scientific practices, Elizabeth Anderson says that “[t]hey also tend to represent the world in different terms, in virtue of their gendered interests, attitudes, emotions and values, and perhaps also (although this is a matter of controversy among feminist theorists) in virtue of different cognitive styles. These differences create different background beliefs, against which additional information may be processed. Representational schemes that are functional for different gender roles and gendered attitudes make different kinds of information salient” (Anderson 2017).

Now, if we are talking about traditional epistemology, this does generally deal with normativity about propositional content. However, the addition of talk about representations, representational schemes, cognitive styles, perceptual inputs, and so on gives the inquiry a wider scope. This opens up room for discussion about the cognitive framework by which we can understand how differences in epistemic processes and propositional knowledge arise. For Anderson, it seems as though cognitive diversity may affect the content of the scientist's representations of the world, and influence the way in which those representations are processed. The individualistic focus and epistemic mechanisms of traditional epistemology remain, with the latter mediated by a socially influenced representational scheme. Here, it seems, we would have epistemic differences that can be discussed in terms of cognitive differences.

Another way to approach epistemic difference is to discuss how social situatedness lends itself to differences in collective practices of knowledge creation (such as with feminist standpoint theory). It's important to be clear, though, about the difference between situatedness and standpoints. Situatedness refers to one's sociocultural location and history (and, as I will argue, *may* involve cognitive style), while a standpoint is achieved by collective consciousness raising practices, and is more akin to an informed perspective *on or from* that sociocultural location (MacKinnon 1989). That is, where a situation may (debatably) lend itself to similarities in epistemically relevant cognitive processes in some sense, a standpoint requires some shared experiences *and* beliefs. A social situation scaffolds a standpoint, but is not sufficient on its own to provide a standpoint. The explanatory frameworks for both cognitive difference and standpoint theory warrant further discussion about their domains of inquiry and what each can contribute to understanding diversity in knowledge and knowledge production, so they will be looked at in turn in the following two sections.

2.3 Cognitiv(ist) Difference

Worries about essentialism are often construed in a way that implies that either we concede that there are fixed cognitive differences between the sexes or we accept an underlying, universal, innate cognitive sameness. To conceive of epistemic situatedness as anything other than access to knowledge or information carries the risk of being taken as prone to claims about fixed cognitive difference, which are, again,

prone to those deterministic and/or paternalistic implications. If cognition is the manipulation of contentful representations, and these representations are limited by our epistemic access, then equality in epistemic access is an obvious aim for moral, political, and epistemic reasons. A computational model of cognition might seem strategically advantageous for feminist epistemology, then, because what is at stake is the content and the software. For example, in evaluating gender normativity in scientific frameworks, Elizabeth Anderson states that the “case for the superiority of the cognitive framework is that it at least offers a scheme for *representing* us as potentially free and creative (however inadequately this scheme is presently sketched-in), whereas behaviorism forecloses such representational possibilities in advance” (Anderson 1995, 50-51). In other words, how we create knowledge and how we use it are of concern, and how we come to create it and use it can be discussed as socio-culturally programmed. The hardware itself, to continue with the metaphor, is not being questioned, so there is no need to take seriously any doubts about the actual capacities of women’s minds.

As an avowed Fodorian, Louise Antony (2007) takes a cognitivist approach to discussing epistemic differences through a discussion of biases. Antony advocates for a Quinean naturalism on this account, which she takes as being opposed to any *a priori* assumptions about how we ought to connect data and theory. Instead, she continues, we should research the contexts and circumstances of learning and the involved processes (Antony 2016a, 160). However, as Quine does, Antony argues that there must be some kind of innate similarities between humans that allow us to make the same or similar inferences based on an overwhelming number of inputs (underdetermination) in order to have any kind of knowledge (2016a). As she puts it, we must have “a set of biases that make salient to us some rather than other properties of experienced objects... Otherwise, we would be unable to share experience in any epistemically useful way, since there would be no guarantee that my parameters of generalization would line up with yours” (2016a, 175-176). On her account, naturalized approaches to epistemology must be concerned with clarifying which biases are epistemically problematic, though there are certain biases which are foundational for knowing. She says:

“... I am counting as a ‘bias’ any structure, database, or inferential disposition that serves in a non-evidential way to reduce hypothesis space to a tractable size.

Biases, in this sense, may be propositions explicitly represented in the mind, or they may be propositional content realized only implicitly, in the structure of a cognitive mechanism. They may reside in subpersonal computational structures, or they may be elements of person-level beliefs or associations, fully accessible to consciousness. They may work at the level of individual cognition, or at the level of a socially structured inquiry.” (2016a, 162)

This is a fairly long list of what might count as a bias. What is important is that for Antony, the crucial set—what she thinks can serve as a foundation for normative epistemology—is the set that is universal. It would be this set that would not be different regardless of situatedness. Neither gender norms nor sex differences would affect universal biases, and differences in acquired biases of those belonging to different groups could be unproblematically relegated to the influence of socially constructed institutions. This approach to explaining epistemic difference, underpinned by cognitivism, would provide a basis for normative theorizing about knowledge and can explain epistemic differences in a non-essentialist way: by appealing to acquired biases and epistemic access.

While positing a framework of processes as universal or innate may, at least *prima facie*, seem both naturalistically viable and politically advantageous, there are at least two major reasons that this may not be the best framework to support a naturalistic feminist approach to epistemology. First, there is enough empirical data to cast doubt on the universalizability of any of the processes picked out as biases by Antony, which problematizes her view that universal biases provide a starting point for the normative evaluation of truth claims. On her account, the lack of universal biases gives us nothing to measure the reliability of acquired biases against. Second, as I will discuss in the next two sections of this paper, is that having only the resources of biases and epistemic access to explain situatedness oversimplifies some important aspects of the effects of gender and differences in knowledge production processes.

On Antony’s list of what counts as a bias, we have several that could possibly be said to be innate: cognitive structures, inferential dispositions, sub-personal propositional content, and sub-personal computational structures. Antony (2016a) supports her commitments to native biases of these sort on a computational framework by using Chomsky’s work on universal grammar (Chomsky 1975) and work on perceptual bias (Palmer 1999) as paradigm examples. Recent work on differences

between cultures in perception, information processing, and inferential styles, however, ought to give us pause about making claims about the universality of even some seemingly neutral kinds of cognitive processes, such as inferential mechanisms.

Evidence for universal epistemic biases would have to involve the existence of universal, cross-cultural similarities. Recent studies, though, have shown vast differences in basic processes such as the ways that objects are attended to in the visual field (Chua et al. 2005), the influence of context in causal attribution (Nisbett and Masuda 2003), as well as the attribution of causes for behavior in others (Mason and Morris 2010). Functional MRIs have shown that the brain areas used in arithmetical processing (Trang et al 2006) can also vary across cultures, and that these differences “may not be merely due to different languages but also due to specific mathematic processes” (Trang et al 2006, 10776). Brazilians and Americans displayed differences in the ways that objects are grouped in perception (de Oliveira and Nisbett 2017). Some remote cultures have demonstrated insusceptibility to illusions thought previously to affect humans universally (Davidoff et al. 2008). In other words, it is difficult to locate any *universally* innate biases of the kind that Antony suspects are present cross-culturally in populations.

In an earlier work, Antony references a study by Nisbett et al. (2001) that found that epistemic agents from different cultures “performed in systematically different ways on tasks involving attention and control, explanation and prediction, and inference” (2002, 467). She also points to work by Weinberg, Nichols, and Stich (2001) which argues that these cultural differences should be taken into account when we consider the ways that we come to have, and differentiate between, beliefs and knowledge, saying that “[w]hether it’s *culturally ingrained habits* or *differences in neural circuitry* that accounts for observed differences in performance on cognitive tasks or judgments in epistemic matters, epistemology has to figure out what to say if it turns out that not all knowers are alike” (Antony 2002, 472, emphasis added). It seems doubtful that she would posit the possibility of differences in neural circuitry between cultural groups as a way of explaining epistemically relevant differences, and still be able to defend the position that epistemically relevant intra-cultural differences are simply acquired.

Given these problems, we might wonder how to improve our search for universal biases. However, I think the evidence calls into question two foundational assumptions for the cognitivist answer to situatedness. First, it might be better taken

to indicate that the demarcation between epistemically relevant universal and acquired biases may not necessarily be capturing a real difference in kind. On the Quinean naturalistic approach, to presuppose such differences would be making problematic *a priori* assumptions about the objects of investigation that don't match with what the data tells us. The assumption about the neutrality or universalizability of epistemic mechanisms might be rethought.

Second is the assumption that we can get a naturalistic answer for differences in belief production processes, the target of naturalistic feminist epistemologies, without having our explanations involve the sociocultural location and context of the agent. This appears to be the kind of investigation Antony is after:

“Insofar as human knowledge involves an interaction between a cognitive or perceptual mechanism and an environment, it is appropriate, and indeed, necessary to study the operation of the mechanism in abstraction from the environment in which it is deployed. I see no problem in studying the human mind as if it were a computer—provided we tether our investigations to the naturalistic conditions in which human mentality arises.” (Antony 2016b, 33)

Given our similarities in embodiment, it might be trivial to claim that humans are generally born sharing perceptual capabilities. However, it doesn't follow that knowledge production processes involve mechanisms that can be investigated in abstraction from sociocultural context. Further, even if there were evidence for, say, a fully encapsulated, modular perceptual system, this would not tell us about the practices that influence the *attention* we give to certain features of the environment over others and the ways in which our epistemic practices are influenced by our sociocultural upbringing and context. It might be that the best way to investigate differences in knowledge production processes would involve looking at cross- and intra-cultural similarities and differences in epistemic practices. As shown above, our inferential patterns and perceptual experiences can vary vastly from culture to culture, as well as intra-culturally.

The real issue at hand, I propose, is whether we can get an adequate explanation of situatedness by means of a *reductive* naturalistic approach, such as cognitivism. As I've highlighted above, adhering to a reductive naturalism might seem to be advantageous for feminist epistemologies that seek to avoid essentialism *by holding that*

there are neutral, innate epistemic mechanisms. What happens, though, if we: (1) embrace a non-reductive approach to cognitive science and (2) take seriously that even our very basic perceptual processes involve a synthesis of both embodied capacities and learned practices?⁵

On one hand, it has been scientifically and politically problematic to reduce gender differences to physical traits (hormonal, neurophysiological, reproductive, genetic, some combination of these, and so on). Additionally, arguments persist that gender is merely performative (on a highly intellectualized reading of Judith Butler (1990)), and many have taken this to mean that gender is strictly something we (implicitly or explicitly) are choosing to *do*. On the other hand, claims organized solely around socially contingent roles, identities, or patterns of treatment do not give us an explanation in terms of cognitive processes we might think of as being related to knowing. A reductive treatment in the cognitive sciences, though, can fail to take into account context, history, the multiplicity and fluidity of identities, and the role of gender in shaping our embodiment and ways of engaging with the world. Helen Longino, for example, says of the introduction of situatedness in epistemology, “With the embodiment of the subject, experience must be rethought, as it can no longer be understood as the parade of sense data whose character is the same for all perceivers. Our bodily being in the world, our variable and complex modes of being in the world, are the source of beliefs about ourselves and that world” (2010, 736).

No single approach explains the influence of gender in cognition alone—but taken together they may have much to offer in widening our understanding of cognitive difference. In regards to what we want a theory of epistemic difference to do, even Antony has acknowledged that “feminists have mainly been concerned about the results of theorizing from a position that fails even to consider the relevance of differences in embodiedness for questions about knowledge” (Antony 2002, 467). In light of the growing popularity of ecological, situated, or embodied and enactive approaches to understanding cognition, it seems an appropriate time to explore whether adherence to a cognitivist framework is the most explanatorily valuable way to approach epistemic situatedness, and whether it is politically or morally advantageous to do so.

⁵ Linkages to work in new materialism, such as that done by Nancy Tuana (2008) and Karen Barad (2007)—though outside the scope of this paper—could also inform this discussion and its implications.

In this section I have highlighted some issues with using the cognitivist framework to explain differences in knowledge creation processes. These problems, I claim, stem from adhering to a reductive approach to the cognitive sciences. In the fourth section I will provide an alternative through the use of enactive and embodied frameworks, which might be able to avoid essentialist claims while accommodating differences in cognitive processes. In the following section, though, I will briefly look at another way of discussing differences in knowledge production: feminist standpoint theories.

2.4 Feminist Standpoints

Generally speaking, feminist standpoint theories focus on the social aspects of beliefs and belief formation practices rather than individual level explanations of epistemic differences (Wylie 2003). Feminist standpoint theories argue that in virtue of social position, oppressed or marginalized gender groups may have privileged epistemic access to features of the systems of their oppression (Hartsock 1983). This privileged access, however, is not merely given by a standpoint, but achieved through a combination of collective awareness and consciousness-raising practices (MacKinnon 1989). There is a general agreement amongst standpoint theorists that in a society where gender inequality is the norm, women, non-binary, and gender diverse persons could have epistemic access to features of oppression that enable them to produce superior knowledge about the structures of that oppression and the ways in which it manifests. While it is the case that some standpoint theorists have discussed the possibility that those within standpoints may have similar cognitive “styles” (Hill Collins, 1991), that need not be the case—it is the sharing of similar experiences in virtue of similar social positioning that provides the means for privileged knowledge production. However, as Hill Collins points out, it is often the case that collective practices, as well as how knowledge is understood and recognized, may indeed differ between groups.

There are (at least) two insights from standpoint theory that should be noted here. The first, as Antony (2016a) and others (e.g. Bar On 1993, Spelman 1990) have pointed out, is that there is no single way in which women are situated that lends itself to a women’s standpoint. However, standpoint theory does not seek to provide an exhaustive explanation of the differences in situatedness between groups—rather, standpoint theorists give us reasons to believe that there are epistemically relevant

differences in experience. As Harding notes, there are many feminisms, and the standpoints of women in different groups serve as a “good place to start in order to explain certain aspects of the social order. There is no single, ideal woman’s life from which standpoint theories recommend that thought start” (Harding 2004, 131). This is important, as to make claims otherwise in explaining what constitutes a standpoint would be to confuse the connection between gender differences and the contingent social elements and expectations *attributed*, in a socio-cultural context, to gender categories. This would also be to treat gender as a singular standpoint, rather than an aspect of one’s standpoint. The knowledge that comes from having a standpoint comes through living with cultural norms in a particular socio-cultural situation *and* conferring with others who are similarly situated about that experience.

Second, standpoint theories are critical theories—they offer a means by which to come to the kinds of knowledge that can be used for critical ends. In one sense, this means that the kinds of knowledge given through lived experience as a marginalized person can be used to combat the systems that create that marginalization. In another sense, standpoints can be used in projects critical of the objects of inquiry or their framing, as is the case with feminist scientific practices. As Helen Longino says, “their role in making gender a relevant axis of investigation gives them their status as feminist” (1994, 339). It is in this sense that most feminist epistemologists pursue a critique of the very framework by which we naturalize epistemic difference. As put by Rouse, “Standpoint theories situate knowledge and epistemic warrant within the world, amid our interactions with other agents, rather than in an abstracted space of representations” (2009). That is, it is a non-reductive approach to knowledge production processes. If we conceive of knowledge as a (socio-culturally scaffolded) cognitive achievement, looking at differences in situations and grounds for epistemic warrant seems a fitting place for a naturalist to start, for “All thought by humans starts from socially determinate lives” (Harding 2004, 128).

In regards to the naturalizing of situatedness, we can understand standpoint theory as both a critical tool and as offering important research on contributing social factors. While feminist standpoint theorists often reject the idea that there are fundamentally different “ways of knowing” between groups due to gender or other sociocultural identities or positions (Intemann 2010), the recent naturalizing turn in feminist theory has stressed the corporeality of lived experience, as well as the inextricable intertwining of the biological, the social, the material, and the political

(Hekman 2010, Pitts-Taylor 2016). What we need for naturalizing situatedness is a way of incorporating all of these elements into explanations without insisting on the fundamentality of any one approach over another. Or, in Rouse's words, "We need a more inclusive naturalism if we want to understand how knowledge claims are formulated, accepted, and used, how the institutions and agents who participate in knowledge-making are reshaped in the course of inquiry, and how the world itself is transformed through efforts to make it knowable in specific ways" (Rouse 2009, 201). A non-reductive naturalism will need to find a way to intertwine the social and the individual aspects, the neuroscientific and phenomenological approaches, and to reconcile biological processes with embodied habits. With this in mind, I turn to the enactive and embodied framework for understanding cognition.

2.5 Situatedness and Enactive Cognition

Non-reductive approaches to cognitive science have been promoted in some recent works in neurofeminism, which have mainly focused on projects that criticize claims about gender differences based solely on neurobiological data (Fine 2011). This not to say that neurofeminists explicitly reject the idea that there might be important neurobiological differences related to sex differences. The scientific evaluation of these differences, and what they might mean for cognition, however, often retain explicit or residual assumptions about gender roles. Put simply, the study of neurobiological differences has been used to explain the assumptions already in place about the psychological traits, social habits, and proclivities assigned to gender groups. Some neurofeminists, such as Fine (2011) and Jordan-Young & Rumiati (2012), point to the brain's neuroplasticity as evidence for the role of social norms in explaining how neurobiological differences come to be. However, as discussed in the previous sections, pointing out how our social lives shape our brain matter would be only one aspect of a more holistic naturalistic approach. For instance, Gillian Einstein has advocated for doing neuroscience in such a way that respects the experience of the subjects, integrates subjects' values and interests in building scientific studies, and does not treat any particular science (neuroscience, social science, or biology) as fundamental—she calls this approach *situated neuroscience* (2012).

This is not so different from the approach enactivists take to the cognitive sciences (Brancazio 2018). On its most simple formulation, enactivism posits that cognition is a dynamic process involving the relationship between an organism's brain,

body, and environment. Enactive approaches see cognitive processes as habituated and contextualized; cognition is treated as relational and action-oriented (Varela et al. 1991; Noë 2004; Gallagher, 2005, 2017; Thompson 2010). Proponents of embodied, enactive frameworks, in the tradition of Merleau-Ponty (2012) and Varela, Thompson, and Rosch (1991), commit to a strong understanding of embodiment in terms of cognition being comprised of and in organism-environment relations, meaning that the body is taken into account as part of what constitutes cognitive processes *in interaction* with the environment. Taken together, cognition is not any one thing, but a network of embedded processes across varying timescales (Gallagher 2017). On this framework, an explanation of cognition cannot be reductive in the received sense—there is no single process, substance, or even timescale (e.g. the present) to which cognition can be reduced.

Where neurofeminist work has applied feminist theory to the neuroscience of knowledge production (Bluhm et al 2012), enactivism can similarly incorporate theoretical insights from feminist thinkers in investigations of the cognitive processes and interactions by which knowledge can be said to be held and exchanged. An excellent example of this is the work of Anne Jaap Jacobson. Bringing together insights from feminist epistemology and enactive cognitive science, she has argued that cultural learning and norms of interaction have an effect on how we classify items in our environments as well as the kinds of relationships that we posit between items, and that these differences can have a marked effect on differences in knowledge production (2012).

In this vein, I think the framework has more to offer to discuss how it is that we might think of differences in epistemically relevant processes, such as perception and attention. In looking at embodiment and habituation, those working on enactive frameworks should keep in mind that the embodied subject is shaped by norms of race, gender, sexuality, ability, and so on. Phenomenologists of race and gender have shown us that there are no neutral bodies, no abstractions from experience, that get at some idealized core or innate modes of being. As discussed in Fanon (2000), Ahmed (2007), and other phenomenological works on race and racialization, the body becomes attuned to norms of perception by others such that movement can be inhibited or our pre-reflective phenomenological experience can be interrupted by the perception of others. This and other factors influence the way that agents' bodily comportment and self-awareness can be shaped; as Haslanger puts it, "Individuals are

socialized to become embodied subjects, not just rational, cognitive agents; so race and gender socialization isn't just a matter of instilling concepts and indoctrinating beliefs, but are also ways of training the body—training the body to feel, to see, to touch, to fear, to love” (Haslanger 2012, 285). In many ways, the best way to understand these norms is as norms of *being*; they are not rules guiding our behaviors, but are an implicit part of our experience in everything from our basic intersubjective interactions to our social institutions.

While social norms are often discussed as behavioral constraints which facilitate better social cohesion and cooperation (Schmidt et al. 2012), the effects of these norms are not merely discursive, nor should they be thought of as additive to innate cognitive capacities. The embodied framework can also take into account their influence in forming our embodied habits (Gallagher 2005, Young 2005), and how these habits in turn affect our experience of the world. The intersubjective cultivation of cognition, for human forms of life, means that social structures, habits, and norms affect, through patterning and habituation, how it is that we hold and move our bodies and perceive potentials for interaction (Gallagher 2008, Rietveld and Kiverstein 2014, Brancazio 2019).

For instance, Anne Fausto-Sterling's work in biology (2000, 2012), using a dynamic systems framework, argues that gender norms have a lasting effect on our biological makeup; our bodies do not develop on the course of some pre-determined trajectory, but are shaped by sociocultural norms. While Fausto-Sterling herself favours a “mosaic brain” approach (see Joel and Fausto-Sterling 2016), her account is highly compatible, for instance, with Shaun Gallagher's work on the way that the body and its habits shape our cognitive processes (2005). Linking these two accounts together to explore the way gender and other norms are involved in embodied action-readiness priming might tell us how the influence of norms shapes the body, and how the shaping of the body continues to shape action-readiness in pre-reflective experience. In contrast to innate mechanisms or learned biases, this gives us a more developed understanding of how it is that, as put by Rouse, that “[t]he same features of the world may not be salient to different knowers, even when exposed to them” (Rouse 2009, 202).

The idea of salience is also used in ecological psychology (Gibson 1979) and the more recent ecological-enactive framework (Kiverstein and Rietveld 2018). Ecological-enactivists hold that the main object of perception is *affordances*, which are

the possibilities for interaction in one's environment. Affordances are "relations between abilities and properties of the environment" (Chemero 2009, 145), meaning that they do not involve properties of the world or capacities of the agent alone, but are perceived through the relationship between these. The ecological approach also takes into account that perceiving what is afforded by any particular environment is socioculturally learned (Gibson 1963) and habituated through previous interactions and the development of skills. For instance, if I am at home and I want to pour a cup of coffee, perceiving a cup as affording me the possibility of holding coffee depends on many factors: the urge for coffee (which brings about my perceptual search), my ability to perceive the cup's shape, the sociocultural habit of coffee drinking and my prior use of cups for doing so, and so on (Reed 1996). The coffee cup thus solicits my attention during my perceptual acts—it is *salient* to me because of these factors (Nisbett and Masuda 2003). We know that, for better and worse, gender contributes to the development of certain skills (such as attending to the needs or expectations of others or being highly attuned to looking for possible dangers when walking alone at night). It stands to reason, then, that gender influences affordance perception and salience.⁶

Of course, there are many other ways that we might think of how norms associated with demographic differences or differences in our lived or visible identities might influence our pre-reflective experience of the world. For instance, another area of interest for enactivists is in thinking about the relationship between the ways that we make sense of our lives through language and narratives and how this can influence our immediate, embodied cognitive processes (Di Paolo et al. 2018, Brancazio 2019). It might seem obvious to those working in critical-theoretic areas of philosophy that our access to hermeneutic resources (Fricker 2007), the kinds of roles we're encouraged to take on, and gender-related narrative archetypes might affect our pre-reflective experience through downstream dynamics in epistemically relevant ways. That is, the way in which we make sense of ourselves and our interactions in a narrative sense, and the linguistic resources we have available for doing so, could influence our more immediate, pre-reflective experience. However, there is still much work to do to provide naturalistic explanations for the relationship between these types of cognitive processes. The enactivist framework is well-poised to do so through a multi-scale approach to cognitive levels of integration (Gallagher 2017), considerations about

⁶ This will be taken up in detail in Chapter 4.

levels of agency, and the scaffolding and constraints that different levels of sense making capacities can enable or impose upon each other.

An advantage of the enactive framework for articulating situatedness is that it can give a more robust account and understanding of how gender shapes cognitive processes while avoiding reductive claims that attempt to essentialize gender differences or essentialize gender itself. There are many ways in which gender can be looked at as an axis of influence in cognition without the need to reify 'gender' as any one particular type of influence. Given the attention to norms and sociocultural scaffolding in the enactive framework, and given the similarities in approach to those advocated by feminist theorists, using both in tandem would give us a better understanding of gender, cognitive processes, and their influence in epistemically relevant processes and interactions.

In conclusion, while the cognitivist paradigm for understanding the influence of gender in cognition may seem politically advantageous, I have shown that it is inadequate for addressing contemporary feminist theorizing about differences in cognition. Rather than continue to work on modifying the cognitivism framework to better fit the insights given to us through feminist theory, I have argued here that the enactivist framework is more adequate for understanding gender and the influence of gender in cognition. I have gestured towards the resources from the enactive framework (though not exhaustively) that can be used for more specific projects discussing pre-reflective experience, intersubjectivity, interaction, perception, and the relationships between different kinds of cognitive processes, with the aim of offering naturalistically satisfactory options for discussing gender and cognition without anchoring the explanations of those differences in neurologically, biologically, or socially fixed binaries.

Chapter 3

Epistemic Agency in Practice: Linguaging, Knowing, and Epistemic Diversity

Abstract:

The enactive framework offers new resources for thinking about our epistemic processes. In this chapter, I demonstrate the connections between recent work on language (Di Paolo et al. 2018) and participatory sense-making (De Jaegher & Di Paolo 2007) and work in social epistemology in order to facilitate the exchange of concepts and resources. The notion of epistemic agency that is used in social epistemology is especially useful for an enactive approach to how we conduct ourselves as knowers. I look at work on epistemic injustice and epistemic oppression to situate the account in concrete interactions and offer some ways that epistemic agency influences our other domains of embodiment. I then show how, by combining these frameworks, we get some new ways of thinking about epistemic diversity.

Chapter 3

Epistemic Agency in Practice: Linguaging, Knowing, and Epistemic Diversity

3.1 Introduction

Until recently, naturalized epistemology has been dominated by the computational approach and reductive spirit of the cognitivist approach to cognition. Though computational metaphors have long dominated the cognitive sciences, the growing literature in empirically grounded non-reductive and non-representational approaches to cognition, such as the enactive approach (Varela et al. 1991), looks instead at cognition as involving brain-body-environment relationships over multiple nested timescales (Gallagher 2017; Thompson 2007; Di Paolo et al. 2017). Recent work in this field has problematized the naturalistic grounding of epistemic entities such as propositional knowledge and mental states, quintessential staples of analytic epistemologies. Contemporary enactive cognitive science provides an expanding canon of alternative ways of thinking about the so-called ‘higher-order’ or ‘complex’ cognitive phenomena we might associate with knowledge production processes, such as language use (Di Paolo et al. 2018), memory (Peeters and Segundo-Ortin 2019) and social cognition (De Jaegher & Di Paolo 2007; Rietveld 2015)—previously thought to be reliant on the existence of propositional mental states or representations. This growing field thus offers many new resources for thinking about our epistemic processes.

This revolutionary turn in the philosophy of mind and cognition has been paralleled by a revolutionary turn in epistemology. Until rather recently, analytic epistemology has operated under the received view that knowledge ought to be treated as a discrete unit, a propositional statement, which is believed, somehow justified in being believed, and true. Discussions have thus centered on topics such as how we come to have our beliefs, how we should best conceive of justification, the relationships between our units of knowledge, how we know that we know (if we do at all), and so on. However, the past few decades have seen several branches break away from these core topics, exploring the social nature of knowledge and knowledge production processes (Nelson 1990), epistemic practices, epistemic and intellectual virtues (Battaly 2018), injustices between knowers and between knowers and

institutions of knowing (Fricker 2007, Dotson 2012), and the epistemology of understanding (Grimm 2012).

While there has been a lot of activity at the crossroads of epistemology and situated cognition, a term used to describe the family of e-approaches to cognition (e.g. extended, enactive, embedded, embodied, ecological; see Solomon 2006 for a particularly prescient example), there has been no extensive treatment of epistemology through the enactive framework. However, there have been some notable contributions from enactivists that have begun to clear the ground for such work. One such example is De Jaegher's proposal for an engaged epistemology (2019), which describes epistemic phenomena in terms of knowing-in-connection. She describes knowing as relational balance between loving and letting be, as a way of appreciating the tensions and inconsistencies in knowing as a fully engaged, rather than disengaged practice. Another preliminary example is found in the discussion of what is called the *objectifying attitude* in the enactive account of language by Di Paolo, Cuffari, and De Jaegher (2018). They present the attitude as a way of thinking about how we treat practices or linguistic artefacts as objects within particular practices.

In line with the work of feminist social epistemologists (Alcoff 1996), I hold that by re-conceptualizing our epistemic processes holistically (by not reducing them to any one explanatory domain, i.e. social or neurological), we open up new possibilities of explaining and perhaps transforming our epistemic landscapes. The enactive approach to cognition provides non-reductive, phenomenologically informed naturalistic resources that can be helpful for doing so. The point of connection I will explore will be between discussions of linguistic agency (Di Paolo et al. 2018) and epistemic agency (Dotson 2012). My aim is to contribute novel, useful insights to empirically informed situated epistemology that can take the multiplicity of agencies, historicity, power structures, practices, and their contexts into consideration.

In order to make this connection, I outline how we might think of our epistemic practices as a relationship between knowers situated socio-culturally and politically (Haraway 1988, Alcoff 1996), within institutions and sedimented structures of exchange, and involved in particular kinds of participatory sense-making (De Jaegher & Di Paolo 2007). In drawing connections between this framework and critical social epistemology, I look at how this gives us some tools for thinking about epistemic oppressions and their lasting, embodied effects. I also show that using the enactive approach can provide new insights on the epistemic value of diversity.

This is not to exclude or deny a place for normative assessments of the aims of epistemic practices. Analytic epistemology's interest in the "epistemic goal of truth" (Solomon 2006, p. 416) or the "normative evaluation of reasoning" (Solomon 2006, p. 417) is its own sort of situated epistemic practice. What we get from an enactive approach is a starting point where sociocultural situatedness is taken into account as being fundamental to knowledge production and its artefacts. We can then approach normative assessments of those artefacts from within a framework which understands these as specific situated practices, rather than starting from (largely Western) normative practices and trying to make our broader epistemic explorations fit within that fixed normative framework.

The paper unfolds in the following manner. In the second section, I detail the enactive approach to cognition. In the third section, I explain how this approach can be taken as a starting point for a different kind of naturalistic approach to epistemology. The fourth section connects linguistic agency with Kristie Dotson's work on epistemic agency (2012, 2014). In the fifth section, I discuss how we can think of the relationship between epistemic agency and epistemic communities. I then conclude with some thoughts about other directions an enactive epistemology could explore.

3.2 The Enactive Framework

The recent intersubjective turn in the cognitive sciences (see De Jaegher 2018), especially the enactivist conception, complicates the naturalistic underpinnings of much of what has been previously thought about the cognitive phenomena involved with having or producing knowledge, challenging received views about the individuality and internalism of cognitive processes. Cognitive and computer scientist William Clancey describes the empirical perspective of the situated approach to cognition as adhering to the idea that:

“[W]e cannot locate meaning in the text, life in the cell, the person in the body, knowledge in the brain, a memory in a neuron. Rather, these are all active, dynamic processes, existing only in interactive behaviors of cultural, social, biological, and physical environment systems. Meaning, life, people, knowledge, and so on, are not arbitrary, wholly subjective, culturally relative, or totally improvised. Rather, behaviors, conceptions, and emotional experiences are

constrained by historically developed structural relations among parts and subprocesses in different kinds of memories - neural, artifactual, representational, and organizational - and are dynamically constrained in action across system levels.” (Clancey 2009, p.28)

Enactive understandings of cognition, drawing from the autopoietic notion of organismic self-production, explain living as a process of maintenance and production, in which we are always precariously coupled with the world, exerting energy to maintain these processes and avoid equilibrium. On this account, cognition is a “relational domain enacted or brought forth by [a] being’s autonomous agency and mode of coupling with the environment” (Thompson 2007, p. 13). It is inherently integrative, in that it does not treat individual cognition and social practices as constituting different realms of inquiry—subjectivity is social, and the social is intersubjective. Further, drawing from research in cognitive science and robotics, enactivists hold that cognitive processes are not representational in nature—rather, cognition involves “skillful know-how in situated and embodied action” (Thompson 2007, p. 13). This is in contrast to the well-established paradigm of cognitivist, or computational, approaches to mind. A cognitivist approach to mind posits that cognition is a matter of manipulating, processing, or making inferences through the computation of contentful mental states, or representations (Adams 2010). Pillars of the traditional computational theory are that cognition is internal, brain-bound, inferential, contentful, and representational (Fodor 2007).

The enactive paradigm views cognition as involving brain, body, and environment. Explaining cognition therefore requires looking at the domain(s) in which it takes place, the body’s capacities for interaction, sociocultural shaping, and habits of interaction. Looking at cognition as involving embodied, skillful know-how, though, means that explanations of cognition, for enactivists, will involve dynamic variables over multiple, nested scales (Baggs and Chemero 2019). It also means that the approach to naturalism is not inter-theoretically reductive; cognition is spatially and temporally extensive, and explanations of cognitive phenomena will involve research at multiple scales (Gallagher 2018; McGivern 2018). Enactive cognitive science is thus interdisciplinary, and points to no particular science as being able to offer a fundamental type of explanation for cognition.

The basic idea of autopoietic enactivism is simple and biological in nature—we are bounded, autonomous, precarious biological organisms seeking continuity and stability in the processes of self-production and self-individuation. Self-maintenance requires that we see the world in terms of significance, as affording support or possibly hindering our continuity. This *sense-making*, as “the creation and appreciation of meaning” (De Jaegher and Di Paolo 2007, p. 488), is fundamental to the enactive approach. However, while it is a claim about our enactive mode of being, it is also a claim about the fundamentality of subjectivity or perspective for any cognizing bodies (De Jaegher and Di Paolo 2007).

How might enactive cognitive science, though, scale up in order to explain the cognitive phenomena associated with our epistemic practices? While this has been an ongoing challenge for non-representational theories, the enactive account of languaging given by Di Paolo, Cuffari, and De Jaegher (2018) provides an excellent groundwork for looking at more specific linguistic practices. The approach doesn’t attempt to explain what language is in terms of brain localities or activation patterns, try to specify what separates language from other forms of communication, or take as its subject those sophisticated tokens of language use that come to mind when we think of particular (culturally relevant) human practices. Rather, their approach begins from our linguistic practices, as bodies shaped intersubjectively and linguistically with others as we navigate multiple scales of agency. Language is treated not as “a static entity, manifested as a set of rules, vocabularies, nor even a series of communication events. Language is a living stream of activity in the sociomaterial world of practices and history” (Di Paolo et. al 2018, p. 7). Language, as discussed on cognitivist accounts, is often thought to require an explanation in terms of the computation of contentful mental representations, so this is quite a shift in how we might begin carving out the phenomena of interest. That is, the investigation begins from the *activity* of languaging⁷ rather than from the assumption that an explanation involves looking to neuroscience to tell us how we represent linguistic artefacts.

Their account is founded in the enactive assumption of three dimensions of embodiment. One dimension is the organic, which is comprised of the regulatory processes which establish the possibility for activities related to self-individuation and production (i.e. metabolic and respiratory processes), as discussed above. The second

⁷ This draws from Maturana and Varela’s earlier work towards an autopoietic account of languaging (1980, 1987).

dimension involves the sensorimotor coupling processes between the organism and the environment—in brief, these are our active engagements with the environment, those that create stable patterns of interaction, or habits, over time. The third dimension of embodiment, which will be the main focus of what follows, is the intersubjective dimension, in which we find social practices and their shaping of our cognitive processes. These entangled dimensions of embodiment permeate, scaffold, and constrain each other in an ongoing fashion.

The intersubjective dimension of embodiment, for human forms of life, involves *participatory sense-making* (De Jaegher and Di Paolo 2007). Participatory sense-making takes place when participants engage in an interaction which enables them to establish a joint domain of meaning, or sense-making. Through participating in the shared sense-making interaction, all parties are themselves changed—they create and shape the interactive process, and engagement in the interactive process shapes them. And because intersubjective bodies are permeated by and realized through our organic and sensorimotor bodies, engaging in participatory sense-making influences and shapes our other dimensions of embodiment, which shape further acts of participatory sense-making.

With the introduction of linguistic practices and participatory sense-making in the third domain of embodiment, we see an expansion of interrelated cognitive phenomena. For human forms of life, language is an integral part of participatory sense-making and the normative elements that structure our interactions (Cuffari et al. 2015). At the core of these is our linguistic agency, which consists in our “orchestrating and ordering” of our utterance flows (Di Paolo et al 2018, p. 2). These utterance flows are “rooted in past utterances made and reported by a multitude of participants” in an “ongoing appropriation of the utterances of others” (p. 191). We live amidst language, and we absorb the linguistic practices and means of meaning creation which they enable. These also enable self-directed utterances that can influence our sensorimotor habits and ways of comporting ourselves. For example, we can have a sensorimotor habit that persists, such as smoking, that is at odds with our best interest in maintaining organismic continuity (Di Paolo et al. 2018). I can intervene on this habit (by telling myself “I am quitting smoking”), or—perhaps more often in this case—unsuccessfully attempt to intervene (“Just one more, then I’m done”).

Linguistic practices lead to both other- and self-directed sensorimotor habits and sense-making patterns. They can also allow us to create long-term goals (or

intentions) which allow us to become distally engaged to temporally distant possibilities, such as buying a house or earning a college degree (Brancazio and Segundo-Ortin 2020). In short, linguistic agency allows us to shape ourselves, others, and our shared niche through the co-creation of meaning in linguistic domains of participatory sense-making and the emergence of self-directed utterances.

3.3 Epistemic Practices

An enactive account of languaging might seem to have very little in terms of a starting point to engage with traditional epistemology. However, having intersubjectivity as the starting point for a naturalized account of epistemology has already been the starting point for much of feminist social epistemology (see Haraway 1988, Alcoff 1996, Solomon 1994, 2006). This work starts from the understanding that we engage in socioculturally situated epistemic practices through which we seek truth together, and that a normative analysis of knowledge should start by looking at a knowing community and its practices. In doing so, social epistemology moves away from treating individual propositions or lone epistemic agents as the phenomena of interest to epistemology.

Epistemic practices are those that aim to create knowledge, however conceived. The primary phenomena of interest to epistemology has been the epistemic objects, as propositional statements, that are often taken, especially by philosophers of science and epistemology, as the paradigmatic ‘outputs’ of epistemic practices. Rather than beginning with these, treated as discrete and context-independent entities, and working our way towards an adequate naturalistic underpinning, I will start from the place of our epistemic practices. So as not to privilege the sciences as paradigm epistemic communities and producers of knowledge, I will instead refer to what is created in epistemic practices (stories, data, ‘knowledge’, assertions) epistemic artefacts (rather than objects) to emphasize the sociocultural and historical situation of the aims of our epistemic practices. Amongst differing cultures and sub-cultures, the participation genres that are considered to be those that produce knowledge can differ quite dramatically, from religious practices to in-group affirmational practices to the practices of sciences ordered in a hierarchy to discussions between group elders. Starting from epistemic practices, rather than from normative conclusions about what those might be, offers the opportunity to build a framework suitable for considering the sociocultural situatedness of differing knowledge production practices. For this

reason, I will not be considering the possibility of any *overarching* normative questions about knowledge or understanding.

In their development of the account of linguistic bodies, Di Paolo, Cuffari, and De Jaegher (2018) discuss what they call the *objectifying attitude* that we are able to take up in virtue of our linguistic agency. The objectifying attitude is “understood less as the search for propositional truths than as the practice of regulating other practices and experiences in a mutually constraining relation with sociomaterial conditions” (Di Paolo et al. 2018, p. 203). It involves the practice of taking up attitudes that objectify our own practices, a meta-practice of sorts, in order to evaluate or shape sociomaterial practices, which in turn constrain the objectifying attitudes that can be taken towards them. They specify that the objectifying attitude “appears progressively in our model in the shape of a recursive pragmatics: social practices for regulating other social practices” (Di Paolo et al. 2018, p. 203-4). Similar to their approach to language, they don’t start with the artefacts we might think of in a folk sense as objective, or objectivity as it has been taken up in the philosophical literature, but instead begin from within the practices in which it is possible and normatively appropriate to adopt the objectifying attitude.

Taken up in participatory sense-making, we can take part in making assertions together—we can collaboratively pick out aspects or objects of our lifeworld and create “*objects of joint doing*” (Di Paolo et al. 2018, p. 200). We can jointly attend to them, creating linguistic artefacts (assertions or propositions) that we also treat as objects. The objectifying attitude allows us to produce these epistemic objects, but taking them up is its own participation genre, governed by its own distinctive norms. Epistemic objects, rather than epistemic artefacts, are those taken up in very particular contexts where it is treated as socioculturally appropriate *to* treat knowledge as discrete and context-independent, as it is in traditional analytic epistemology or particular sciences. Thus, epistemic objects are taken up via the practice of a particular way of taking up epistemic artefacts. Epistemic practices are not only concerned with the creation of knowledge but have a reflective element in which epistemic objects are evaluated and are governed by intersubjectively constituted norms of production and presentation.

Previous work in situated cognition, specifically that on situated knowledge, can also be helpful in getting a grip on the important dynamics that take place in epistemic communities. In detailing the scientific precursors of situated cognition, William

Clancey summarizes the empirical framework situated theorists take in looking at knowledge by saying:

“Specifically, situated cognition views human knowledge not as final objective facts but as (1) arising conceptually (e.g., dynamically constructed, remembered, reinterpreted) and articulated within a social context (i.e., a context conceived with respect to social roles and norms); (2) varying within a population in specialized niches (areas of expertise); (3) socially reproduced (e.g., learning in communities of practice); (Lave & Wenger, 1991); and (4) transformed by individuals and groups in processes of assimilation that are inevitably adapted and interpreted from unique perspectives (improvised in action, not simply transferred and applied).” (Clancey 2009, p.17)

The enactive account also acknowledges the ways that our particular practices are embedded in a network of overlapping objective attitudes and sense-making processes, giving us a deep and nested conception of situatedness: “Language is a social, historical, and material phenomenon that cannot be dissociated from political configuration and struggles. It also constantly interpolates and constructs subjective attitudes rather than simply being a vehicle for communicative intentions” (Di Paolo et al. 2018, p. 116-117).

The enactive approach provides an excellent naturalistic starting point for examining how we come to have different knowledge on phenomena, as well as how we might have different justifications for that knowledge given the context of investigation and sociocultural factors. The account also resonates with the work being done in feminist social epistemology. For example, as Elizabeth Anderson has noted, “it is impossible for individuals to rely only on themselves, for the very reason and interpretations of their experience on which they rely and which seems most to be their own, is a social achievement, not an individual endowment” (1995, p. 53; see also Nelson 1990, Scheman 1983).

In this section, I have explained how the situated and enactive paradigms have much to offer in terms of explaining the relationship between cognition and knowledge production. As linguistic agents, we are caught up in practices through which we create meaning with others, and which constrain and enable our other domains of sense-making. Knowledge creation and sharing are situated, contextual

practices—but they are also deeply personal. To explore this tension, in the next section I will discuss the relationship between communities and agency.

3.4 Epistemic Communities and Epistemic Agency

One area that has pioneered the conceptual territory now being explored in enactivism is standpoint theory. To have a standpoint is often defined as coming to have knowledge of the manifestations of particular kinds of oppressions through collective consciousness-raising and knowledge production practices (Wylie 2003, Hartsock 1983). As put by Joseph Rouse, a philosopher of science deeply engaged with feminist theory, “Standpoint theories situate knowledge and epistemic warrant within the world, amid our interactions with other agents, rather than in an abstracted space of representations” (Rouse 2009). If we conceive of epistemic practices as socioculturally scaffolded cognitive processes, then looking at differences in how our communities and situations create and influence the grounds for epistemic warrant seems a fitting place for a naturalist to start. This point is foundational to the enactive approach: “Utterances become historically entangled and this, in part, drives processes of sedimentation in the living stream of language. The incorporated flows of utterances that make up a linguistic agent are always the joint result of personal enactments and of patterns that live in the community; linguistic bodies—the embodiment of linguistic agency—are both personal and constitutively social. They are communal achievements” (Di Paolo et al. 2018, p. 192-3).

Knowing communities are not alike. Importantly, as discussed above, the enactive account treats knowing as a kind of participatory sense-making taking place within a particular *participation genre*. Drawing from Bakhtin’s (1986) speech genres, Di Paolo et al. (2018) describe participation genres as “relatively well-delimited starting points that precoordinated the expectations of producers and audience without ever removing the need for ongoing negotiation and coregulation” (p. 178). Participation genres extend to all kinds of collaborative activities, and *speech genres* are the discursive framings (norms, styles, etc.) that exist within the context of those activities. If we think about how epistemic communities work, whether we are considering standpoints, scientific communities, research communities, religious communities, or others, the collective aspects can oftentimes be as important to explanations of knowledge production as individual experiences and capacities.

This is precisely the phenomenon of interest to social epistemologies. More specifically, this is the area explored by those that look at how marginalization affects epistemic practices, communities, and artefacts, how some cultural or sub-cultural epistemologies are treated within broader societies, and the colonization or erasure of epistemologies. For anyone familiar with feminist epistemologies and philosophy of science, it might be clear that the enactive account already has much in common with feminist theorizing about the epistemic practices of scientific research communities. Feminist epistemologies have long been on the forefront of theorizing about issues with claims on objectivity, the situatedness of scientists, and the sociocultural embeddedness and political values of scientific communities and their participants. Seeing these linkages, the relationship between situated cognition and feminist epistemology has been detailed at some length by Miriam Solomon (2007). As she writes, “for the most part situated cognition has not been incorporated into either descriptive or normative discussions. Normative concepts like ‘justified’ and ‘knows’ remain largely individualistic, linguistic, general and explicit. It is time for analytic philosophy to catch up with the rest of cognitive science” (2007, p. 414).

As discussed above, the received view in analytic epistemology is that epistemic artefacts are to be attributed to individuals. This has been a point of contention between traditional analytic and social epistemology. Linda Alcoff, for example, has given us reason to question the assumption that individuals are the primary agents of interest for epistemic phenomena. She says:

“Epistemology has most often assumed that knowing occurs between an individual and an object or world. This typically Western assumption of individualism (which operates as both an ontological assumption and a value) dictates the kinds of problems and hurdles epistemologists set themselves to overcome. ... Most knowledge, however, is produced through collective endeavor and is largely dependent on the knowledge produced by others. It is not achieved by individuals. If epistemology were to dispense with its individualist assumption and begin with a conception of knowing as collective, a different agenda of issues would suggest itself. For example, we would need a more complicated understanding of the epistemic interrelationships of a knowing community; we would want to understand the relation between modes of social organization and the types of beliefs that appear reasonable; and we

would need to explore the influence of the political relationships between individuals on their epistemic relationships.” (1996, p.231)

The assertion of individuality is itself very much a practice situated in and scaffolded by participation in sociolinguistic practices. As Emily Lee summarizes the view of Alcott, “the self does not develop, does not come to self-understanding outside a relation with the other and a horizon of social meanings” (Lee 2011, p. 260).

Epistemic artefacts, then, are always produced as part of a particular practice, within possibly several different sets of norms, and involve the appropriation of the utterances of others. Here again, we might turn to the enactive account of languaging, taking seriously that:

“Since the frequency, recursion, and style of social interactions are bound by the nested constraints of locality, familiarity, power relations, and intergenerational asymmetries, interactive encounters never occur in a context-free manner, but are situated within conditions they themselves help create as participants move nonuniformly from one encounter to the next. Thus, interactions occur differently within the contexts of family, colleagues, friends, communities, and so on. ... Thus, in and around the bodies of interactors and the enactments of social interactions various sources of normativity are at play and sometimes in tension: the norms of the embodied individual participants, the emerging norms of the interactive dynamics, and the larger norms of the habitus.” (Di Paolo et al. 2018, p. 144-145)

While we might not want to reduce the production of epistemic artefacts and epistemic practices to individuals, neither do we want to ignore the crucial role of agency. As might be clear, for enactivism, the production of propositions is considered a skillful activity rather than the retrieval of stored information. Knowing is treated as an active, embedded process that takes place within appropriate conditions. This again can be taken in line with previous work in situated cognition, where the paradigm holds that the knowledge production of individuals (the act of making utterances evaluable for veridicality or community assessment) is situationally determined (Solomon 2007). It is an activity appropriate for certain kinds of social interactions, or in certain environments, as part of a particular practice. But, as discussed above, though there

are agential aspects to the epistemic process, it is not merely that a proposition formed and held internally by an individual is articulated. Knowledge production takes place in processes of participatory sense-making, or through a process of habituation established through such processes.

Recognition of the particularity of epistemic practices and the dynamics between agents in epistemic communities has led social epistemologists to introduce the notion of *epistemic agency*. Kristie Dotson, drawing from Townley (2003), defines epistemic agency as being able to utilize “shared epistemic resources within a given epistemic community in order to participate in knowledge production and, if required, the revision of those same resources” (2012, p. 24). Dotson’s definition can be unpacked to help in getting a better sense of the important aspects of epistemic interactions and practices that can be connected to the enactivist framework.

First, the idea of shared epistemic resources has been discussed at some length in the epistemology literature, though the focus is often times only on hermeneutical resources (Fricker 2007), or the linguistic concepts that we have available for making sense of and expressing our experiences. Gaile Pohlhaus offers a broader definition of epistemic resources, clarifying that “[k]nowing requires resources of the mind, such as language to formulate propositions, concepts to make sense of experience, procedures to approach the world and standards to judge particular accounts of experience” (2011, p. 718).

Second, epistemic agency is exercised within particular epistemic communities in which one is able to be involved as a participant in knowledge production. This needn’t mean that one has specific kind of authority or expertise, only the expertise appropriate for the norms of the community. While this could mean a very specialized type of epistemic community (cultural, practical, academic, religious, and so on), this could also be as a member of the wider social population. As Solomon has discussed, the situated cognition approach to knowledge holds that knowing can be domain specific in this way (2007, p. 215). This means that knowledge is often developed as a competence at levels of concreteness and abstraction, and that skill or applicability in one task might not apply at other levels or in other tasks.

As discussed above, the enactive account gives us a way of thinking about these as participation genres. Epistemic communities might have varying pre-coordinated expectations about appropriate levels of expertise and skill, assumptions about shared hermeneutical resources, and styles of languaging (speech genres), but epistemic

resources might also involve the socio-material environment of epistemic practices. For example, science studies researchers such as Pickering (1995) have pointed out that “scientists have situated knowledge practices that are constituted around local experimental successes and are dependent on particular tools, domains, historical contexts and forms of social organization” (Solomon 2007, p. 413; see also Hekman 2010). We not only need to take into account that acts of knowing are taking place in participatory contexts within specific epistemic communities, but also that those epistemic practices involve a material environment that has been created to enable those practices, or on which those practices sometimes depend.

Given what I’ve provided so far, there might be a red flag raised for those whose priority is in providing naturalistic grounds for a strong correspondence relation between epistemic artefacts and ‘the world’. However, given our shared practices, it need not be the case that this devolves into complete epistemic relativity, as these shared practices (such as in the sciences) rely on agreed upon epistemic goals and methods appropriate for that specific domain of interest. I think a discussion of how an enactive approach to epistemology might deal with matters widely discussed in social epistemology, such as objectivity, is in order, but it is outside of the scope of this paper. Any situated approaches to epistemology would likely be subject to the same concerns about objectivity often directed at social feminist epistemology, which is noted by Solomon:

“My final conclusion is that epistemology is complex (there are many variables) and specific (lacking many global generalizations). Any normative recommendations and judgments will be for particular kinds of situation (domain, social organization, etc) and highly dependent on descriptive understanding of the situation. The move to situated cognition is thus a move away from generality in epistemology. Cartwright (1983) and Dupre (1993) have argued that generality in ontology (the ‘laws of nature’) is a myth, and that the most that scientists find is local regularities. I am arguing for a similar position in epistemology.” (2007, p. 426)

My thought is that this is a problem if one wants to be a realist about truth, but realism and anti-realism are not my issue here (see Rowbottom 2019 for a defense of anti-realist epistemology). The enactive position is that taking the objective attitude *towards*

epistemic phenomena is already a situated normative convention. What we get from an enactive approach to epistemic agency is a sense of the myriad factors which co-constitute these processes of knowledge production. The idea is to explain the practice of getting at truth, not to confirm or deny that we're getting at truth through practice.

Thinking of engaging in epistemic practices as being involved in participatory sense-making processes that involve a level of skill or expertise, taken up in epistemic agency, gives us some purchase on the dynamics at play in epistemic interactions. In sharing or co-creating knowledge with others, the interaction can shape, change, influence, or harm the participant (De Jaegher and Di Paolo 2007). I've made a case that social epistemology can be useful for thinking about an enactive account of epistemic practices and phenomena. I'll now look at more specific phenomena discussed within social epistemology to expand the connection: community values and epistemic oppression. The question remains whether the enactivist account has anything to offer social epistemology, which I will answer in the affirmative in the final section.

3.5 Epistemic Values and Oppressions

Epistemic practices and their artefacts often reflect the values and interests of those who produce them. One of the core claims of critical social epistemologists is that group values affect epistemic practices, carve out domains of inquiry, and influence how we establish epistemic resources. Again, to quote Linda Alcoff: "Any claim to validity, authorization, or legitimation implies a position on how the world is to be conceptualized and understood in its relation to the sphere of the social and the knowledge under dispute" (1996, p. 3). Any epistemic artefact that makes claims about how the world is contains the implication that we ought to understand it that way. Considering the collective aspects of our knowledge production processes, this makes sense. We seek out those similarly situated to create knowledge about our lived experience. We build communities and develop expertise around the questions that matter to us. We actively seek the information that we value, and our interrelated projects and ways of being dictate, in many ways, the interactions with the world and others in which we act as knowing agents. Even in epistemic agency, our "flow of engagements with the world is always already imbued with significance" (De Jaegher 2019, p. 8).

Epistemic engagement with others “requires us to navigate tensions between embodied and interactive normative domains that are not guaranteed to be in alignment” (De Jaegher 2019, p. 9). As critical social epistemologies show us, these are often not in alignment. Members of marginalized groups are often at a disadvantage in epistemic engagement as individual and structural prejudices and inequalities manifest in our epistemic communities, practices, and interactions. The norms established by and meant to maintain the status quo of dominant groups are overrepresented in many epistemic communities, which leads to a number of epistemic harms.

The literature on epistemic injustices and epistemic oppressions looks at the ways that marginalization and prejudice shape epistemic resources, exchanges, and affect us as epistemic agents. Miranda Fricker (2007) discusses two kinds of epistemic injustices experienced by marginalized persons. The first is the injustice of being attributed with less epistemic credibility than we ought to be attributed, or testimonial injustice. The second is the injustice of not having the concepts needed to describe our experiences (2007) and the harm of not having some of these concepts, developed in epistemic communities, be accepted in other epistemic communities (2016). And as explained by Kristie Dotson, marginalized persons can experience epistemic silencing and exclusion in knowledge-sharing or testimonial interactions (2011, 2014), and these and other ongoing epistemic injustices should be thought of as epistemic oppressions.

Given research on how phenomena such as stereotype threat (when one underperforms in a task due to being told that members of an identity group to which they belong tend to ‘be bad at’ those kinds of tasks) can lead to ongoing experiences of self-doubt (Goguen 2016), I think it’s fair to think that we might also need to pay attention to the ways that oppressions in epistemic practices can have lasting effects through how we conceive of and comport ourselves as knowers. This is especially important within epistemic contexts where we know these oppressions are pervasive. However, while epistemic injustices are acts perpetuated by individuals in interaction, they are not simply reducible to the individual because they are often supported by epistemic communities and practices that structurally perpetuate those injustices.

Dotson also explains that these kinds of harms to one’s epistemic agency aren’t just harms to the individual, but are harms to the broader epistemic community (Dotson 2012). To deny the inclusion of epistemic resources, perspectives, or

participation, given that the exclusion is unwarranted, is to suppress the epistemic community in its aims to create knowledge.

I want to specify that these are not necessarily ubiquitous oppressions, though they might be encountered frequently, and though they might be pervasive within some communities. We are not members of just one epistemic community. And as Dotson points out about hermeneutical injustices, “Fricker seems to assume that there is but one set of collective hermeneutical resources that we are all equally dependent upon. I do not share this assumption. We do not all depend on the same hermeneutical resources. Such an assumption fails to take into account alternative epistemologies, countermythologies, and hidden transcripts that exist in hermeneutically marginalized communities *among themselves*” (Dotson 2012, p. 31).

We are members of a number of epistemic communities, through our identities, expertise, and interests. Here we ought to take into consideration that our sense-making capacities are scaffolded and changed in collaboration with others in our epistemic communities. Our engagement in each of these participation genres involves participatory sense-making within different speech genres and norms of engagement. But in some of these more than others, the values, interests, and shared experiences of our groups will shape the way that we create knowledge and how.

In being situated by our sociocultural identities and creating knowledge collectively, we also inherit a history of meaning that is always more than we can capture in our epistemic practices; these shape the way that the world appears as significant to us. And as the domains of embodiment scaffold and constrain each other, sense-making processes in the different domains of embodiment will shape the way that we attend to the world, others, and our comportment in it (Brancazio 2019, also see chapter 4).

Considered this way, we can see that the harms to epistemic agency can be far reaching. Dominant groups encounter a dilemma in participating with marginalized persons in epistemic communities. Through epistemic silencing, exclusion, and the rejection of epistemic resources from other epistemic communities, dominant members can maintain the status quo and preserve their values and interests. On the other hand, they are harmed through this lack of inclusion in their aims to generate knowledge. Oftentimes dominant groups benefit from isolating and absorbing members of non-dominant identity groups into their epistemic communities so long as non-dominant members comply with the speech genres established and maintained

by dominant members, by way of appearing representative (or box-ticking for diversity hires), and also through habituating marginalized persons to attend to the world and others using the epistemic resources and practices established by the dominant group. Not only does this affect one's resources for articulating their experience, but it can influence the way in which the world and others appear significant. The harms to marginalized persons participating in these epistemic communities, especially where there is ongoing epistemic oppression taking place, isolation, or forced compliance (fear of losing one's job, for example), can thus be profound.

This brings me to my final point. When we focus on the sciences, or any particular epistemic community as the paradigm for knowledge production practices, we don't just devalue other epistemic practices. We also ignore the ways that epistemic communities benefit from their connections with other communities. There are many cases in which collective practices, given members' similarities in experiences due to oppressions have given rise to new knowledges. Take for example the introduction of the term 'cisnormativity' to describe the generalized assumption (social, institution, representational, and so on) that a gender assigned at birth will match a person's gender identity. This term came into use in the LGBTQIA+ community due to the collective need to describe the experiences of trans and gender-diverse persons navigating systems that did not take their lived identities and needs into account. This term was then taken up academically in 2009 (by Bauer et al.) to address a systemic problem in the healthcare system. The term has now been used in numerous academic fields by researchers looking at the ways in which cisnormativity affects trans and gender diverse persons in other institutions—for example, in prisons (Daley & Radford 2018) and in education (Cumming-Potvin & Martino 2018)—in efforts to improve those institutions. We see the creation of a term by those for whom the term reflected something significant in experience, taken up in academia, a place where those who are members of both epistemic communities have often been subject to epistemic oppressions. The incorporation of the new epistemic resource enables the increase of the perception of its significance in institutions, and novel applications of its use to document, critique, and attempt to reduce systemic problems.⁸

Epistemic agency can be the site of great harms as well as the site of radical, transformative change. In this section, I've discussed how we might begin to think

⁸ Similar to the case of Carmita Wood discussed in Miranda Fricker's work on epistemic injustice (2007), the lack of this term previous to this might be viewed as a hermeneutic injustice.

about epistemic values and oppressions on the enactivist framework. I turn now to some positive aspects of belonging to multiple epistemic communities, and what that can add to discussions on the importance of epistemic diversity.

3.6 Epistemic Diversity

What enactivism and social epistemologies both tell us about the nature of our epistemic practices is that practices and agencies are co-constitutive: agencies shape practices, and practices shape agencies. It would be a mistake to isolate an epistemic agent, or individual, in isolation, as *the* proper subject of inquiry (Grasswick 2004). How then might we discuss diversity in our epistemic communities without reducing its value to the individuals involved? The enactivist approach gives us a way to discuss the ways that situatedness lends itself to valuable differences in epistemic processes and practices without making claims that reduce these differences in any determinate sense. Also, and unlike cognitivist approaches, we can do so without treating differences in situatedness as differences in epistemic access to content or information in the world.

Feminist epistemologists have been on the forefront in examining the ways that marginalized perspectives have been neglected in research communities, especially in the sciences, and how diversity in research communities can improve our epistemic projects. For example, having representative research communities can expose entrenched colonial and patriarchal values and narratives in programs and methodologies, and bring to light predilections or oversights in deciding which phenomena are relevant for study (and the factors that may or may not be incidental to knowing about those phenomena).

How it is that *situatedness*, or our socio-cultural-political location and identity, actually affects epistemic processes and practices, and whether diversity in situatedness provides epistemic value, has been the source of some disagreement. Cognitive diversity, within traditional epistemology, has garnered a fair bit of discussion as it applies to epistemic normativity, belief evaluation, and what it is to assert that one knows, but there is a wide variation in the sense of diversity at play. The term ‘cognitive diversity’ (or similar terms, such as ‘cognitive style’) is used to indicate differences in situatedness or demographic diversity, to point out differences in standpoints, to discuss neurodiversity, and even to mean political differences (Harding 1982, Hill

Collins 2000, Brown 2013, Williamson 2000). It can be challenging to understand the epistemic value of diversity when cognitive diversity can mean as little as “variation in background beliefs, concepts used, and reasoning styles” (Pöyhönen 2017).

Arguments promoting the epistemic value of diversity have been criticized for not being clear enough about why it is epistemically important rather than important in virtue of moral and political injustices. While diversity has been argued to be a group epistemic virtue (Longino 2001), the reasons given for the epistemic value of diversity tend to focus on moral and political issues, such as compensation for epistemic injustices (Fricker 2007) and filtering of problematic biases (Antony 2016). Without demographic differences being connected to sociocultural marginalization, it is not clear what makes diversity *epistemically* valuable. While there is general consensus on the importance of diversity, reasons are often based on the inequality of underrepresented groups. In other words, it can appear that the oppression that one experiences because of aspects of their lived identities makes their epistemic situation unique, not one’s lived identities alone.

Louise Antony, for instance, takes issue with the idea that diversity in situatedness is epistemically valuable: “The assumption needs justification—it certainly does not follow from the *social importance* of race, gender, and so forth that such properties are more *epistemically* important than any other parameters of variation” (Antony 2016, p. 170, emphasis original). Without qualification of some sort, Antony claims that pointing only to marginalization as contributing to the epistemic value of diversity would be to concede that there is nothing more to the truth than levels of influence:

“Getting at the truth is complicated, and one of the things that complicates it considerably is that powerful people frequently have strong motives for keeping less powerful people from getting at the truth. It’s one job of a critical epistemology, in my view, to expose this fact, to make the mechanisms of such distortions transparent. But, if we, as critical epistemologists, lose sight of what we’re after, if we concede that there’s nothing at stake other than the matter of whose ‘version’ is going to prevail, then our projects become as morally bankrupt and badly self-interested as *Theirs*.” (Antony 1993)

In order to differentiate social and epistemic importance, she stresses the need for a naturalistic epistemology to establish how we might determine what *is* epistemically important. The job of the critical epistemologist, she continues, is to analyze the ways in which the truth, or access to the truth, is controlled by the interests of dominant groups by means of the inclusion of self-interests, influence, and access. It is here where she says diversity is valuable: for illuminating the ways in which the truth is being occluded by dominant groups.

Similar to Dotson's criticism of Fricker, I think one problem with Antony's view is that it assumes *one* epistemic community to which marginalized persons might be denied access. She is concerned with Helen Longino's view (2001) that the incorporation of multiple perspectives is important for getting narrative objectivity, which she considers to be representative inclusion of values and interests in epistemic communities rather than the elimination of values and interests in practices. Antony says of Longino that she "recognises that we cannot really increase the number of perspectives available to individual agents—it is always just one per agent, however various that agent's experience—but she thinks we can get the effect of doing so by increasing the number of agents whose perspectives are in play" (Antony 2016, p. 169).

For Antony, the *epistemic* benefits of increasing perspectives would only be to increase the possibility of unearthing problematic values or biases in the dominantly-governed epistemic community. Along these lines, she attempts to problematize social position as offering *epistemic* benefits, saying that Longino is "not assuming that *just any* type of diversity makes for an epistemically stronger community. She makes a much more specific assumption: viz. that variation in *social position* is what is epistemically salutary" (Antony 2016, p. 170, emphasis original). However, given the above discussion, being situated in a particular way might involve belonging to multiple different epistemic communities, and the possible epistemic contributions and insights one might have from this extend to more than one's perspective on *the* dominant epistemic community from a marginalized place within that community.

The enactivist approach gives us a way to discuss differences in epistemic processes and practices, or epistemic attunement, without conceiving of epistemic situatedness merely or most notably as epistemic access to content or information in the world. We might have one perspective, in the sense of being metaphysically limited to being one person over time, but the number of perspectives we might be privy to in terms of the ways in which we are situated within participation genres, inheriting

and co-create meaning within them, may be quite numerous. Being attuned only to the aspects of marginalized identities stemming from oppressions may be viably politically grounded (to avoid making essentializing claims about these groups). But the enactivist framework gives us a way to explore the how our habituation through belonging and building collective knowledge can perhaps give us unique knowledge production perspectives.

While the ameliorative effects of epistemic diversity have been discussed above, these are not the only epistemic benefits of diversity. Elizabeth Anderson, for instance, argues that the inclusion of feminist researchers or commitments opens up new theoretical possibilities: “Research informed by feminist commitments makes new explanatory models available, reframes old questions, exposes facts that undermine the plausibility of previously dominant theories, improves data-gathering techniques, and shifts the relations of cognitive authority among fields and theories.” (Anderson 1995, p.81). This specifies feminist commitments as being the source of these benefits, and while I agree that theoretical expertise and political attentiveness are epistemically valuable for these reasons, I think that the case for epistemic diversity goes further.

Gender-related oppression, for example, might offer an important axis of understanding, through collective practices (standpoint-building) in epistemic communities, on the manifestations of patriarchal structures and institutions and the devaluation of non-masculine traits. But it could also be the case that gender is important because of differences in habits of coupling with the environment and other subjects through (or constrained by, or in spite of) social norms and reflective processes. My view is that the enactive approach gives us a way of thinking more about the positives of diversity through embodied, inter-scale cognitive dynamics without bottoming out in reductive, essentialist explanations. For example, cultivating a standpoint can lead to more than hermeneutic or other reflective epistemic resources. The process of building collective resources can also lead us to changes in our pre-reflective processes, making us more attentive to facets of our experience of the world (as I will discuss in the next chapter).

As pioneering feminist practitioner of science Evelyn Fox Keller has said of her experience working as a feminist within the sciences that “[s]cientists in every discipline live and work with assumptions that feel like constants (“that’s what good science is”) but that are in fact variable, and, given the right kind of jolt, subject to change. Such parochialities, like any other communal practice, can be perceived only

through the lens of difference, by stepping outside the community” (Evelyn Fox Keller 1985, p. 12). I propose that these differences might not be purely given through our belonging to epistemic communities, but that we might want to take into account the ways in which they become significant to us in different ways because of our participation in differing epistemic communities. For example, in her well-known biography on Barbara McClintock (1983), Fox Keller details the way that McClintock’s approach to scientific practice in the 1950s was radically different than those of her male peers, which Fox Keller claims is (at least partially) due to the influence of gender. She argues that the ways that men approach scientific practice is guided by the ways that men are socialized to preference independence and isolation, while McClintock has been raised to favor a holistic and integrative approach. The enactive approach provides a way for exploring the ways that this kind of gender socialization can influence our epistemic practices naturalistically, non-reductively, and in a way that can be useful for a feminist, anti-racist politics that rejects any form of essentialism while embracing and celebrating diversity.

3.6 Conclusion

As one of only a few forays into enactive epistemology, there’s far more work to be done in clearing this ground, and part of that work will have to be evaluating what we want from normative claims about epistemic phenomena. Clancey motivates this rather well:

“[W]e cannot locate meaning in the text, life in the cell, the person in the body, knowledge in the brain, a memory in a neuron. Rather, these are all active, dynamic processes, existing only in interactive behaviors of cultural, social, biological, and physical environment systems. Meaning, life, people, knowledge, and so on, are not arbitrary, wholly subjective, culturally relative, or totally improvised.” (2009, p.28)

Looking at the brain alone might show connectivity differences because of habituation through sociocultural identities and interactions within systems of social norms, patterns of treatment, and neuroplasticity, developed over time in specific socio-cultural contexts. But this is only part of a full explanation of how we might understand differences in epistemic agency. By utilizing a non-reductive approach, we can also

look at the ways that sociohistorical context, group identity, personal agency, and context shape epistemic practices, and are shaped by the subject who engages in them. If we add in ecological, material, and phenomenological dimensions, we can take into account differences in the ways that social, cultural, and environmental opportunities for action, through habits of attention and interaction, shape the way in which we encounter the world and situate the practices in which we participate (Pickering 2004). I propose that by being attentive to the ways that our sociocultural situation influences our knowledge production processes, we can build an enactive epistemology that takes into consideration the deep and lasting impacts of epistemic oppressions. This nuanced approach to the cognitive underpinnings of our epistemic processes might also be useful for adding support to arguments for the epistemic value of diversity.

Chapter 4

Gender and the Senses of Agency *

Abstract:

This chapter details the ways that gender structures our senses of agency on an enactive framework. While it is common to discuss how gender influences higher, narrative levels of cognition, as with the formulation of goals and in considerations about our identities, it is less clear how gender structures our more immediate, embodied processes, such as the minimal sense of agency. While enactivists often acknowledge *that* gender and other aspects of our socio-cultural situatedness shape our cognitive processes, there is little work on *how* this shaping takes place. In order to provide such an account, I first look at the minimal and narrative senses of agency (Gallagher 2012), a distinction that draws from work on minimal and narrative selves (Zahavi 2010). Next I explain the influence of the narrative sense of agency on the minimal sense of agency through work on intention-formation (Pacherie 2007). After a discussion of the role of gender in the narrative sense of agency, I expand on work by Haslanger (2012) and Young (1980) to offer three ways in which gender influences the minimal sense of agency, showing the effect that gender has on how we perceive our possibilities for interaction in a phenomenologically immediate, pre-reflective manner.

A version of this chapter has been published as:

Brancazio, N., 2019. Gender and the senses of agency. *Phenomenology and the Cognitive Sciences*. 18, 425–440. <https://doi.org/10.1007/s11097-018-9581-z>

Chapter 4

Gender and the Senses of Agency

4.1 Introduction

Gender plays an extensive role in influencing the way we are treated, what others expect of us, and how we think of ourselves. It is likely to be seen as uncontentious, then, to claim that gender influences our sense of agency in some significant sense. However, there is an ambiguity between the different senses of agency (Gallagher 2012); this ambiguity can be thought of as existing between our *narrative*, or reflective, sense of agency and our *minimal*, or immediately embodied, sense of agency, tied, for example, to motor control processes. While it is common to discuss how gender influences higher, narrative levels of cognition, as with the formulation of goals and in considerations about our social identities, it is less clear whether, or how, gender could have a pronounced effect on our minimal sense of agency. The arguments provided in this paper will demonstrate the effect that gender has on how we perceive our possibilities for interaction in a phenomenologically immediate, pre-reflective manner.

Through an analysis of the effects of gender on our intentions and senses of agency, I will show that gender does more than factor into our cognitive deliberations and become manifest in our bodily comportment; gender structures our experience in very phenomenologically fundamental ways. Rather than positing basic, universal cognitive processes which give a phenomenological core to experience which is untouched by gender, race, or other particularities of a person's identity or situatedness, repeated patterns of behavior mediated by socioculturally situated social norms give rise to differences in even our most minimal cognitive processes. The arguments provided thus are a means to opening a dialogue about how gender norms create differences in experience without either making any claims about essential, or hard-wired, differences, or by positing a phenomenological neutral subjectivity from which gender deviates us (or, more problematically, which we should be seeking to achieve).

The paper will proceed as follows: First, I will discuss the differences between two senses of agency: the minimal sense of agency and the narrative sense of agency (Marcel 2003; Gallagher 2012), which roughly correspond to minimal and narrative selves (Gallagher 2000, Zahavi 2010). Next I will explain the influence of the narrative

sense of agency on the minimal sense of agency through work on intention-formation (Pacherie 2008). After a discussion of the role of gender in forming high-level intentions, I'll offer three ways in which gender can be said to influence the minimal sense of agency.

4.2 Senses of Agency and Intention Formation

The relationships between action, perception, and the senses of agency are so tightly knit that we can only make sense of the senses of agency by looking at them together. First, it will be important to explain the distinction between two senses of agency, and further, the action-related nature of the minimal sense of agency. That is, in the latter case, I am concerned with our sense of agency as the feeling that one is the source or cause of one's own actions in an "occurrent and immersed" sense (Marcel 2003). In phenomenological terms, this kind of agency can be thought of as pre-reflective. One generally does not need to assess whether one is exercising agency; there is, in most cases, no need for introspection to assess whether one is the source of one's own actions while engaged in those actions (Gallagher 2000, 2012). As Farrer and Frith say, "The sense of agency (i.e. being aware of causing an action) occurs in the context of a body moving in time and space." (2002, pg. 601). This phenomenological, immediate sense of agency is said to be an aspect of the minimal self, or the self as the basic subject of experience (Gallagher 2000, Zahavi 2010). Following Marcel, I will call this the *minimal sense of agency* (2003).

We ought to understand the minimal sense of agency as phenomenologically primitive. The minimal sense of agency is an aspect of the *minimal sense of self*, given through immediate experience, since the fundamental nature of phenomenological experience is that it is always experience-for-a-subject (Gallagher 2000). The minimal self is this subject, given in experience, who is always in the process of soliciting her *own* further experiences through action.⁹ Evaluating the influence of gender on the minimal sense of agency thus requires that we look at its influence on the embodied perception-action complex within which the phenomenological sense of agency arises.

⁹ It seems prudent to note that this is not always the case. There is plenty of work on pathologies and traumas related to agency, selfhood, and a sense of ownership (for example, see Yochai 2015, Gallagher 2015, Gallagher & Trigg 2016). Still, most cases involve interruptions in agency and ownership, not a complete lack. Therefore, much of what will be developed later about the influence of gender will still be applicable.

In the tradition of Merleau-Ponty (2012), Varela, Thompson, and Rosch (1991), Gallagher and Zahavi (2012), and others who hold that the body is more than a vehicle for the brain, I will argue here that our minimal sense of agency can be understood as neither separate from the body, nor decoupled from the environment. Cognition is a thoroughly relational and action-oriented dynamic process involving an organism's brain, body, and environment. In looking at the senses of agency, then, we have to consider that this minimal sense plays a role in an organism's embodied capability to interact with her environment, where embodiment is understood "in terms of wide-reaching organismic sensorimotor interactions that are contextually embedded" (Hutto and Myin, 2012, p. 6). Embodiment, then, is relational; the body itself discloses possibilities for interaction through its particular morphology (e. g. hands can grasp, eyes can peer, and so on) and the environmental context in which it is embedded (e.g. there is a cup for grasping, a night sky to gaze upon, and so on). The environment dynamically discloses its possibilities for interaction, or affordances (Gibson 1979, Chemero 2009, Kiverstein and Rietveld 2015), in relation with an organism with certain capacities to act. For the organism, not only is perception for action (Noë 2005), but action is for perception.

The dynamic interchange between the subject's embodied organism and her environment, patterned and primed by previous exchanges, changes the saliency of environmental possibilities for interaction based on her previous interactions. In other words, our actions in each moment, and our experience of those actions, influence the way that new possibilities for interaction unfold. The possibilities for interaction given to us through our bodily capacities and previous interactions, as well as our habits of coupling and their success, provide an embodied know-how that is manifest in perception and the way we perceive affordances for future actions (Kiverstein and Rietveld 2015).

There exists a long-standing tradition in the philosophy of action of looking at agency as the fulfillment of a certain causal sequence between an intention (or reason) and an action (Goldman 1970, Davidson 1980). In these cases, a functional account is given for linking the content of the action's goal and the action itself. Cognitivist approaches to agency thus tend to characterize the sense of agency in terms of a kind of *knowledge* of oneself or one's mental state as the causal source of action (Velleman 1989). Much of the literature on action and agency outside of the fields of ecological psychology and enactivism have thus been concerned with how to best describe the

causal relations between reasons for acting (as propositional attitudes) and the actions themselves. That is, they have sought to best explain the received assumption that there is a robust relationship between an agent's reasons for acting—in the sense of having a propositional attitude—and her action.

However, this view of agency seems to necessitate the extra steps of evaluation and attribution not required in the dynamic, agency-in-action view. The minimal sense of agency, as discussed above, should be considered the phenomenological side of a collection of interdependent, co-constitutive, nested processes that are temporally and spatially extensive. On this view, minimal agency is not necessarily causally guided by conceptual content. As described by Gallagher and Zahavi, “The first-order experiences of ownership and agency are embodied, non-conceptual experiences, and are closely tied to the temporal structure of consciousness. For example, if I reach to pick up a glass, there is information in my motor system that specifies something about the present and immediate history of my hand position, and an anticipation that is built into my movement as my hand shapes its grasp. This temporal structure of movement is mirrored in my sense of control over the movement and so in my sense of self-agency” (2012, p. 180). This describes what is elsewhere called our proprioceptive awareness, or our physical awareness of being the source of our own actions through the sensorimotor feedback we receive while undertaking those actions (Marcel 2003, p. 54).

However, there are many situations in which an agent *does* reflectively evaluate or explain her actions in terms of a broader framework: a belief system, history, prior intentions, future plans, and so forth. That is, she makes sense of her actions in terms of *who* she is as a continuous, coherent being, the kinds of rules or principles that she follows, and with the understanding that in order to achieve a goal in the future, she may have to accomplish many smaller goals at appropriate times. Her actions in these cases are the result of conscious, decision-making processes, and these deliberative processes lead to have a contentful mental state that has a causal link to a particular action or series of actions. There is, expectedly, a phenomenological element here as well; as Stephens and Graham (1994) describe it, making sense of her actions in this way will depend on whether she has the kinds of beliefs and intentions that cohere with the action undertaken in terms of her theory of herself and the kind of person that she is. She appeals in this case to her narrative self, or the self that she understands herself to be, based on her prior actions, belief system, and the way in which she makes

sense of herself as a being over time (Schechtman 1996). The sense of agency, in this case, will be in terms of fulfilling this consciously selected goal and initiating the actions needed to reach it. That is, there *is* a conscious causal relationship between some pre-decided, propositional or contentful attitude and an action or series of actions. I will call this the *narrative sense of agency*.

This isn't to say that conscious sense-making of one's actions always appeals to a full evaluation of oneself in a storied sense. However, there is a close connection between a notion of a narrative self and narrative agency, as the same resources used to build the former scaffold the latter. One aspect of the development of this narrative competence involves repeated exposure to narrative archetypes. Through narrative practices involving characters with a coherent story and character traits, we come to understand actions in terms of reason-action coupling (Hutto 2008). We get a sense of why a character performs a certain action based on who they are as a person *over time*.¹⁰ These stories we create for ourselves and share with others about who we are form our narrative selves, and these competencies allow us to evaluate and attribute propositional, coherent reasons for our actions.

These distinctions between the different senses of agency are not meant to be fine-grained; however, they should serve well enough to provide an understanding of the basic differences between the immediate feeling that we are the source of an action while engaged in that action and the carrying out of actions based on the prior existence of a deliberately selected goal. As I will show presently, each of these can influence the other. Again, quoting Gallagher and Zahavi, "To be human is already to be action-situated in the world in a way that defines the organized usefulness of the things we find around us, and then lets us think about them." (2012, pg. 189). As applied to the senses of agency, we can also think of this as saying that our minimal sense of agency scaffolds the ability to have a narrative sense of agency. In order to demonstrate this, as well as to emphasize the upstream and downstream relationships between the senses of agency, I will discuss the role of intention-formation processes as related to both senses of agency discussed.

One criticism of the received view of reason-action coupling is that the attribution of reasons for action is a retrospective folk psychological sense-making

¹⁰ Pacherie (2007) describes this in a similar fashion, noting that, in her parlance, the *long-term sense of agency* "may be thought to include both a sense of oneself as an agent apart from any particular action, i.e. a sense of one's capacity for action over time, and a form of self-narrative where one's past actions and projected future actions are given a general coherence and unified through a set of overarching goals, motivations, projects and general lines of conduct" (p. 6).

process (Dennett 1991), meaning that reasons for actions are provided in this way after an action is performed due to our linguistic and cooperative tendencies. However, this kind of attribution of reasons in propositional, or narrative terms, can also have a prospective, or future-directed, aspect (Gallagher 2012). One can deliberate about what she ought to do and form future intentions based on the type of person she believes she is or has been, her related goals and desires, and so forth.

Given the distinctions between the senses of agency, however, it only makes sense to consider that there may be corresponding distinctions between types of intentions.

Gallagher has previously made this case (2012), demonstrating that the distinctions between minimal and narrative senses of agency can be mapped on to intention-formation practices as detailed by Pacherie (2007; see also Bratman 1987). Pacherie distinguishes between future, present, and motor intentions (as F-intentions, P-intentions, and M-intentions). F-intentions are those intentions which we decide upon on a conscious, reflective level. These are consciously present to us precisely because they are generally the product of a conscious decision-making process, and their aims transcend what we are immediately able to accomplish. Pacherie describes P-intentions as “constrained by the present spatial as well as non-spatial characteristics of the agent, the target of the action, and the surrounding context” (2007, p. 3). These are the aims of our current actions, constrained spatially and temporally; in other words, they are those things which it is possible to accomplish *presently*. M-intentions are those sub-personal motor processes that allow us to accomplish our goals, or to enact our P-intentions, such as shaping our hand the correct way to grasp a cup or hold a pen. However, these are not (all) so sub-personal that we cannot attend to them; they are just not always a part of our immediate experience of an action.¹¹

An F-intention is a decision to pursue a specific task or even a more general goal. For example, getting a university degree is a rather general goal-oriented F-intention that cashes out into a myriad of smaller F-intentions (pass a class, do well on an exam, and so on). A better example might be my plan to take a holiday to Adelaide. The fulfillment of this F-intention requires that I fulfill a number of requirements beforehand (booking travel and rooms, getting approval for my time off, planning my itinerary) and during (getting to the airport, finding my terminal, boarding the plane). Each of these smaller components form P-intentions, and provide a smaller goal to be fulfilled. Booking the flight, for example, requires that I have the right kind of tools,

¹¹ I thank Rebecca Harrison and Patrick McGivern for insight on linking M-intentions and attention.

such as my laptop, and time available to me to be able to perform this action. Boarding the plane requires that I be in a particular environment and go through a series of steps (standing in line, navigating the terminal, getting through security, finding my way to my seat) that are only possible because I am in the proper context at the right time to facilitate their completion. Finding and settling into my seat is only an option when I am on the plane. The ability to fulfill this P-intention is reliant on my being in the right spatiotemporal context to allow me to achieve the goal.

We can see from this example that a P-intention can be part of a larger F-intention but directed at accomplishing some small goal in itself. In many cases, these may not occur to me explicitly as intentions. The action of standing in line to go through security, in the previous example, might not be the result of a conscious deliberating process. I have not *decided* to stand in line, it becomes part of a goal-oriented action based on the current spatiotemporal situation. As a frequent traveler, it might not have even occurred to me in a phenomenological sense that I need to get into the line—I simply adapted to the situation pre-reflectively while continuing to think about what I'm going to do when I disembark, or whether or not I have time for a pre-flight cocktail. However, if someone asked me what I was doing in line I could retrospectively provide them with an answer in terms of a reason (“I am waiting to go through security.”).

Drawing on this framework, Gallagher notes that the repetition of P-intentions can lead us to attribute those reasons for action in terms of more deliberate, overarching F-intentions. Gallagher provides his habit of immediately responding to letter-writing requests as an example of this. He says “over time I built up a habitual practice that seems to guide my behavior in most circumstances. If I am following a rule here, the rule seems to have emerged from my practice, rather than the other way around. I could now formulate that rule as an F-intention, but I would be doing so only in retrospective reflection” (2012, p. 20). While there may not have been a time when he rationalized this rule, he is now in the habit of forming a certain kind of response to requests (P-intention) which, if asked why, he would describe in terms of a belief about how he ought to respond to these requests (F-intention). The F-intention did not lead to P-intentions; engaging in a particular kind of P-intention repeatedly led to the formulation of an F-intention (as a rule guiding his behaviors).

Gallagher's example highlights that not only can F-intentions (as goals or rules) be fulfilled by a series of P-intentions, but that a series of separate P-intentions can

lead to the reflective formulation of an F-intention. This complicates the distinctions and relationship between types of intentions, and he argues that these complications should be brought to bear on our understanding of the senses of agency. However, Gallagher's example is explicit enough that the P-intentions in that case might be thought of as a result of a deliberation process. Perhaps he briefly deliberated a few separate times when presented with a recommendation request, and that series of separate deliberation processes led to the later formulation of an overarching F-intention.

This brings up an important issue: for Pacherie, the goals of P-intentions are contentful representations. She marks the distinction between P- and M-intentions in this regard as follows: "In contrast to M-intentions, P-intentions specify our situated goals and represent them in a perceptual representational format readily accessible to consciousness. Through them we can be aware of what our immediate goals are" (2007, p. 196) and, again, "I therefore propose to say that an action in the minimal sense is an intentional movement, and consists of two parts: the bodily movement itself and the M-intention that causes and guides this movement. An intentional action in turn also consists in two parts: an action or intentional movement, understood in the sense just outlined, and the P-intention that causes and guides it" (2007 p. 190). My concern here is that this seems to lead us to a Euthyphro dilemma: is an action intentional because it is caused by a P-intention, or do we posit the existence of a causally relevant P-intention because the action is intentional? In other words, what necessitates the existence of a contentful representation to guide the action in order for this to be the defining feature of an intentional action?

This concern may be more pronounced if we look at Pacherie's explanation of how our phenomenological experience maps onto these intentions. As she says, "our awareness of our movements rests for the most part on our awareness of the predictions made at the level of P-intentions and on the comparison between these predictions and consciously available exteroceptive feedback. When the action unfolds smoothly, this awareness is typically extremely limited. Action specification and action control mechanisms at the level of M-intentions operate automatically and remain outside the subject's subjective experience" (2007 p. 201). For Pacherie, then, M-intentions are outside of the phenomenological sphere of experience, or conscious attention, while P-intentions involve explicit phenomenological attention to a goal. As she puts it, "Forming a P-intention to act on an object, say reach for a pen, typically

involves focusing one's attention on the object that is to be the target of the action" (2007, p. 186-7). That is, the goal to be accomplished in the current context is present to us in a robust, contentful sense.

I don't intend to dispute that P-intentions can be contentful, especially in the case that they are connected to an F-intention. In fact, this seems highly appropriate. However, I'd also like to entertain the possibility that there can be non-contentful P-intentions that are available to us in phenomenological immediacy. These could be the products of joint attentional practices (where there has been external guidance on what actions to perform or how to perform them in certain contexts), behavioral corrections (where there has been external guidance on what actions not to perform or how not to perform them in certain contexts), or simply individual patterns of engagement that lead to habits of response. These would fall into a grey area between Pacherie's intentional movements and intentional actions using the contentful criterion, but the phenomenological criterion would place these into the realm of P-intentions, as they are not outside of subjective experience, nor are their aims necessarily contentful in any robust sense. These are the purposeful actions, in the minimal sense of agency, in which we find ourselves attentively immersed but that lack any prior goal-formulation process. Further, these kinds of intentional actions, which I would consider to be P-intentions, can also lead to the formulation of an F-intention at a later time, such as in Gallagher's example.

Most relevant to the following discussion of the influence of gender is the question of how aware we are of the rules that govern our behavior, or if these can be really even said to be rules before we have brought our habits into the realm of conscious consideration. We often purposefully attend to features in our current environment and, over time, the way in which we attend to these can lead us to reflectively attribute a guiding rule, or F-intention, that was not contentful at the time. Put simply, we may not be aware that we are following a particular rule until we have been following it – the rule can emerge from behavior (Gallagher 2012) – and the formulation of this rule is often removed from the previous contexts in which it was enacted.

This section has served to establish a framework for understanding how our minimal and narrative selves give rise to minimal and narrative senses of agency. In addition, these senses of agency can be mapped on to intention-formation processes. Problematic, however, is the mismatch between the criterion of content for P-

intentions and the phenomenological experience of our purposeful actions in a pre-reflective, occurrent sense. To this, I have argued that the criterion for establishing that an action is intentional should also take into account the phenomenological experience in our minimal sense of agency, especially in the case that a P-intention is not connected to an F-intention. I have also argued that these kinds of P-intentions can also later be formulated into F-intentions, regardless of whether or not they were robustly contentful at the time of action. The point I will make in the following section is that this rule-emergence from habituation provides one avenue for understanding the influence of gender on our sense of narrative agency, and in the final section, on our minimal sense of agency.

4.3 Gender and the Narrative Sense of Agency

Philosophical debates on how best to describe gender involve a range of aspects, from gender performance (Butler 1990) to the possession or assumed possession of certain capacities (Alcoff 2006) to the functional essence that defines our social identity (Witt 2011). In other words, there is little agreement on what gender is or how to best understand the associated social norms and expectations. For the purposes of this paper I will be using gender to refer to an associated and loosely unified set of socio-cultural norms, roles, and expectations historically organized around presumptions related to a sex binary. This in no way suggests that any claims about the role of gender in cognition imply that all who identify with a gender are affected in the same way, nor that all individuals identify with a gender category. Further, the account developed below purposefully rejects any claims of innate biological differences in cognitive capacities. However, I think it would be amiss to say that there are those for whom gender (under the broad definition given) has not had an impact on their lived experience.

Sally Haslanger (2012) gives a brief account of how it is that gender (and other social norms) provide us with schemas through which we make sense of the world. In her words:

“Let’s take schemas to be intersubjective patterns of perception, thought, and behavior. They are embodied in individuals as a shared cluster of open-ended dispositions to see things a certain way or to respond habitually in particular circumstances. Schemas encode knowledge and also provide scripts for

interaction with each other and our environment. They also exist at different depths. Deep schemas are pervasive and relatively unconscious. Surface schemas are more narrow and are easier to identify and change; but their change may leave the deeper schema intact.” (2012, p. 415)

Given the enactive understanding of cognition, detailed above, Haslanger’s (2012) work on gender norms provides a good starting point for understanding how it is that these gender norms might situate cognition, specifically our senses of agency. While Haslanger uses this account of schemas to make a case about contexts and truth-evaluability (what she calls “milieu relativism”), there are some aspects which the enactive account is well positioned to develop further.

As she describes them, gender norms result from divisions of labor and kinds of activities in virtue of one’s body type. Social roles, structured by these divisions, provide a (rough) set of associated norms and traits. Another way to put this would be to say that a society’s gender roles provide a normative means of assessing ourselves in light of the functional social role via specific gender norms (Haslanger 2012, p. 42).

To be clear, however, Haslanger maintains that gender norms stem from subordinative or hierarchical relationships. That is, gender, at least in the sense in which it is used now (in contemporary Western society), is used as a means of domination. Gender has been used to maintain oppressive, hierarchical institutions through which free labor is secured and reproductive autonomy denied. It is to the benefit of the dominant gender group that our social structures encourage us to see ourselves as having a gender identity and to make sense of ourselves, explicitly or implicitly, in accordance with gender norms.

One approach to understanding the impact of gender and other social norms is to look deeper at the narrative practices mentioned in the previous section, specifically as they relate to the creation of a narrative self. Beginning very early, we are repeatedly exposed to narrative archetypes as we are developing social and sense-making competencies. These archetypes, characters with a coherent story and strong personas, help us to develop an understanding of why a character performs a certain action based on their character traits. In a society with pronounced gender differences, narrative archetypes tend to reinforce the traits associated with gender norms. For example, until recently in Euro-centric cultures some of the dominant general narrative archetypes for women have been the temptress, the virgin, the mother, and the sage

(and these archetypes remain deeply entrenched). As Haslanger states, “if females are expected to perform the role of mothering and to perform it well, then rather than coerce them to fulfill this role, it is much better for females to be motivated to perform it. So the norms must be internalized, that is, they must be understood as part of one’s identity and defining what would count as one’s success as an individual” (Haslanger 2012, p.10). Making sense of oneself through the gender archetypes provided, or the internalization of these archetypes to form the basis through which one understands her narrative self, means that the way in which one makes sense of her actions and formulates goals in line with her identity are in ways that perpetuate her oppression. Assessing whether these structures of oppression are fundamental to understanding gender, as Haslanger and others (see also Antony 2016) hold, is beyond what can be accomplished here. It is enough to say that they presently continue to sustain these and other injustices.

The centrality of gender in building one’s narrative self cannot be understated. Charlotte Witt (2011) has argued that because of the fundamental ways in which societies divide the social functions of individuals along gender lines, gender provides the principle of normative unity, or the basis of an individual’s social identity. However, where Witt thinks that the social identity can in some ways be separated from the person (understood as a narrative self), so that self-understanding does not need to be fundamentally gendered, it is not clear how acquainted we must be with these norms in order to achieve such a separation. Several concerns arise here: how contentful are gender norms, how able are we to access them, and is this in conflict with the issues of internalization discussed above? My position is that one does not have to attend to gender norms in an explicit or even implicit sense for gender to be central in shaping or understanding our narrative selves.

Pacherie’s analysis of the formation of F-intentions includes a discussion of consistency that can be helpful in illuminating the relationship between gender, narrative selves, and the narrative sense of agency. She offers three kinds of consistency that play a role in the deliberation processes that lead to the formation of F-intentions: internal consistency (the actions plans made to undertake an F-intention must cohere in the right way to facilitate the completion of the goal), external consistency (conforming with an agent’s beliefs about the world), and global consistency (meshing with the agent’s wider framework of projects and activities) (Pacherie 2007). Considerations about the influence of gender in the creation of

narrative selves are directly relevant to the latter two, external and global consistency, and intention-formation. In the case of external consistency, one's beliefs about the world would include socio-culturally situated beliefs about what a member of their gender group ought to do, or even can do, or beliefs about the ease or difficulty of pursuing certain ends as a member of (or not as a member of) a certain gender group. Global consistency would include projects and activities related to the socially situated functional role associated with one's gender identity.

The main point is that the narrative sense of agency, as intention-formation and fulfillment, though in some sense rational, deliberate, and conscious, is neither untethered from gender norms nor ahistorical. The practices that scaffold this capacity involve exposure to narrative archetypes, which assume and reinforce gender norms. Through socio-cultural narrative practices we learn to provide reasons for past actions (retrospective F-intention attribution), or to deliberate about our future actions (creating prospective F-intentions), holistically in terms of our coherent, storied self. The limited narratives provided for or imposed upon individuals in virtue of their body types serve to maintain gender roles, and narrative agency is constrained by these problematic gender archetypes.

Again, though, the question of how transparent or explicit the content of the states (beliefs, desires, norms, and so on) need be that are considered in assessing consistency arises. Pacherie only provides the following on this: "Their sharing a common conceptual representational format is what makes possible a form of global consistency, at the personal level, of our desires, beliefs, intentions and other propositional attitudes. If we accept this common view, what follows is that for [F]-intentions to ever be such as to satisfy the rationality constraints they ought to, they must have conceptual content" (Pacherie 2007, p.184). However, as I've already shown, this need not necessarily be the case. Often the rules guiding our behaviors are not only not known or available to us, but it is doubtful that they could be robustly contentful prior to an explicit, conscious consideration of the reason (F-intention) for the kinds of actions we take when presented with particular contexts or opportunities for interaction.

Haslanger provides a good summary of the phenomena when she says that "one will develop unconscious patterns of behavior that reinforce the role in oneself and others and enable one to judge others by its associated norms. And in order for large groups of people to internalize similar or complementary norms, there must be a

cultural vocabulary—concepts, narratives, images, scripts, cautionary tales—that provide the framework for action” (Haslanger 2012, p.11). The first part of this might be unproblematic for Pacherie, but the inclusion of culturally situated conceptual content – the cultural vocabulary – problematizes the view that deliberation processes only include propositional attitudes. As I have shown, attribution of behavior-guiding rules in propositional form often comes after the habituation of the behaviors. It seems unlikely that we would have propositional attitudes with very specific conceptual content about gender-specific norms if we haven’t previously been made aware that we (or others) were following those norms.

Put simply, the presence of gender norms in the narrative sense of agency is not reducible in the sense that all such norms are propositional rules that guide behaviors. Phenomenologically, one does not generally access a set of social rules or norms in order to make sense of their actions. Sometimes our embodied habits and practices give rise to narratively available rules though, at which point only can it be said that there are propositional attitudes that guide our intention-formation processes. To paraphrase Gallagher again, the rule can emerge from practice (2012). All of this, I have shown, bears the mark of gender. Now, in the final section, I will consider the influence of gender on our minimal sense of agency.

4.4 Gender and the Minimal Sense of Agency

As discussed in the first section, enactive approaches to understanding cognition have given us new ways of thinking about how rules, norms, and other features of experience derived from socio-cultural structures influence our embodied patterns of perceiving potentials for interaction (Varela et al. 1991; Ramstead et al. 2017; van Dijk and Rietveld 2017). This is not so different from what Iris Marion Young has said about the way that gender becomes part of the lived body. She writes: “Contexts of discourse and interaction position persons in systems of evaluation and expectations which often implicate their embodied being. ...The diverse phenomena that have come under the rubric of ‘gender’ in feminist theory can be redescribed in the idea of lived body as some among many forms of bodily habitus and interactions with others that we enact and experience” (1990, p. 17).

What is it, though, to be a lived body? We can think of this in terms of the embodied minimal sense of agency discussed earlier—as experiencing oneself pre-reflectively as the source of one’s own actions; however, now we can push this a bit

further. We can think of the minimal sense of agency *as* the selection from the range of perceived possibilities for interaction as disclosed through the habituated body in continuous action. Agency in this minimal sense is the ongoing, immediate phenomenal sense of oneself as the proprietor of her actions that arises while engaged in action itself. If we experience our environment in terms of possibilities for interaction, which grow salient or more limited through embodied patterns of engagement, and agency is the pre-reflective sense of one's own actions, then the immersed, immediate action-taking process is itself providing the minimal sense of agency.

In some cases this might simply involve awareness of or attending to some set of our M-intentions as we carry out complex P-intentions, but this could also involve our experience during the kinds of habituated, contentless P-intentions previously described. Given all that has been provided thus far, there are (at least) three ways that we can now consider how gender contributes to our minimal sense of agency that do not involve explicitly considering our adherence to gender norms.

First, as Young notes, the contexts of discourse involving gender do more than shape the narrative self; they shape our embodied habits and interactions. Drawing from the notion of the 'I can' of the lived body discussed in Husserl and Merleau-Ponty, Young's analysis demonstrates how the internalization of gender norms can result in the experience of "I cannot" rather than "I can" in some contexts. As she describes above, we have an awareness of ourselves as situated within a myriad of socio-cultural networks, and our situation within these networks makes us subject to certain kinds of expectations. These expectations result in gender differences in bodily comportment due to women's habituated underestimation of their bodily capacities (1990, p. 147). She calls this phenomenon, this lived constraint on bodily motility, an *inhibited intentionality*.

While Young's analysis specifically attends to the underestimation of capacities by women, there are other norms (race, class, sexuality, ability, and so on) that complicate this inhibited intentionality (Weiss 2017). There are two additional points I'd like to add here. First, the idealization of an "I can" body as representative of the experience of men is problematic. The internalization of patriarchal norms limits the bodily comportment of men in different ways. For example, Western men are expected not to show weakness or fatigue. They are discouraged from using their bodies to express certain emotions. Thus, men's bodies are subject to limitations due

to gender norms in a way that provides lived constraints on their bodily comportments as well. Second, it should always be worrisome to idealize men as unfettered, as this kind of idealization can be used to devalue the traditional gender norms and traits applied to women. My analysis here is meant to be applicable to all genders while recognizing that the more oppressive gender constraints of this type have disproportionately affected women.¹²

On the enactivist framework, and using Young's notion of inhibited intentionality, we can expand on the body's role in what is disclosed as a potential for immediate interaction and how this relates to the minimal sense of agency. As explained in the first section, the body discloses potentials for interaction with the environment based on the body's capacities to interact. The body constrained and habituated through socio-cultural gender expectations, then, may not disclose its full range of possibilities in a given context. The sense of minimal agency, then, can be constrained through a limit on the habituated range of motion, and therefore constrain our perception of possible actions, arising from embodied inhibitions. In the minimal sense of agency, as agency-in-action, these constraints do not arise from a conscious deliberation of the range of possibilities the body can engage in, but are always already pre-reflectively present in the body's disclosure of the range of possibilities for action and the ways in which those actions may be undertaken. This, I believe, also gives a more developed account of what Haslanger has in mind when she contends that "although in understanding agents we must do justice to experience, we must also be aware that we are bodies, and in the practices of day-to-day life, the movement, location, and meaning of our bodies often has little to do with the agent's consciousness or intentions" (Haslanger 2012, p.11).

Second, repeated deliberate actions can prime one's responses to affordances for action such that the selection of an action or response to an affordance does not require the exercise of narrative agency. That is, of all the possibilities for action presented to an individual, previous considerations in terms of the narrative sense of agency, and the outcomes of the actions taken, lead to future embodied responses.

¹² Again, it should be stressed that there is not a particular way in which these constraints affect women. Some, for example, may be due to compulsory gender maintenance, while others may be due to the kinds of dangers experienced in maintaining gender, especially for trans women, as discussed by Overall (2012) (note that her use of 'constraint' differs from that used here). There are also lived constraints that are more specific to interactions with other persons due to race (Fanon 1991), orientation, class, and other aspects of a person's social identity or situation.

To put this another way, prospective F-intentions (whether goal-oriented or as behavior-guiding rules) and their associated contentful P-intentions can, over time, condition one into having P-intentions that are the result of habituation, not conscious deliberation. Put simply, our responses to certain situations and environmental solicitations can be conditioned such that P-intentions can become disconnected from F-intentions, even though they may have initially been the product of a deliberative process. The gender-related consistency constraints present in the narrative sense of agency, then, can also serve to constrain the embodied responses and action selections of an agent in the minimal sense of agency in the long term.

Third, the perception of potentials for action themselves are a product of habituated engagement through both kinds of agency. Again, perception is action-oriented. Perception is itself an active process, determined by “what we are *ready* to do” (Nöe 2004, p. 1). Additionally, perception is a skillful activity, developed over time through the successes and failures of our interactions, guided by the individual’s previous history of productive engagements with the environment (Rietveld and Kiverstein 2014). The way in which we perceive our environments as affording possibilities for action, then, can be said to be affected by gender in relation to the two previously indicated influences and their effects on the ways in which we develop the skills of engaging with our environments. The most salient features of the environment, what we are *ready* to interact with, establish the way in which we tend to carry out our plans. In terms of intentions, the possibilities perceived by us as capable of fulfilling P-intentions are influenced by gender in the sense that these interactive skills will influence the types of things we perceive as capable of fulfilling our immediate goals.

With all this in place, it is worth re-considering the upstream dynamics between the effects of gender on the minimal sense of agency and the narrative sense of agency. I have already shown that gender effects our creation of the propositional attitudes that guide our F-intentions and their related P-intentions. I have also discussed the retrospective attribution of F-intentions to describe some of our consistent behavioral patterns. While in the last section I was concerned with the role that gender plays in the actual formulation of these propositional attitudes, I have now shown that those purposeful behavioral patterns are, to some extent, already influenced by gender, largely implicitly, in our minimal sense of agency. Thus gender is already influencing our intentional movements and actions in such a way that we are not fully aware of its

effects when we retrospectively attribute the rules we think are guiding those behaviors.

4.5 Conclusion

In this paper I have put forward some ways of understanding the effect of gender on the narrative and minimal senses of agency. However, this is not to say that one's senses of agency are wholly determined by gender. As Iris Marion Young says, "The idea of the lived body recognizes that a person's subjectivity is conditioned by sociocultural facts and the behavior and expectations of others in ways that she has not chosen. At the same time, the theory of the lived body says that each person takes up and acts in relation to these unchosen facts in her own way" (Young 1990, p. 18). Awareness of the influence of gender can afford the agent the possibility of re-developing her narrative, of asserting creative control over her archetype, and of changing her patterns of engagement with the world. In Haslanger's words, we have some tools that can be used for "disrupting dominant schemas" (2012, p. 427).

Additionally, being aware of the influence of gender on our minimal sense of agency can help us bring our attention to several facets of this influence. We can be more attentive to the ways that we are drawn to interact with our environments, we can bring our habits of interaction into reflective analysis, and we can be more aware of the kinds of embodied, sub-personal (motor) programs and ways that we use our bodies in achieving our goals. For example, we can be aware that we may be acting with an inhibited sense of our range of motion, and this awareness can help us bring our M-intentions into the realm of phenomenological attention – which, in turn, can help us in training or re-training ourselves to explore a fuller range of mobility and interactive capacities.

Haslanger has previously made the case that we need "accounts of gender and race that take seriously the agency of women and people of color of both genders, and within which we can develop an understanding of agency that will aid feminist and antiracist efforts to empower critical social agents." (Haslanger 2012, p. 36). In this paper, I have offered some insight into ways that we can look at the influence of gender and gender norms on the senses of agency. I have used the ambiguities involved in narrative and minimal senses of agency and intention formation to illustrate ways that gender can have an influence on both senses of agency, in the hopes that such work

can be helpful in efforts to understand and minimize the injustices that this influence can inflict.

Chapter 5

Distal Engagement: Intentions in Perception

Certification

This chapter was written as a paper co-authored by myself, Nick Brancazio (NB), and Miguel Segundo Ortin (MSO). The paper is entitled “Distal Engagement: Intentions in Perception.” Both authors conceptualized the paper in discussion. NB and MSO planned the structure of the manuscript. Both authors contributed equally to the drafting of the paper, and to revisions. MSO authorizes NB to include this material in her thesis.

Miguel Segundo Ortin

25th Nov, 2019

Nicolle Marissa Brancazio

25th Nov, 2019

Chapter 5

Distal Engagement: Intentions in Perception *

Abstract:

Non-representational approaches to cognition have struggled to provide accounts of long-term planning that forgo the use of representations. An explanation comes easier for cognitivist accounts, which hold that we concoct and use contentful mental representations as guides to coordinate a series of actions towards an end state. One non-representational approach, ecological-enactivism, has recently seen several proposals that account for “high-level” or “representation-hungry” capacities, including long-term planning and action coordination. In this paper, we demonstrate the explanatory gap in these accounts that stems from avoiding the incorporation of long-term intentions, as they play an important role both in action coordination and perception on the ecological account. Using recent enactive accounts of language, we argue for a non-representational conception of intentions, their formation, and their role in coordinating pre-reflective action. We provide an account for the coordination of our present actions towards a distant goal, a skill we call *distal engagement*. Rather than positing intentions as an actual cognitive entity in need of explanation, we argue that we take them up in this way as a practice due to linguistically scaffolded attitudes towards language use.

A version of this chapter has been published as:

Brancazio, N., Segundo-Ortin, M., 2020. Distal engagement: Intentions in perception. *Consciousness and Cognition* 79, 102897. <https://doi.org/10.1016/j.concog.2020.102897>

Chapter 5

Distal Engagement: Intentions in Perception

5.1 Introduction

Our actions are often aimed toward fulfilling long-term goals. We plan meetings and social engagements far in the future, we save for retirement, and we think about mitigating the effects of global warming in the coming decades. Cognitivists have long explained this kind of planning by positing a sophisticated computational machinery that manipulates mental representations of these long-term intentions in order to guide our actions. However, accounting for the ways in which we, as human agents, temporally extend our concerns, projects, and plans has been difficult for non-representational approaches.

One such non-representational approach is ecological-enactivism. Through the development of the Skilled Intentionality Framework (hereafter SIF), ecological-enactivism has provided a non-representational account for how our skills and concerns can affect the way in which we perceive affordances in terms of relevance and saliency (Bruineberg and Rietveld 2014). The SIF provides resources ecological-enactivists have used to expand the affordance framework to capture the various complex cognitive activities that have traditionally seemed to require a foundation in representational capacities—e.g. those that involve ‘higher cognition’ (Bruineberg et al. 2018), ‘representation-hungry’ cognition (Kiverstein and Rietveld 2018), and long-term planning (van Dijk and Rietveld 2018).

Ecological psychology and enactivism both view perception as an active skill rather than a passive collection and processing of information about the environment. We see an increasing uptake of the use of the affordance framework in recent enactive accounts (see Di Paolo et al. 2017, Gallagher 2017). While misunderstandings about both the metaphysical nature of information and what it means to perceive information have kept many enactivists from fully endorsing ecological psychology (see Segundo-Ortin et al. 2019), the ecological-enactive framework embraces both approaches (see Rietveld and Kiverstein 2014).

In this paper, we address ecological-enactive accounts of ‘high-level’ cognition, especially as related to long-term planning. Although we agree with ecological-enactivists that we should understand affordances as “determined in activity and intertwin[ing] across timescales” through skill and habit (van Dijk and Rietveld 2018,

p. 3), we argue that this does not fully account for the way that humans use language to deliberate, create, and coordinate their actions in line with achieving a long-term goal—a skill we will call *distal engagement*. Using the taxonomy of Pacherie (2008), we offer some clarification on the kinds of intentions we are concerned about. Pacherie’s distinctions have already been utilized within the enactivist literature (see, e.g., Gallagher 2012, Brancazio 2019). While her framework is explicitly committed to a representational view of intentions, we show that it is possible to retain Pacherie’s taxonomy without the necessity of representations. We offer this account to supplement ecological-enactive accounts of ‘higher-level’ cognition and to show how the use of an enactive account of language (Di Paolo et al. 2018, Cuffari et al. 2015) can fill the explanatory gap.

The paper will proceed by first giving the basic tenets of the ecological approach to affordance perception, as well as describing the ecological-enactive approach. In the second section, we argue for the importance of taking into account intentions as relevant to acts of perception. In the third section we introduce the skill of distal engagement, illuminating how we might think of the differences between immediate and long-term goal fulfilment on the ecological-enactive account. Then, in the fourth section, we provide an enactive explanation of the skill of distal engagement that we consider to be amenable to ecological-enactive theories.

5.2 The Ecological-Enactive Approach to Affordance Perception

The ecological-enactive theoretical framework is partly founded in the Gibsonian, or ecological, approach to perception. Ecological psychology (Gibson 1966, 1979/2015) is a theory of perception that focuses on the ongoing perceptual processes by which agents adapt to their environments. The core tenets of the ecological approach are that perception is *direct*, *active*, and *action-oriented*.

To say that perception is direct is to say that it consists of the unmediated (non-representational) detection of information. This information is presented in the form of patterns in the ambient energy array of the perceiver—namely, the ambient optic array. According to the ecological approach, these patterns correspond lawfully or reliably enough with properties of the environment, which means that animals can perceive the environment *directly* by detecting these patterns.

This brings us to the second tenet of ecological psychology: the idea that perception is active. The claim that perception is active can be unpacked in two tenets.

First, perception requires the agent to modulate her attention, selecting or picking up those patterns that are relevant for what she aims to perceive (Gibson & Rader 1979). In this sense, perception is not something that happens in the animal, but something the animal does. Second, perception occurs in the context of active sensorimotor engagements between animals and their environments. Because informational patterns are not always available for the agent to be detected, perceptual tasks often involve the agent's active exploration of the environment to generate the required information (Mossio and Taraborelli 2008). As Mace puts it, "information does not come to the animal. The animal goes to it, actively obtaining the information" (2015, p. xx).¹ In light of this, we think that the correct way to understand perception from a Gibsonian point of view is to think of *acts of perception*—acts that involve not only the sensory organs, but the whole body and its activity (Gibson 1979/2015, Ch. 12).

Lastly, Gibsonians think that perception is action-oriented—that is, that perception is primarily for the control of action. According to ecological psychology, for an agent to perceive the environment is to perceive the opportunities for interaction this environment offers—so-called *affordances*. Perceptual information is thus conceived of as information that allows the agent to prospectively control its actions.

5.2.1 The Social Shaping of Affordances

Traditionally, affordances have been cashed out in terms of physical relations. For instance, a mug is said to afford 'graspability' to animals that have opposable thumbs. Likewise, whether an agent perceives a step as 'climbable' depends on a relation between the height of the step and the length of her leg (Warren 1984). So conceived, affordances are properties of the environment taken relative to the animal's body features and capabilities (Gibson 1979/2015, p. 119–120; Chemero 2009).

However, it has been stressed that an approach that focuses exclusively on physical relations is too narrow to account for the actual richness of human perception and action. A fully developed account of affordance perception is likely to require social and cultural aspects of human niches "to be recognized as *constitutive* rather than peripheral features of the ecological approach" (Heft 2007, p. 92, emphasis original). Since human development takes place within a socio-cultural environment, taking into account socio-culturally situated practices and habits of engagement is crucial for understanding how a human perceives what they can do. In brief, as Heft

says, “perception-action processes need to be viewed as *socially mediated processes*” (2007 p. 92, emphasis original; see also van Dijk and Rietveld, 2017).

It follows that we cannot account for an individual’s perception of affordances only by referring to the relation between her body and the environment. In many cases, a particular object affords some actions only because the perceiver is immersed in a specific set of cultural practices (Costall 1995, 2012). These affordances depend on the complex network of norms and rules within which objects and individuals are integrated. An important aspect of SIF is its emphasis on the sociomaterial norms which influence how we perceive possibilities for interaction (van Dijk and Rietveld 2017). Rietveld and Kiverstein (2014) put the acquaintance to norms and rules in terms of “forms of life”—that is, the relatively stable patterns of behavior that are shared by the members of a community:

“Affordances are not simply properties of an animal’s environment conceived of as a material or physical environment. It is the ecological niche of a particular form of life that is made up of affordances, and each affordance must be understood in relation to the abilities available in a form of life. In the case of humans these abilities are generally acquired through training and experience in sociocultural practices.” (p. 340)

According to Rietveld and Kiverstein, the affordances that are available for a specific individual to be perceived and acted upon also relate to the practices, conventions and customs that are shared across the members of her community. Partaking in these forms of life, they claim, involves learning to attend to a specific myriad of affordances. Relatively stable patterns of doing things manifest, for example, in the regularities of interaction that characterize our common use of everyday artifacts such as chairs, books, and so on, and also in the expert performance of architects, academics, or footballers. The richer the form of life of an agent, they conclude, the wider the myriad of affordances that a particular econiche offers to her—that is, she has a more complex *landscape of affordances* (2014, p. 331).

Moreover, Rietveld and Kiverstein suggest that being trained in a specific form of life does not solely affect the number of affordances that we can perceive and act upon within a given econiche. Rather, it also habituates us to distinguish the ones that are relevant to us from the ones that are not, constraining our attention and

responsiveness. Rietveld and Kiverstein dub this capacity to distinguish relevant affordances from irrelevant ones *skilled intentionality* (Bruineberg & Rietveld, 2014; Kiverstein & Rietveld 2015; see also Rietveld & Kiverstein 2014; van Dijk & Rietveld 2017). Skilled intentionality can be summarized as the individual's expertise in responding adequately to the simultaneous actions that a niche affords in a particular situation in order to improve the grip on this situation.

Rietveld and Kiverstein argue that for a skillful agent, the subset of relevant affordances will not just be perceived but experienced as solicitations (see also Withagen et al. 2012). This means that the relevant affordances prereflectively stand out as more inviting than others given the situation and action(s) in progress. These affordances form what they call the *field of affordances*, which is comprised of “[t]he affordances that stand out as relevant for a particular individual in a particular situation” (Bruineberg & Rietveld, 2014, p. 2). Further:

“The aspects of the landscape that make it into the field of affordances of an individual animal are therefore always those that are of affective significance to the animal. The skilled individual animal and the landscape of affordances together form a coupled self-organising dynamical system. The dynamics of this self-organising system are such that the individual finds itself drawn to those aspects of the landscape of affordances that relate to what the animal cares about.” (Kiverstein & Rietveld, 2015, p. 11)

Think, for instance, of taking a trip to the grocery store. A grocery store is a complex local landscape of affordances, but the affordances are not all equally relevant or adequate for your situation. Depending on the number of items on your list, a trolley may grab your attention on the way in rather than a basket. Though you may be selecting the items on your list on your way through the store, your attention can be grabbed by some new item or a particularly good sale. Further, all the possible affordances are situated in a *sociomaterial environment* (the store). This sociomaterial environment makes some actions appropriate and some others inappropriate. A shopping trolley may be appropriate for holding your purchasable items, your bags, your child, and perhaps even your small dog as you stroll, but it is not an appropriate place to set your grandfather, for example.

5.3 Affordance Seeking: Intentions in Perception

The SIF promises to be a valuable tool for understanding how social enculturation affects both the affordances it is possible for us to perceive and the relevance of the actions afforded. For humans, relevance often will be tied to intentions to achieve goals, perhaps long terms goals, that in a sense are guiding the actions of the person. In the above example, for instance, the trip to the store may happen on a particular day of the week because it does not conflict with any of your family members' plans. Or, perhaps, your trip to the store is coordinated around a special meal you are planning to make for an evening with some friends. Either way, the explanation for the relevance of certain affordances might involve accomplishing a goal at some remove.

To explain the ability to undertake long-term projects, van Dijk and Rietveld (2018) propose a “process-based account of affordances in which affordances are determined in activity and intertwine across timescales” (p. 3). This account of affordances is meant to pick out not just the affordances of the immediate environment, but to connect related affordances along a longer-term trajectory. In this way, neither the goal nor the trajectory need be represented in one's mind—rather it is an “attunement to the unfolding situation” that comes from the development of practices and skills which allows for “the openness and receptivity to the movement of an increasingly determining situation, seeing *along* the direction in which the situation is unfolding” (p. 19).

However, we think that the process-based account of affordances needs a bit more to fully explain our selectivity in attention as it relates to our experience of planning, changing and coordinating projects and long-term goals. More particularly, we'd like to more fully develop the account of how it is that affordance salience might be influenced by distal intentions—the intention to buy a house, for example. These intentions, usually the result of a deliberation process and involving ongoing reflective consideration, are completed through the execution of many smaller goal-oriented actions over a longer period of time. Taking into account these long-term goals seems to be necessary if we aim to understand what it is that links affordances across a timescale, or how some of these trajectories stand out as more salient or soliciting than others though our skills remain the same. That is, we need a more detailed account of how it is that our personal practices of deliberation and intention-formation fit into an explanation for why it is that processes “unfold” in a particular way. (For example,

after having decided that I want to save up to buy a house I might be less inclined to take the opportunity to go out to a new restaurant with friends.)

To understand how intentions matter for perception, understood in the ecological way, think of the number of actions we can perform with a single object—say, for instance, a pen. First of all, we can either grasp it or push it to the other side of the table with our finger. If we opt for grasping it, a different myriad of actions become available. We can use the pen to write down some notes about a paper, but we can also draw a portrait with it. Likewise, we can use it as a missile, as a blowpipe, as a bookmark, or even to stir our coffee. The number of actions we can perform with an object such as a pen are potentially infinite, and so are the affordances we can perceive (Cutting 1982).

This is not to say, however, that we perceive all of them all the time. In fact, if that were the case, the control of action—that is, acting upon one affordance (or a series of affordances) instead of another—would depend either on one of two things: (1) another mechanism that mediates between perception and action, whose function is to choose an affordance to be acted upon from all the possible affordances we perceive, or (2) the environment itself, where the environment determines how we act while we remain passive. Both options are at odds with ecological psychology and, as we will describe in the next section, conflict with an enactive account of the role of intentions in action guidance.

To see why this is not a problem for ecological psychology, recall that we said before that perceptual processes should be thought of as actions (acts of perception). On this view, perceivers are considered to be seekers of information for action, meaning that the intentions or goals of the agent will play a crucial role in perception (Gibson & Rader 1979). The agent actively looks for particular affordances in the present environment—or, more precisely, actively looks for the information that is relevant for her to know whether an action is possible. Affordances are *found* in the active, goal-oriented, exploration of the environment.¹³

Gibson himself endorses this view:

“[W]hat about the “intentionality” of perception when an observer is seeking information instead of simply having it presented to him? . . . What to me sounds

¹³ This is most clearly seen in experiments of ‘dynamic touch’ where the perceptual information is found through the haptic exploration (“dynamical effortful touching”) of the objects of the environment (Turvey and Carello 2011).

promising is to begin with *the assumption that active perception is controlled by a search for the affordances of the environment and that active behavior is controlled by perceiving these affordances.*” (1974/1982, pp. 387-388, emphasis added)

It may be a source of confusion that Gibson uses the word “intentionality” here as meaning something more akin to “goal-directed”. In the SIF literature, however, “intentionality” is used in the traditional phenomenological sense of the experiential aboutness, directedness, or towards-ness of activity. For example, van Dijk and Rietveld “propose that a skilled individual can experience the increasing determinacy of action from *within* the unfolding act as ‘directedness’ toward the relevant affordances available in the form of life that she is in the process of enacting. This unfolding enactment can be experienced pre-reflectively as having an ‘intentional’ character” (van Dijk and Rietveld, 2017, p. 9). We agree that the phenomenological sense of intentionality is central to understanding affordance perception and salience, but like these authors, we do not take this to mean that intentionality implies the existence of intentions. On this view, intentions are used in a more deflated or retrospective sense, in line with the phenomenological usage. That is, they in no way imply that there is a pre-existing “goal” or any reflective thought process involved in the activity—an “intentional act” (see also Heft 1989) can be pre-reflective, with the “intention” attributed retrospectively (also see van Dijk and Rietveld 2017 for a similar treatment of “affordances” as retrospectively applied to the goals of intentional acts or intentional arcs).¹⁴

Kiverstein and Rietveld do point to the importance of the *concerns* of the agent in determining her field of affordances, where concerns are defined as an agent’s “interests, preferences, and needs” (2014, p. 341). Conversely, they say that “[s]ome affordances the environment offers will be irrelevant to the agent because they have no bearing on the individual’s concerns at the time” (2014, p. 341). This seems helpful in illuminating the idea of affordance saliency in the immediate environment, but we would like to add to this that often times these concerns might be in relation to a long-term goal or behavior guiding-rule that has been arrived at through a reflective process. Adding an account of the dynamics between reflective and pre-reflective cognition

¹⁴ Heft attributes this view to Merleau-Ponty (1963): “An intention is not describable in the absence of some foreseeable expression of it in the world. In this respect, intention does not refer to a mental representation; it is *not* a mentalistic notion. Rather, it refers to possibilities that are only realizable as situated behavior” (1989, p. 11).

provides a fuller explanation about how we choose between salient affordances. Distinguishing intentions from concerns (where concerns could be thought of more as preferences resulting from successes or failures in previous engagements, for example) opens up a space for more precise theorizing about skill development and scaffolding, the upstream and downstream dynamics between skills, and effects on perception and action coordination.

In the terms of our previous example, we would say that we don't perceive all the possible actions the pen affords—not even to different degrees of saliency. On the contrary, since our seeking of information is always goal-oriented, our perception-action cycle is constrained by what we are seeking to achieve. Goal-orientation constrains both our exploratory activity and the meaning of the information we find. It is because we want to use the pen as a bookmark that we will look for the information that is behaviorally relevant for this usage (namely, its shape, length, etc.), thereby perceiving that the pen can be used that way. If I have made a decision to observe a more environmentally conscientious diet, it could alter how different items on a menu attract my attention. The differences between these intentions will be detailed in the next section. For now, we simply want to make the point that the perception of the affordances offered by a situation partly depends on the intentions of the agent. This has also been discussed by Michaels and Palatinus (2014), who use the example of an outfielder to point out that her intention to catch a fly ball “harnesses [her] perceptual system to detect information appropriate to guide the deployment of [action]”, while “[t]he intention to escape a lobbed grenade would entail other set-ups [of the perception-action system]” (p. 24).

None of this should be taken as implying that the agent's intentions change or create the affordances of the environment. What intentions modulate, instead, is the acts of perception and the saliency of these *searched for* affordances. It is the perception and relevance of the affordances that is affected by the intention, not the affordances themselves. Being so, even in the cases where the design of an object prompts the perceptual saliency of some affordances over others, for instance, making some affordances harder to perceive than others (Withagen et al. 2012; Norman 1988/2013), it is the intention of the agent that modulates perception and makes the affordances effective constraints of behavior. By giving intentions a more central role in affordance perception and salience, we avoid having to put the burden of explanatory power in

either the environment or an internal mechanism when discussing affordance saliency and relevance.

A potential concern might be that introducing intentions would make perception indirect, thus contradicting the core tenets of ecological psychology. As Withagen and van der Kamp (2010) put it, introducing the agent's intentions in our explanation of perception "implies that perception includes more than the detection of information" (pp. 155-156). We think, however, that this critique would be misguided. Nothing of what we have said implies that intentions mediate perception in the sense of acting over the detected information. It is not the case that the agent detects information, somehow combines it with her intentions, and then infers the presence of an affordance. Intentions don't enrich or add anything to the information detected, turning it into a percept. Instead, intentions modulate the perception-action cycles through which the agent interacts and explores the environment, determining what informational variables are relevant and need to be attended to at each moment, thus constraining the saliency of the affordances the agent perceives. So conceived, introducing the agent's intentions into the story does not imply that perception becomes indirect.

There is another, even more pressing concern regarding the introduction of (distal) intentions in perception. This concern has to do with the assumption that involving intentions and their formation processes is itself often thought to require a representational explanation. We think this representational undergirding is what van Dijk and Rietveld are concerned with here: "Crucial for our process account of affordances is that we will understand concrete situations as *continuations* of real-life ongoing practices in terms of unfolding activities of individuals rather than as *realizations* of possibilities pre-existing *in abstracto*" (2018, p. 6). We agree with their claim, but would also like to explore a third option in which pre-existing possibilities are not so abstract. The challenge here for us is then to resist framing the problem in a way that implies that: (1) the positing of an intention is purely an abstraction or that (2) integrating an intention as part of the explanation of how it is that we organize our activities over a longer process would risk the need for a representational account.

In the following two sections, we will show why language is a crucial part of the explanation of how we (humans) intertwine affordances over timescales so as to engage with distal goals, and we will show that giving an account of language's role in doing so does not require a representational explanation. For, as van Dijk says

elsewhere, it does seem that the “production of words within the flow of an ongoing situation re-shapes the situations from which *and* into which this situation flows” (2016)—but it is still unclear how reflective processes fit into the account. We shall argue that the incorporation of reflective processes in action coordination over time should be thought of as a skill, in line with the processual account of affordances, which we will call distal engagement.

5.4 Distal Engagement as a Skill

As shown in the preceding section, intentions play an important role in affordance perception. In order to begin to develop an account of *how* it is that intentions play this role, however, we have to be clearer about what we mean by ‘intentions.’ The sense of intention that we argue needs to be incorporated into the ecological-enactive framework are reflective, distal (future- directed) intentions, which can coordinate our current actions in order to achieve some later goal. These intentions are often at some remove from the possibility of their actualization, such as the intention to buy a house in five years, the intention to retire someday, or the intention to make better choices based on concerns about my impact on the environment.

In the philosophy of action and mind, all intentions have been thought of as future goals, arrived at through a deliberative process, that allow for practical planning or coordinating actions toward their achievement (Bratman 1987). In contemporary work, they have been described more specifically as “a mental state that represents a goal (and means to that goal) and contributes through the guidance and control of behavior to the realization of what it represents” (Pacherie 2015, p. 1). We will return later in the next section to the issue of whether or not intentions necessarily involve representations (we argue that they do not). Here we want to look at the dynamic between pre-reflective cognition and reflective deliberation processes, whatever those underpinnings may be, and the role they both play in leading us to a course of action oriented toward some future achievement.

Pacherie (2008) offers a taxonomy of intentions based on their temporal and spatial proximity and phenomenological accessibility. This taxonomy can be of use in clarifying what we mean by intention in this context, and as illustrative of what we think needs to be added to the ecological-enactive account. She distinguishes between distal intentions (D-intentions), present intentions (P-intentions), and motor intentions (M-intentions). D-intentions are the result of a reflective deliberation

process as discussed above, and would include goals such as taking a holiday, building a skyscraper, or writing a novel. P-intentions are those that guide our present actions, the goal of which can be accomplished in our immediate spatio-temporal environment. These aim at the immediate accomplishment of a goal, such as responding to an email or getting another beer. They can also be pre-reflective, such as when one opens a door because they intend to enter a room (Gallagher 2012, Brancazio 2019). Finally, there are M-intentions, which are generally sub-personal motor programs for accomplishing P-intentions: one may not reflectively consider the comportment of her hand and the motion of bringing her glass to her mouth when taking a drink, for example, but she can certainly change her grip if the glass is slipping.

The ability to form D-intentions is one of the defining features of human forms of life.¹⁵ The formation of D-intentions, as described, would require using linguistic or other kinds of symbolic reasoning. Thus, any account of their influence in affordance perception needs to involve a story of how it is that we are able to actively orient ourselves to a distal goal—specifically those that are the outcome of some such deliberative process. Most accounts of this type of capacity, though, tend to posit mental representations. Mental representations, however, are anathema to both ecological psychology and most branches of enactivism.

In several recent papers, ecological-enactivists have attempted to address ‘higher-level’ forms of cognition, which are usually taken to be ‘representation-hungry’ (see van Dijk and Rietveld 2017, Bruineberg et al. 2018, Kiverstein and Rietveld 2018). Among these so-called higher cognitive processes, we find memory, abstract reasoning, and the kinds of deliberation and action coordination processes associated with D-intentions.

Bruineberg et al. (2018) aim to show that the information available for perception, combined with the agent’s previous history of interactions, can be rich enough for agents to coordinate with distal or absent aspects of the environment without requiring internal states that function to represent those distal aspects. For example, they suggest that “[a]nyone with the right abilities and sensitivity to the regularities that allow one to reliably couple to the affordances will be able to coordinate with distal aspects of the form of life in virtue of information about more local aspects” (p. 11).

¹⁵ However, there is some evidence that other animals, such as corvids and non-human primates, form long-term plans (see Boeckle and Clayton 2017).

According to their account, agents can coordinate their behavior regarding aspects of the environment that are not immediately present by relying on law-like or reliable enough constraints, and hypothesize that these constraints can be based on conventions (see Bruineberg et al. 2018; Chemero 2009)¹⁶. To use their example, a tram need not be physically present for me to act in order to catch it. I can coordinate my behavior with the 4pm tram by relying on the constraint that exists between the tram driver's clock and my own. Because I am attuned to this constraint, I can perceive that I have to leave my apartment right now to catch the tram simply by looking at my watch. Further, they claim that "it is the existence of these constraints that enable us to coordinate our behavior with respect to aspects of the environment to which we are not sensorily coupled" (Bruineberg et al. 2018, p. 11).

While we wish to stay neutral on whether conventional constraints suffice for perceptual information of the kind required in ecological psychology, we nonetheless think that even on their own account this would be necessary but not sufficient for giving an explanation of affordance relevance and the selectivity of the agent. The tram would likely not be relevant to us, even as an absent or virtual affordance, were we not already intending to catch it. In order to be distally engaged to catching the tram such that my actions are organized to exploit the information given by these regular-enough covariances (4pm and the tram's arrival) and constraints (that my 4pm is the tram driver's 4pm) requires that I intend to catch the tram in the first place.

Using Pacherie's taxonomy, the accounts provided by ecological-enactivists seem to provide only a story of the link between successive P-intentions. The present field of affordances allows us to fulfill a range of P-intentions. In some cases, though, being coupled to whatever affords the fulfillment of a P-intention could present a distal aspect that links to the fulfillment of a successive P-intention. For example, I might check my watch and see that it is time to catch the train, walk to the train station, check that the tram will be on time, and then board the tram and find a seat. At the present time the environment contains a certain set of affordances, and because of the regularity of relationships between some of those affordances and their distal aspects, the possibility for fulfilling linked P-intentions presents itself such that one action leads

¹⁶ Part of their argument is based on the assumption that the information for perception needs not be specific or lawful. This is why they speak of "general ecological information," as a type of information that is more inclusive than lawful or specific information (see also Chemero 2009). Canonically, specific information has been taken as to the condition of possibility of direct perception (Michaels and Carello 1981; Turvey et al. 1981; Turvey 2019), and it is an open debate whether this general, non-lawful information suffices for direct perception (Segundo-Ortin et al. 2019).

to the next in a coordinated and pre-reflective manner. This may suffice as an explanation for how it is that the fulfilment of P-intentions unfolds, but doesn't quite tell us how to think of how a D-intention—the plan to catch the tram to go see a concert, for example—can guide this process.

Bruineberg et al. (2018) argue that “it just takes a process of selective openness to arrive at only the relevant affordances, or solicitations” (p. 14). However, it still seems that the *selectivity* at play here may often involve more than skill or concerns. In other words, we still need to account for the relationship with the guiding D-intentions, the reflective processes that often precede but nonetheless coordinate our current actions. And as they themselves say, “[t]here is no light bouncing off the future” (Bruineberg et. al 2018).

This need is even more clear if we look at a more complex version of the tram example: “I can, for instance, use the affordances of my watch to ensure that my activities over the course of the afternoon are coordinated to the 17.30 train that will leave the train station located in the city centre in time to take me home for dinner when my family are expecting me” (Bruineberg et al. 2018). It seems that what coordinates my present actions here is not the regularities of the environment. Rather, these regularities become relevant for my current intentions—they are perceived as solicitations to act—because I want to fulfil a specific distal goal—namely, having dinner with my family at 18:00. The guiding D-intention in this situation is to go home for dinner, where the author has presumably agreed to meet with their family, but there is no accounting for how this D-intention can help shape the relation with the affordances of the environment.

Similarly, the process-based account of van Dijk and Rietveld (2018) seems to offer a reconceptualization of how we can think of the intertwining of affordances rather than an explanation of what intertwines them. In arguing for a “scalable” process account of affordances, they apply a distinction between *activity* (ongoing) and *action* (completed process) that can be useful for understanding what exactly is being posited in the case of multiple acts being connected through an unfolding process. This allows for the use of *affordance* to describe a long-term process rather than just immediate actions. However, in putting too much of the explanatory power in the affordances themselves, we don't get much to explain why it is that any particular process unfolds rather than another. Again here, it is often the case that a D-intention pre-dates the activity (process) and acts as its impetus and unfier. We have numerous

skills that we can make use of at any given time, and which might be appropriate in our socio-cultural setting, as described by SIF. However, we are missing a piece of the puzzle through which relevance is established, through which opportunities are anticipated, and explains why certain acts of perception happen instead of others. Making sense of distal engagement, at least for humans, will require more than pointing to skill and social practices on the one hand and lawful or general constraints on the other.

Without accounting for D-intentions, the coordination of P-intentions in order to fulfill a long term goal – what we call distal engagement – still seems to require the need to overcome the issue of having our behavior guided by something that sure looks, by any critic’s account, to involve an internal representation. We agree with Neander (2017) that what makes something a representation is that it is being used “to represent a ... target as being a certain way it might or might not be” (p. 35). The question is, then, whether we can make sense of the role that linguistic utterances play in the formation of D-intentions without assuming these linguistic utterances function to represent the world in the sense above specified. As we see it, if we can think of the reasoning involved in forming D-intentions as a pragmatic tool for the self-control and self-organization of behavior—that is, if we can think of language as a means of coping with the world, not copying it (Rorty 1979)—the problem beings to disappear. With this in mind, we propose that incorporating an enactive account of language can do much in providing an adequate solution for the issue of distal engagement.

5.5 An Enactive Proposal for Distal Engagement

A non-representational account of distal engagement requires that we draw more from the enactivist side of the ecological-enactivist family. Enactivism in general holds that cognition ought to be thought of as a lifelike process that involves the active relationship between organisms and the world, “anchored in the living body” (Di Paolo et al. 2017, p. 20), rather than as a computational process that happens inside the brain. Enactivism, as articulated by Di Paolo, Buhrmann, and Barandarian (2017), argues that we should conceive of complex organisms as sensorimotor agents, which are “forms of life that are constituted as self-sustaining, habitual organizations in the structural and functional interrelations between their acts, skills, and dispositions” (p. 7). They follow the autopoietic tradition in distinguishing three cycles of operations that constitute the life of complex sensorimotor agents (Varela et al. 1991; Thompson

& Varela 2001). First, sensorimotor agents are in a constant state of regulation and construction of themselves. Second, sensorimotor agents maintain cycles of coupling with their environments. This coupling with the environment involves perceiving the surroundings in terms of potentials for interaction (affordances) and relevancy based on the self- maintenance of the organism.¹⁷ And, third, sensorimotor agents maintain cycles of intersubjective interactions, “involving the recognition of the intentional meaning of actions and linguistic communication” (Thompson & Varela 2001, p. 424). Di Paolo and colleagues (2017) refer to these cycles of operations as *dimensions of embodiment*, and claim that although they constitute autonomous domains of inquiry, each of these dimensions of embodiment is intimately related to the other two, being “mutually constraining and mutually enabling” (p. 5).

To make sense of our regular activities, enactivists introduce the notion of ‘sensorimotor schemes.’ These are organized, task-related sensorimotor patterns of coordination that have been established as preferable due to the existence of some normative framework for evaluation (Di Paolo et al. 2017, p. 58). Consider, for example, the act of driving. The first thing you might do when you get in a car is to adjust your chair. To do this, you don’t measure the length of your legs but simply rely on your sense of comfort as you move the seat forward or back. Then, you may want to adjust the mirrors so that you are confident that you can see all that surrounds your car at any moment. After this, you fasten your seatbelt. All these individual actions involve specific sensorimotor patterns that become get intertwined as a whole sensorimotor scheme and become pre-reflective as you drive more frequently.

As we explained previously, the fulfillment of a P-intention can point to the fulfillment of a subsequent P-intention through exploitation of the distal aspects of present affordances. In enactivist terms, we would say that the enactment of a sensorimotor scheme, in interactive coupling with the environment, can engender or inhibit related schemes. If we put these accounts together, we get a fuller picture of how sensorimotor schemes (which involve interactions with affordances) can point to distal possibilities for action through the activation of related sensorimotor schemes, bringing forth “whole streams of virtual activity at the moment I enact a single particular scheme” (Di Paolo et al. 2017, p. 231). So, for instance, after getting the car

¹⁷ Di Paolo et al. (2017) break with ecological psychology, saying that Gibsonians conceive of cognition as a form of information processing (p. 227). We differ in our reading, and hold that though ecological psychology describes perception as information pick up, it explicitly rejects that this information is gathered, collected, manipulated, or stored. Information pick up is understood here as detection, where detection involves the active exploration of the environment by the agent (see Segundo-Ortin 2019).

adjusted for driving, a distant location may become a possibility that might not have been available to you on foot.

But how can we account for D-intentions, which *are* pre-existing goals set up through a deliberate reflective process? We claim that the resources we need are found in the extensive enactivist treatment of language recently provided by Di Paolo, Cuffari, and De Jaegher (2018; see also Cuffari, Di Paolo, and De Jaegher 2015). If enactivists are on the right track that the three dimensions of embodiment are mutually constraining and enabling, then we need to understand the role that language plays in enabling and inhibiting sensorimotor schemes and in influencing changes in our field of relevant affordances.

For human forms of life, the development of language skills allows for special kinds of cooperation and coordination with others within the bounds of normative practices established by one's community and within particular contexts (participation genres).⁷ In intersubjective engagements (such as a conversation), there is often a need to perform regulatory acts in order to relieve tensions and asymmetries with other participants. While developing the skills of navigating these tensions with others, we also develop the ability to self-direct regulatory acts, of which self-directed speech is a kind. For instance, I might remind myself that I have an appointment that I need to get to and end a lunch date with a friend, even though we are having a good time. I'm self-directing a regulatory speech act and coordinating my activity accordingly, in order to to relieve the tension involved having a pre-existing appointment (a distal goal, or D-intention). In giving their account of self-directed speech, Di Paolo et al. (2018) follow Vygotsky (2012) in pointing out the intertwining of the development of speech and thought, but they steer away from the idea that thought should be considered "inner" in any real sense. They specify that we should think of "incorporated speech rather than inner or internalized speech, since we do not think the *partially* nonovert character of self-directed utterances makes them at all less than proper acts of a world-situated agent" (2018, p. 224, emphasis original).¹⁸

Languaging, a term inherited from Maturana and Varela (1980, 1992), is a skill we develop in the intersubjective dimension of embodiment. And, as a dimension of

¹⁸ Rather than treating the individual as an isolated locus of cognitive phenomena, they point out that this Western view is, as they say, "an abstraction of concrete processual patterns" (ibid, p. 255). Instead, they hold that the processes that provide the conditions for the possibility of consideration of oneself as an "individual" are themselves "interpersonal constitutive relations enacted in and sustaining communities" (Di Paolo et al. 2018, p. 254).

embodiment, our linguistic agency constrains and enables our other dimensions of embodiment. Following Di Paolo et al. (2018), we propose that our self-directed utterances are an integral part of our acts of perception, affecting both the ways we are invited or solicited by affordances and how we coordinate with distal aspects of the environment. And as Cuffari et al. say of our use of linguistic skills, “we develop sensitivities to certain acts and strategies of coping, and we incorporate the coping practices until they become constitutive of our way of being in the world” (Cuffari et al. 2015, p. 1092). Again, when we get in the car, places that might otherwise not be reachable for time or distance constraints are now available to us. For example, we can now get that burrito we’ve been craving from the other side of town. The car changes the way in which we perceive what we can do in the environment, and what distal aspects the present affordances offer. However, self-directed speech can also serve a regulatory role when we remind ourselves that we need to run some important errands before we indulge in any distal burritos. This self-regulation—reminding myself of my D-intention to run those errands—makes some affordances more salient and influences what information I am looking for in the environment. In this way, language is inextricably bound up with our habits of engagement and interaction, action coordination, and perceptual processes.

What we propose is that an ecological-enactive account of distal engagement will benefit from a more developed understanding of the role of this self-directed aspect of linguistic agency as an integral part of our skilled intentionality. That is, it is a vital inclusion in the repertoire of skills involved in skilled intentionality. Given this, two items will need further explanation: the process of deliberation (the formation of D-intentions), and the coordination of actions toward the fulfillment of such D-intentions.

First, the self-directed speech involved in the formation of D-intentions can be part of the regulatory process of evaluation and selection between different courses of action. It is very much a situated, nested process.¹⁹ Considering the regulatory roles that other-directed and self-directed utterances play in navigating tensions, we can also think of self-directed deliberation and evaluation as playing a regulatory role in regards to our sensorimotor habits. Through ongoing development of this recursive skill, we become able to regulate more complex, temporally distributed, or abstracted

¹⁹ Sensorimotor schemes and evaluation are given a dynamical systems explanation in Di Paolo et al. (2017), but we will not have room to provide the details of that account here.

intentional acts over time.²⁰

In terms of the ecological-enactive account, we could say that self-directed speech can be an aspect of the processes of attunement to law-like or conventional constraints between present and distal aspects of the environment. Van der Herik (2018) has made a similar point about how we should conceptualize communicative language acts, arguing that language is “a system of social actions that function by constraining unfolding cognitive and interactive dynamics. ... In line with the action-oriented nature of cognition, language is reconceptualised as a mode of action” (p. 98).

Evaluating these distal aspects of the environment, we suggest, will often involve the self-directed regulatory aspects of language that we have described. However, there is no reason that this would be limited to present and distal aspects of the environment in a strict physical sense. That is, it could include interactions with social affordances, institutions, and collective practices (see Gallagher 2013, van Dijk and Rietveld 2017, Gallagher 2017 Ch. 3), accounting for the formation of more abstract D-intentions like those that have been mentioned above (saving for retirement or making more ethical choices).

With this in place, we can look at the issue of coordinating one’s activities toward the fulfillment of a D-intention. For this, we turn back to Pacherie (2015):

“[I]f action control is an essential function of intentions, then we should stop thinking of intentions as simply mental representations of goals somehow triggering motor processes that, if everything goes well, will yield the desired outcome. Rather, we should think of monitoring and control processes as intrinsic to intentions, that is, of intentions as encompassing not just representations of goals but also a specific set of monitoring and control processes organizing and structuring the motor processes that themselves generate movements.” (p. 10)

Action control indeed seems to be an essential function of intentions. However, we see no reason why we ought to think of these intentions, even D-intentions, as mental representations. Rather, this confuses the phenomenological aspects, or what we experience when we linguistically self-regulate, with the underlying monitoring and

²⁰ This is similar to the ecological-enactive account of imagination, in which the agent is said to be coupled to something local that allows for imagining “in virtue of constraints in the form of life bring[ing] the agent in touch with some distal aspect of the environment” (Bruineberg et al. 2018).

control processes (involving the link between languaging and action evaluation and coordination). In other words, D-intentions, though involving language when made explicit, should be seen as “evidence of something humans are capable of doing, evidence of a type of activity, not in itself evidence that the processes underlying this activity are themselves representational” (Di Paolo et al. 2018, p. 220). We see no need to posit a D-intention as a mental representation guiding the monitoring and control processes; the D-intention simply *is* part of those regulatory processes over a period of time. The long-term coordination process is what we have called *distal engagement*.

Distal engagement, we claim, is then achieved by sustained coordination of sensorimotor schemes towards a goal through ongoing engagement with the environment, social affordances, institutions, normative frameworks, and the like. Similar to the point made in the last section, we think the problem with treating language as intrinsically representational stems from treating language skills as involving the products we are familiar with generating *through* language (statements, questions) rather than looking at the skill of creation itself (see van Dijk 2016 for a related discussion). From the fact that we can create language artifacts that may have a representational function (that can be used to represent in some context) it does not necessarily follow that the process by which these artifacts are created involve representations (a point also made in Zahnoun 2019). While we can succeed or fail in aiming at a specific outcome, this success and failure is not due to the fact that our intentions themselves have any veridicality beyond what we attribute to them in the course of certain linguistic practices. That is, we remain coupled with distal aspects of the environment that are relevant to and through which we are able to coordinate future actions, for “I’m no less embodied and coupled to the world when I plan my holidays than when I ride a bike; I’m simply doing different things with my body and my coupling” (Di Paolo et al. 2018).

We have here provided a sketch of distal engagement, accounting for how it is that a human agent might be able to formulate long term goals, or D-intentions, and coordinate their actions toward their fulfilment, using both the ecological and enactive frameworks. Further, we have done so without the need to posit representations. The coordination of actions over time in order to achieve a distal goal does not require representing the world but, instead, involves the continuous coordination of multiple sensorimotor schemes in regards to the affordances of the environment and their distal aspects. The enactive account of linguistic agency provides a non-representational way

of understanding how it is that we can form D-intentions and their role in distal engagement by means of self-directed regulatory processes that involve the intertwining of immediate with virtual or distal affordances, sensorimotor scheme selection, and monitoring and control processes. Thus, to say that our intentions influence affordance perception requires no positing of representational mental entities, regardless of whether the intention is formed through a deliberative process which serves a regulatory role over a series of actions or whether it is attributed to an intentional arc or process in reflection.

5.6 Concluding Remarks

What we have proposed in this paper is the beginning of an ecological-enactive account of planning and distal engagement. We've argued that the intentions of an agent, or what they want to do in an environment, can shape affordance perception and salience. We've also shown that long-term planning or coordinating actions toward achieving distant goals does not necessarily need to involve the positing of representations. In doing so, we maintained that both the agent and the environment play important roles in the explanation of this capacity. In bringing language into the discussion of skilled intentionality, we keep in mind that languaging is not just for social purposes, but involves "reflexive and reflective negotiating with one's self" (Cuffari et. al 2015, p. 1110), which is crucial when explaining the activities of human forms of life.

We have argued that such an account needs to take into consideration the integration of self-directed speech and other skills alongside the education of attention toward affordances within a socio-cultural community. Of course, there is far more fine-grained work to do to in expanding and refining such an account. Doing so could involve the integration of several different areas of research--those previously discussed, and possibly work on affordance space perception and decision-making (Brincker 2015), or studies linking language area activation and sensorimotor areas in action perception circuits (Pulvermüller 2018). One example of future research could be the ways that gender influences institutionally scaffolded goals and affordance saliency in regards to gender or other socio-cultural identities. For example. Yang and Barth (2015) have argued that the goals that certain occupations afford, and whether they fit into traditionally masculine or feminine categories (e.g, achieving communal goals vs. individual goals), shapes whether students view these occupations as

appealing. Examining this research through the framework of distal engagement enriches the way that we can look at the socialization and shaping of socialized interests and what they call *goal affordances*.

The advantage of the ecological-enactive framework provided above is that it prioritizes agent-environment coupling, and in doing so, does not posit agent nor environment as explanatorily privileged while staying true to both ecological and enactive frameworks. It also offers more resources for exploring other aspects of intention formation processes and affordance perception, such as the ways that social expectation and accountability can influence skill development across affordance scales. Specifically, we think an approach like this is important as a groundwork for further research on the ways that social identities, gender, race, ability status, sexual orientation, and political oppression can shape our languaging habits and affordance relevance and solicitation.²¹

²¹ The connections between social identities and the habituation of languaging, the perception and relevance of linguistic affordances (see Ayala 2016), and the ways in which we set and maintain our orientation towards long term goals could be explored in future research. The framework introduced in this chapter can also be used in tandem with the research done in chapter 4, where I look at the ways that affordances are perceived as possibilities for interaction will differ given the socio-cultural situation and habituation of the subject. Another possible linkage with my other work would be to use the distal engagement framework to explore the ways that epistemic goals are influenced by situatedness, and how this links to work that has already been done in standpoint theory.

Chapter 6

Interpersonal Affordance Perception: Agency and Selfhood*

Abstract:

Are interpersonal affordances a distinct type of affordance, and if so, what is it that differentiates them from other kinds of affordances? Conceptually, we could say that interpersonal affordances are different from environmental and other social affordances because they offer inter-agential interactions. In this paper, I argue that the enactive framework of participatory sense-making demonstrates that there is a difference in coupling that warrants a hard distinction between interpersonal and other affordances, where interpersonal affordances ought to be considered those that are afforded by agents and are recognized as such. I will explain why this distinction matters for a relational view of affordance perception because of the differences in coupling between agents and agent-environment. However, there is further nuance to this distinction for humans, because our social conventions establish persons as more than mere agents. Distinguishing between types of affordances is thus also one that matters politically: there are harms done when an agent is not *seen* as an agent, and there are harms done when an agent is not *seen* as a social self.

* A version of this paper is under review.

Chapter 6

Interpersonal Affordance Perception: Agency and Selfhood

6.1 Introduction

Is there a difference between our perception of the environment and our perception of other agents? Drawing from James Gibson's work (1979) on perception, contemporary enactivism and ecological psychology both use the theory of affordances, or perceived possibilities for interaction. Affordances are neither properties of the environment nor the agent, but are co-constituted in the agent-environment relationship, given the agent's values, abilities (Chemero 2003), and skills (van Dijk and Rietveld 2017) as the agent actively explores her world (Gibson 1979). Ecological psychology is largely built around the notion of affordances as the main objects of perception, while in enactivism affordances have played a more subsidiary and contentious role.

Increasingly, enactivists are using the language of affordances in their explanatory frameworks (see e.g. Gallagher 2017, Di Paolo et al 2017). Enactivism and ecological psychology share a number of theoretical commitments, and many see them as kindred approaches to cognition. Both reject the received view of cognition as internal, computational, and representational. Both propose that we see cognition as an active process constituted in the relationship between organism and environment. Both argue that perception is intersubjectively developed (Gallagher 2008, De Jaegher et al. 2016), learned (E. Gibson 1963), and/or socially mediated (Heft 2007). These should be thought of as broad agreements in spirit, though, rather than precise overlaps—the approaches are sisters, not twins.

Given that the ecological approach relies on Gibson's theory of direct perception (1972/2002), we should understand affordances not as inferred through our perception of the environment, but as directly perceived. We see an apple *as* edible, rather than post-perceptually *inferring* that it is edible, for example (Nanay 2011). Further, while apples can offer the possibility of sustenance, or *afford* being eaten, this might only be perceived as a relevant affordance if an agent is actively searching for something to eat; if I were looking for something to hold down a paper that was in danger of blowing away, an apple might afford the possibility of serving that purpose for me.

The social contributions to affordance perception have been widely discussed and debated in the ecological psychology literature (e.g. Reed 1991, Costall 1995, 2012, Heft 2007). Other people, though, are not apples, and how we perceive the affordances offered by other agents is a much smaller subset of this literature. The contemporary hybrid theory of ecological-enactivism has offered some headway on how we might approach uniquely *social* affordances (Rietveld et al. 2017, Rietveld 2008), holding that social affordances offer possibilities for social interaction. However, ecological-enactivists have also maintained that there is an equivalence between our perception of environmental affordances and social affordances (Rietveld et al. 2017, Rietveld et al. 2013). This work on social affordances has been valuable for explaining how we might both pre-reflectively experience and conscientiously shape our interactive spaces. Here, though, I propose that we need to maintain a fine-grained distinction between (environmental) affordances that offer opportunities for socializing, such as public spaces, and those offered by agents themselves—opportunities afforded by other agents, whether purposefully (offering a hug) or not (tapping someone’s shoulder to let them know they’ve dropped something).

Given the role that intersubjectivity plays in the enactive framework, and the importance of joint sense-making in interaction (De Jaegher 2013a,b), maintaining such a distinction between agent-environment and agent-agent affordances is explanatorily relevant due to the differences in cognitive activities and types of coupling. The theory of direct perception has been taken up to provide an enactivist account of social cognition (Gallagher 2008), where it is argued that we directly perceive rather than infer the mental states of others. Drawing from this, I will argue that the defining features of interpersonal affordances would be that they are (1) offered by an agent, and (2) involve perceiving one *as* an agent.

Importantly, this distinction is also politically relevant. For human forms of life, the mutual attribution of agency that happens in social interactions involves many layers. One of these, I argue, is that we see other humans as social selves (Kyselo 2014). Social selves are scaffolded by social convention and practice, and are developed in relation with others. Incorporating social and minimal selfhood, Michelle Maiese’s ‘life-shaping’ thesis of selfhood (2019) offers a unifying enactive theory of self. I will use Maiese’s conception of selfhood to show the political importance of perceiving agency and selfhood, and conversely, demonstrate the harm that can be done by refusing to recognize another as an agent or as a self. Maiese’s account is helpful for

discussing the ethical dimensions of affordances in interaction, and helps illustrate the damage that is done when someone is perceived as affording possibilities for interaction that deny agency, selfhood, or are *not* in line with who they are.

6.2 Social Affordances

The social aspects of affordances have been detailed in ecological psychology, by those such as Heft (2007), who argues that the perception of affordances is in all ways social. That is, Heft argues that both the ontogeny and phylogeny of how we come to perceive affordances, for humans, is socially developed through niche construction and the influence of culture through the constructed ecological niche (see also: McGann 2014 on intersubjectivity, E. Gibson 1963 on perceptual learning, and Ramstead et al. 2016 on cultural affordances)²². The intersubjective development of affordance perception applies to both environmental affordances and the more limited conception of interpersonal affordances I will offer here.

As Rietveld et al. define them, social affordances are “possibilities for social interaction or sociability provided by the environment” (2017, p. 300). They have been defined elsewhere even more broadly:

“Social and communicative affordances that reflect the meaning of human activity for other humans (cf. McArthur & Baron, 1983; Reed, 1988). These include not only the affordances of symbolic behavior such as human conversation and writing (Dent, [1990]) but also the affordances of nonsymbolic activity such as facial expressions (Alley, 1988; Buck, 1988), gesture (Tomasello, 1988; VanAcker & Valenti, 1989), body postures and movements (Runeson & Frykholm, 1983), tone of voice (Walker, 1982; Walker-Andrews, 1986), and the direction of gaze (orienting; Butterworth & Cochran, 1980; Scaife & Bruner, 1975) that provide information about the actor as well as about other aspects of the environment. The symbolic behaviors (language) are entirely conventional and culture-specific, whereas the nonsymbolic are only partly so.” (Loveland 1991, p. 101)

²² Eleanor Gibson is often overlooked and under-cited in the literature on ecological psychology. Following the suggestion of Miguel Segundo-Ortin, I cite her as E. Gibson to bring more attention to her unique contributions.

Loveland's conception incorporates a list of affordances that might be related to acts of socializing or communication. Loveland's list is meant to be more limited than, for example, saying that affordances can be canonical, a term used by Costall (2012) to refer to the way that affordances can be specific to socio-cultural practices. That is, Costall uses this term to point out that some affordances are available only because those perceiving them have learned certain ways of engaging with the environment or certain meanings of items through social means. An example of this is a recycling bin. This only affords the recycling of an item if one has been raised in a social environment where recycling is a norm, or somehow otherwise knows about the social convention of recycling.

Gallagher and Ransom (2016) use the term "social affordances" in an even more limited sense in discussing the social affordances provided by social media. As many of our social interactions do not take place in person, that a certain website or app affords sociability could mean many things. For example, an app can be used for facilitating meet-ups in the sense of one creating or responding to a social media event for an upcoming gathering or collective action. It could also mean facilitating direct exchange between agents in a virtual space, such as with a messaging app. This usage of the term is also becoming widespread in areas that study human-technology interaction and mediation, such as networking technology (e.g. Brandner 2001) and social robotics (e.g. Paauwe et al. 2015).

Social affordances have also been discussed in some detail by ecological-enactivists. The hybrid theory of ecological-enactivism (Kiverstein and Rietveld 2014) has brought together both the ecological and enactive approaches in their proposal of the Skilled Intentionality Framework, or SIF (van Dijk and Rietveld 2017). The SIF incorporates the "lived perspective of a skilled individual" as integral for understanding how it is that we perceive *relevant* affordances (van Dijk and Rietveld 2017, p. 3). The development of the skills for being attuned to relevant affordances for the agent can be thought of as "multiple bodily states of action readiness.... reciprocally coupled to the landscape of affordances, in the sense that these states of action readiness self-organize and shape the selective openness to the landscape of affordances" (van Dijk and Rietveld 2017, p. 8). Though we might think of skill in the sense of expertise, this includes any embodied or pre-reflexive skills or capacities for navigating the world. Skilled intentionality can be as simple as selectively perceiving a mug handle as graspable when one is heading to the coffee pot for a refill. Through

our skills and habits of coupling, we are selectively open to the relevant affordances of the environment for the task(s) we are undertaking.

In their discussion of social affordances, Rietveld et al. (2017) offer a number of concrete suggestions for improving sociability in the sense of providing spaces where people from disparate backgrounds or with very different interests might be inclined to come together. Their suggestions include park planning and other architectural interventions to offer options for activities conducive to social interactions in public spaces. In this sense, sociability could also be afforded anywhere that people tend to have social interactions, such as coffee shops, parks, the grocery store check-out lane or even the sidewalk, though all of this would be heavily dependent on sociocultural norms and practices.

Because sociability and social interaction are quite different, I think it's important to distinguish these further. A possibility for sociability seems much more general than a possibility for social interaction, so I think we should take sociability to mean *having others available for interaction in an interaction conducive space*. Affording sociability would then be something offered by the environment, rather than others. This would be as a (non-necessary) pre-condition for a social interaction. Of course, generalities about social affordances, or sociability affordances more broadly, should be made cautiously. What one feels is an “interaction conducive space” would of course be dependent on culture, social position, and identity. There may be gender, race, neurodiversity, disability-related, or historical issues or dynamics that would influence whether spaces are perceived as hostile or uncomfortable for some and welcoming or comfortable for others (De Jaegher 2013a, b, Heras-Escribano 2019, Ch. 7, Jurgens, in press). Given that the focus of this paper will be on interpersonal affordances, I turn now to the enactivist framework to explain why that narrowing is explanatorily important.

6.3 Enactive Autonomy and Interaction

The enactivist notion of autonomy is based on the most fundamental of organismic processes: self-maintenance and self-production. These self-organizing processes form the foundation for the autopoietic approach to cognition (Maturana & Varela 1980). An organism must maintain itself and its boundaries through a network of biological processes while at the same time being selectively open to the world in order to take in from the environment what it needs to sustain its existence.

Summarizing Varela (1979), Thompson describes the autopoietic view as holding that processes constituting the autonomous organization of a system: “(i) recursively depend on each other for their generation and their realization as a network, (ii) constitute the system as a unity in whatever domain they exist, and (iii) determine a domain of possible interactions with the environment” (2007, p. 44). The autonomous system thus creates the conditions of its own persistence, and the capacities of the system establish the ways in which it can interact with the world.

Maintaining these processes requires that the system be open to the world in ways that enable the system to continue these maintenance processes. Being open to the world in ways that are appropriate for the organism is possible because, in addition to having the capacities to act, organisms are able to make sense of the world in some way. Sense-making (Varela 1991) involves an organism actively exploring a world through the perception of what might be helpful for maintaining organismic integrity and what can hinder or harm, and acting accordingly. Or, more concisely, it is “the creation and appreciation of meaning in interaction with the world” (De Jaegher 2013b, p. 6).

In the autopoietic tradition of enactivism, an agent can be defined as “an autonomous system capable of adaptively regulating its coupling with the environment according to the norms established by its own viability conditions” (Di Paolo et al 2017, p. 127). This is not to say that agency itself is attributable to the organism, as enactivism holds that cognition is a relational process rather than involving the internal processing of environmental information. Thus while we might call an organism an agent, agency itself would be the relational process of selectively attuning one’s actions in accordance with the environment. On the enactive account, then, “perhaps agency is not a property that belongs exclusively to a system but is a property of a *relation* between that system and its surroundings. And this relation is variable” (Di Paolo et al 2017, p. 110). The relational account of agency is variable in that there is an interactional asymmetry between the organism and the environment, and the relationship fluctuates given the organism’s needs and perhaps environmental demands. There can be a difference in the balance of agency in the agent-environment relationship given the particulars of a current circumstance. For instance, the balance of agency in the agent-environment relationship will be different when I’m looking in the fridge for a midnight snack versus when I’m fleeing a park due to a sudden lightning storm.

While these provide a picture of the most minimal processes of life and cognition, these notions scale up to more complex behaviors and systems of organization. These also capture interpersonal and social dynamics through the theory of participatory sense-making, as introduced by De Jaegher and Di Paolo (2007). In participatory sense-making, we have the coupling of autonomous systems that, through that coupling, create an autonomous interaction that involves a precarious balance between participants in order to be maintained. De Jaegher and Di Paolo define participatory sense-making as “the coordination of intentional activity in interaction, whereby individual sense-making processes are affected and new domains of social sense-making can be generated that were not available to each individual on her own” (2007, p. 497). The interaction is mutually co-constituted, co-regulated, and co-sustained by autonomous agents, who are recursively shaped within the interaction they are co-regulating.

Being able to be involved in processes of mutual creation of social meaning is important to self-production and maintenance within the intersubjective sphere. It is through these kinds of interactions that the normativity of social practices in the social niche are created, shaped, and changed. For human forms of life, maintaining autonomy involves more than organismic processes of self-production and maintenance in a purely bodily sense. De Jaegher and Di Paolo give a brief description of the criteria for establishing that an interaction is social, based on this interactive notion of emergent autonomy:

“Social interaction is the regulated coupling between at least two autonomous agents, where the regulation is aimed at aspects of the coupling itself so that it constitutes an emergent autonomous organization in the domain of relational dynamics, without destroying in the process the autonomy of the agents involved (though the latter’s scope can be augmented or reduced).” (2007, p. 493)

In participatory sense-making, preservation of the autonomy of the involved agents involves a mutual recognition of the agency of the other. This recognition is meant in an immediate fashion—it is not that one decides the other is an agent, but that they are *already* seen *as* an agent, or as “a subject, not an object” (McGann & De Jaegher 2009, p. 428). It is a direct perception of the agency and subjectivity of the other.

The interaction process can and does involve asymmetries of autonomy in order to maintain itself. Agency is recognized, while autonomy fluctuates. This is because the interaction process also involves ebbs and flows of mutual regulation (Di Paolo et al. 2018). In an interaction, the regulating role of the processes of mutual sense-making should, ideally, flow back and forth between agents in order to co-constitute the interactive process. This will involve coordination in multiple dimensions. For instance, two people may be engaged in a conversation at a coffee shop. There will be bodily coordination in the sense that they pre-reflectively align their postures (Richardson et al. 2005) and they will perhaps be pre-reflectively balancing their emotional states in response to the other (Hatfield et al. 1993, Kiverstein 2015). Both participants may pre-reflectively compromise in order to attune to the comportment of the other. One may follow the other in leaning forward when exchanging a particularly juicy bit of gossip, or lean back when talking about how busy their workweek has been. One may have a long story to share, and there may be an asymmetry in regulating the flow of utterances in the interaction—one person is regulating through their continued utterances, while the other is regulated as listener, offering a chuckle or gasp at the appropriate times. While the regulator and regulated roles flow back and forth, neither party's autonomy is ever harmfully compromised in this idealized example. Both are perceived by the other as autonomous agents within the interaction, both are involved in establishing the norms of that interaction, and regulatory roles can be seen as a matter of request, not force.

There are many fairly innocuous reasons that an agent's autonomy might be compromised in an interaction: we can imagine a caregiver giving a child a stern talking-to for misbehavior, for example. There are also ways in which sociocultural position, norms, and power dynamics can limit the speech affordances available in some interactions (Ayala 2016), which might be considered a compromise of autonomy and/or contributor to regulation role imbalance, depending on the situation. There are also more extreme imbalances in autonomy, in the case that one is not treated *as a subject* and *as an agent*, constituting a grievous devaluation or dehumanization, such as occurs in torture or warfare, where one is treated as non-human (animalistic dehumanization) or as not possessing agency at all (mechanistic dehumanization) (Gallagher and Varga 2013, Haslam 2006).

Failures to recognize a person as an agent are not only something that happens in these extreme cases though. This frequently happens more subtly in everyday

interactions. This can be through failing to recognize one's agency by perceiving one as an object or tool. Or this can include failing to recognize another's social selfhood in interaction. In the following section, I'll expand on an enactive notion of selfhood to provide a way of approaching how we might directly perceive social selves.

6.4 Enactive Selfhood

How we think of ourselves, or the reflective aspect of our selfhood, plays an important role in structuring our lived experience, how we see ourselves inhabiting our social world, and how we interact with others. For human forms of life, agency alone is often not going to be a robust enough notion to capture what it is we might want recognized in social interactions. However, the approach to agency provided on the enactive account offers more than this—there are several domains of agency that enable and constrain each other through their overlap of processes and sensorimotor schemes, such as organismic agency (discussed in section 3), sensorimotor agency (Di Paolo et al. 2017), and linguistic agency (Cuffari et al. 2015, Di Paolo et al. 2018). The complexity of these latter kinds of agency, their intersubjective development, and their ubiquity in our social niche enables the formation of what Kyselo (2014) has called the social self.

In detailing her proposed method for individuating social selves, Kyselo states that “cognitive identity of the autonomous system cannot only be grasped from a third-person, operational definition of the processes involved in its individuation; instead, it requires a view from which the world is encountered and interactions are evaluated *by the system* itself.” (2015, p. 5). I take this to imply that a unifying theory of self, as might be used in the sciences, should be able to accommodate cultural and social differences in the understanding of the self *for* the agent. This is important, as the aspects of selfhood relevant to a diverse group of persons themselves ought to be providing guidance in establishing the phenomenon of interest, as well as providing crucial political and ethical considerations to how we approach the science of selfhood.

Further, Kyselo argues that the social self is “never fully separable from the social environment, but instead determined precisely in terms of the types of social interactions and relations of which it is, at the same time, a part” (2014, p. 12). This is similar to the way the self is said to be involved in participatory sense-making. To think of how the social self is determined in social interactions, we can consider the recursivity in participatory sense-making, where the autonomous agents both shape

and are shaped by their social interaction. McGann and De Jaegher say of this process that “[c]ulture transforms our body from a physical mode of cognition, action, and perception to a social one where action can be shared, values coordinated. It is a dramatic alchemy that occurs through participatory sense-making and the acknowledgement of the agency of another. The implications of this fact for the enactive approach cannot be overstressed.” (2009, p. 433).

Indeed, having a theory of social selfhood that can accommodate how we want to be treated in interaction is one way of taking up these implications. This is not exactly the aim of Kyselo’s project, though further elaboration is helpful. Kyselo (2014) argues that we need a unifying theory of self that can be used to guide work in the cognitive sciences. As it stands, the conception or definition of self varies in different areas of research, affecting study and treatment. Given this, she claims that “we still need a notion of the self as a whole, something that can count as a distinguishable unit of explanation and eventually help to interrelate different aspects of the self” (2015, p. 2).

Kyselo (2014) argues that we need a meta-theory of self to guide research (methodological), which she argues is not provided by earlier enactive theories of self, such as Gallagher’s pattern theory (2013). Gallagher’s pattern theory of self offers a list of characteristics of the self that we might use to guide research given the kind of phenomena we are looking to investigate. But, as Kyselo points out, the “pattern approach to the self acknowledges diversity but lacks integration, offering no account of the individual as explanatory whole. Once the diversity of self related phenomena is acknowledged, we also need to understand how the elements of a collection of relevant self features interrelate” (Kyselo 2014, p. 1). In other words, she wants the methodological notion to provide or correlate with the grounds for individuation.

Gallagher’s pattern theory of self is not intended to be a unifying theory of selfhood, so it does not provide an explanation for individuation. I think it is more appropriate to treat the pattern theory of self as a descriptive rather than prescriptive consideration of how self is and can be used in the sciences, given Gallagher’s commitments to a non-reductive naturalism and his rejection of inter-theoretic reduction (Gallagher 2018). Gallagher’s position seems to map onto a methodological approach that is in line with enactivism, and a non-reductive naturalistic approach to cognition more generally, with “an insistence on a dynamical, multidimensional existence that requires a multidisciplinary approach that necessarily discounts every

single discipline for the sake of the many; where neither neuroscience, nor psychology, nor phenomenology, nor anthropology, nor economics, nor any one of the cognitive arts and sciences gets the final say because existence is never just one thing” (Gallagher 2018, p. 135). And like existence, selfhood, especially in a more robust reflective or narrative sense (Schechtman 2011), is not any one thing. In specifying what might unify the self in order to provide a point of orientation for research, it is important to consider how any one conception would treat the myriad of socioculturally situated folk psychologies of self, as the sense of self of importance to a person in thinking about their individuation and coherence over time.

Gallagher’s pattern theory of self is intended to accommodate the interdisciplinarity of the cognitive sciences and their varying research methods. However, without positing any coherence relations or specifying the individuation or persistence conditions of selfhood, we don’t have the kind of unifying theory of selfhood Kyselo is after.

6.4.1 Embodied Selfhood and the Life-Shaping Thesis

Kyselo’s answer to the problem of unification distinguishes between two possible answers cognitive scientists might give in trying to locate the self. The first is the idea that what individuates the self is the living body, which entails that the social is non-constitutive of the self. She calls this the *social as contextual* claim, which she rejects. The second is to individuate the self as a coherent unity according to the social dimension. She calls this the *social as constitutive* claim, which she backs.

In response to this, Maiese draws on the enactive approach in providing a ‘life-shaping thesis’ of selfhood. While Kyselo claims (2015) that the self is individuated via the social world, rather than via the body, Maiese bases selfhood in the autonomous organization of a system, which requires that an organism individuates itself as a closed network of systems of self-maintenance. She holds that the individuated self “is fully embodied, and that the various dimensions of mindedness—that is to say, our desires, feelings, emotions, sense perceptions, memories, thoughts, intentional actions, etc.—are all partially determined, or shaped, by the social world” (2019, p. 364). For humans, the intersubjective scale of agency involves individuating oneself in the social realm, but this is scaffolded by the ongoing bodily processes by which we are able to maintain our individuation over time. So while the self is shaped by the social, this does not root the persistence conditions of the self in the social. Rather, the social would be one

domain of embodiment of the organismically individuated self, which would enable and constrain other dimensions of embodiment.

Maiese's proposal of the life-shaping thesis (2019) shows that the enactivist account doesn't make us choose between the self of cognitive science and the social self. The enactive account holds that cognition is constituted by a number of nested processes involving body, brain, and world—and for human other social forms of life, shaped intersubjectively. The project of deciding between social as contextual or constituting of the self is perhaps a bit misguided in terms of metaphysical presuppositions, as a non-reductive, process-oriented account such as enactivism, one which promotes dynamical over mechanistic explanations, would not look to make sense of the self in terms of a context/constitution dichotomy. To illustrate, let's look at what Maiese says about the role of individuation:

“This distinction between components that constitute the living system and elements that form its environment grounds not only biological identity, but also the identity of the self. Indeed, just as a living system should be individuated according to this form or organization, the self (or what might be described as the human *mode of life*) should be individuated according to its characteristic form or organization, rather than the energetic or relational material that ensures its continued existence.” (2019, p. 364, emphasis added)

Maiese seems to ground both individuation and persistence in the autonomous processes of living systems, in line with the autopoietic notions of individuation through self-maintenance and self-production. The life-shaping thesis holds that the social is not constitutive of the self, but that the self is *embedded* in the social. The self, she argues, is influenced and shaped by the social in the sense that the social has a causal influence, is reciprocally shaped by us through our responses or contributions to the social, and normative. It is normative in both the sense that the social shapes our internal norms through enabling or constraining our embodied processes, but also in the contributory sense of taking part in participatory sense-making and practices that can reinforce, shape, or transform social norms. Social normativity is thus recursive.

Grounding the self in this way is important for three reasons: (i) this notion of self is more accommodating in terms of understanding varying sociocultural

conceptions of selfhood and embeddedness, (ii) it does not allow for full determination of the self in the social, thus maintaining what I might call an agential core to the self, and (iii) it can be productively integrated with the enactive theories of participatory sense-making and direct perception in interaction. The self engages in social interactions in which it can be shaped or influenced, but it is not fully determined within the sphere of these acts, thus fundamentally preserving the autonomy of the embodied agent. As Maiese says:

“...indeed, participatory sense-making presupposes and requires bodily-organismic ‘selves’ who can partake in the interaction process. Moreover, for each of these ‘selves’ to remain an autonomous interactor, it must be possible (even if unlikely) for her to defy social expectations, or even disengage from the social interaction if she feels so inclined.” (2019, p. 363)

It is also important to note that by being accommodating to varying socioculturally situated notions of self, this doesn't necessarily mean that individuals have *a* self in the narrative or reflective sense. In other words, I believe we can take Maiese's notion of selfhood as not implying that the social presentation of self is unified *apart* from the embodied sense. There is a lot of literature in feminist and critical race theory on multiplicitous selves and identities, given the numerous communities that one may navigate in their social terrain (e.g. Ortega 2001, Anzaldúa 1987, Barvosa 2008). In fact, in this work, it is oftentimes embodied persistence through multiple social worlds, or the phenomenological *mine-ness* of experience given through embodied persistence and subjectivity, that offers individuation or persistence conditions through which the agent is able to enact numerous selves in the social sphere. Locating the individuation and persistence of selfhood in the “self-organizing” of autonomous systems opens up room for an enactive approach to how it is that selves can manifest in different ways, depending on particularities of context, social roles and cultural knowledge, power dynamics, marginalization and oppression, and other aspects that shape the social situatedness of an agent.

6.5 Interpersonal Affordances between Agents and Selves

The notion of selfhood proposed by Maiese (2019) captures the root of what is important in developing an account of how it is that we directly perceive and selectively

respond to interpersonal affordances. On her account, the social self is an aspect of the embedded embodied self, and the persistence conditions of selfhood, while socially embedded, are maintained by the embodied processes of organization rather than being fully socially determined. The subject directly perceived in participatory sense-making is an embodied subject embedded in the social. Further, the account makes no general claims about what social selfhood is, and can be sensitive to the many ways that sociocultural norms, practices, and neurodiversity can influence self-perception and experience.

I'll turn back now to the perception of agency and selfhood in the social sphere by way of interpersonal affordances. As discussed in section 2, we should take interpersonal affordances to mean *actual* possibilities for interaction *with an agent*. An interpersonal affordance is not perceived in the agent-environment relationship, but is afforded *by* another agent (whether intentionally or not). Interpersonal affordances are not necessarily part of an interaction, but they can afford an interaction. For example, let's say I'm walking down the street and I see a friend, who is engaged in a conversation with someone else. We could say that I perceive them as affording a social interaction, though they haven't actually seen me yet. Conversely, in participatory sense-making, both agents are actively affording possibilities for interaction through their ongoing utterances, gestures, bodily and emotional coordination, and so on. In both cases, the perception of interpersonal affordances is not a product of the agent-environment relationship, but the agent-agent relationship, and involves seeing the other as a subject. This requires some further discussion.

6.5.1 Direct Perception in Social Cognition

First, though, in the terms of the social cognition literature, interpersonal affordances should not be taken to imply a Theory of Mind, which is an inference about or simulation of the mental state of the other. A Theory of Mind is built on the idea that we are at a remove from the mental state of the other in social interactions, and use simulation (implicit mental simulation, e.g. Goldman & Sripada 2005, or mirror neuron systems, e.g. Gallese 2005) or inference (e.g. some kind of implicit or explicit theory about others' minds, e.g. Gopnick & Wellman 1992) to explain how we as spectators (Schilbach et al. 2013) come to know the other's mental state (their intentions, emotions, etc). Rather, perceiving an interpersonal affordance should be

thought of as phenomenologically immediate, as with Gibson's theory of the direct perception of affordances (1979).

Direct perception is the basis of the theory of social cognition proposed by Gallagher (2008). It might be helpful to draw a similarity between Gallagher's direct perception theory and how we ought to understand interpersonal affordances. This enactivist conception of direct perception is built on the idea that cognition is fundamentally embodied and action-oriented. As such, it is not the case that cognition is locked away inside the mind of the other. In direct perception, we see goal-oriented actions as such, with no need for inference. Explained by Gallagher and Varga (2013):

“According to [interaction theory] and the direct perception hypothesis, social perception is enactive. That is, my perception of your action is already formed in terms of how I might respond to your action. I see your action, not as a fact that needs to be interpreted in terms of your mental states, but as a situated opportunity or affordance for my own action in response. The intentions that I can see in your movements appear to me as logically or semantically continuous with my own, or discontinuous, in support or in opposition to my task, as encouraging or discouraging, as having potential for (further) interaction or as something I want to turn and walk away from” (p. 189).

Having moved away from the input-model of perception, there is no need for an inference or for simulation in order to see a motion of a hand towards a cup *as reaching for the cup*. Likewise, we see a friend *as* excited without need for inference or attribution (Varga 2020). Reflexively, we might *make* this attribution, but in most cases this is because that is *how we perceived the action*. And while we might sometimes use an inferential process to try to figure out what someone is doing or feeling, this is when something is complex or confusing. It is the exception, not the rule.

6.5.2 Direct Perception of Interpersonal Affordances

Interpersonal affordances are also directly perceived: “The sight of a sad friend affords consoling him or her, a colleague at the coffee machine solicits small talk, and an extended hand immediately prepares the body for shaking it” (Rietveld et al. 2013, p. 436). It is crucial to note that in this example, the *perception-as* and the *action-readiness* are intertwined. It is also important to note that perceiving-as is not static, especially

in the case of other agents, as has been pointed out by Fiebich (2014). Fiebich makes the point that interpersonal affordances are “perceived within interactive reciprocal processes” (2014, p.1) where the perceived agent is engaged in their own ongoing action processes. A similar point is also made by McGann: “There is also no particular moment in time at which perceiving is “complete” because such perception always occurs in the flow of on-going behavior – activity does not have to wait for it.” (2014, p. 26) Therefore, a continuous interaction would offer a continuous stream of changing interpersonal affordances (and engagement with these affordances changes the process of interaction).

The participatory sense-making account provided in section 3 makes it clear that these reciprocal processes often happen within an autonomous interaction, where the interactors are involved in a shared, co-regulated (and co-regulating) domain of sense-making. Taking this into account, perceiving what is afforded by the other agent can also be influenced by the perceiver’s desire to maintain the interactive coupling. The perception of relevant interpersonal affordances by each individual agent will involve more than the concerns of their own self-maintenance—they include concerns about the maintenance of the autonomous interaction as well. Or, perhaps, the relevance of affordances will be influenced by an agent’s desire to leave the interaction (so they may begin glancing around the room, looking at their phone, or become slow to respond to the interpersonal affordances the other agent is offering).

As argued above, participatory sense-making requires seeing another as a subject. In other words, maintenance of an autonomous interaction, or agent-agent coupling, already presumes agency.

Previous discussions of interpersonal affordances don’t specify this requirement. That is, I’m not sure it has been made explicitly clear that perceiving an interpersonal affordance involves experiencing “the other as a subject,” as Schilbach et al. (2013, p. 395) say of direct perception in social cognition.

Consider that affordances are possibilities for action (or interaction). Rietveld et al. (2013, 2017) want to avoid a hard distinction between the perception of social and environmental affordances by appealing to the similarities in *how* we perceive them as embodied agents. Pointing to the Skilled Intentionality Framework, they note that the skill of picking out relevant affordances generates ‘readiness of the affordance-related ability’ (Rietveld 2008). Whether a relevant affordance is environmental or social, “starting from bodily or skilled intentionality, our perspective avoids an artificial

separation between social cognition and nonsocial engagements with the environment” (Rietveld et al. 2013).

This is unproblematic if we are talking about the difference between environmental and social (in the sense of sociability) affordances. However, if we are talking about interpersonal affordances, those afforded *by* or *in interaction with others*, the lack of distinction becomes an issue. First, interpersonal affordances are not given in the relationship between an agent and an environment, but in the relationship between agents. De Jaegher & Di Paolo 2007 argue that these are different types of coupling (see also De Jaegher et al. 2010). The divide between environmental affordances and interpersonal affordances is not artificial—in the first case, you have a mere coupling, and in the latter case, there is a mutually regulated coupling:

“Thus, social interaction has two characteristics: (1) there is a coupling, which is regulated so as to generate and maintain an identity in the relational domain. Thus, the resulting relational dynamics are autonomous in the strict sense of precarious operational closure ... and define events and processes as either internal or external to the interaction. And (2) the individuals involved are and remain autonomous as interactors.” (De Jaegher & Di Paolo 2007, p. 493)

I would argue that the skill of being attuned to relevant affordances should also include a sensitivity to the possibility that one can engage in a social interaction. This would often involve directly perceiving one as an agent able to enter into an autonomous interaction, due to the intertwining of perceiving-as and action-readiness. It might be relevant that one is a specific agent (when one has an appointment to meet with a friend), or it might be relevant that one is an adult agent more generally (if I’m on the street looking for someone to speak with so I can ask for directions), but nonetheless, I am searching for an agent, and the perception of agency is intertwined with my readiness to respond to a perceived interpersonal affordance.

This leads to the second issue, which is more political in nature and in line with the ethical dimension of the Gibsonian perspective of affordance perception: “The meaning or value of a thing consists of what it affords. What a thing is and what it means are not separate, the former being physical and the latter mental as we are accustomed to believe” (Gibson 1982, p. 407). If we apply this to interpersonal affordances, we can consider how being seen as an autonomous agent capable of

entering into a participatory sense-making process would be a valuation of our contributions to that shared domain of sense-making. Thus, while it does not matter to a chair whether or not it affords sit-ability to a person²³, it can matter immensely whether a person is viewed as candidate for shared meaning-creation. While there are plenty of reasons one might not want to engage in an interaction with another agent, some of these reasons have to do with a devaluation of one's agency or autonomy due to power dynamics, biases, stereotypes, or a number of other reasons having to do with social status.

On the farther end of compromises of agency in interaction, we can think of objectification. To be objectified is to have one's agency and autonomy denied (Nussbaum 1995, Langston 2009).²⁴ A common example of this phenomenon would be catcalling or other forms of street harassment. In these cases, women (mostly) are treated as though they afford comments about their appearance, being groped or grabbed, ogled, and so on without consent. It is often appropriate to objectify the local environment as affording something for you, within reason and given prevailing norms. It is not appropriate to perceive an agent as offering something for you in the same way, if it constitutes a devaluation of the person.²⁵ And, as I've shown above, to objectify someone this way also forecloses opportunities for entering into meaningful interactions.

However, we also need to take into account that, as previously discussed, interactions do not just take place between ahistorical agents. I have argued that participatory sense-making involves the coupling of selves in the interaction process. This means that there is a recognition not just of an embodied agent in the course of interaction, but also a socially embedded agent—an agent that has a way (or ways) of being in the world with others that pre-exists and continues on after the interaction. I hold that social selfhood, in this sense, and grounded in the embodied self as discussed by Maiese (2019), is directly perceived rather than reflectively attributed or inferred. While this is not always the case for every interaction, I think this is an important aspect of participatory sense-making. Seeing the participant as an embodied, socially

²³ Naomi Beecroft (in discussion) has used this example to discuss the ways that class influences affordance perception.

²⁴ There are certainly exceptions to this, as not all acts of objectification are against an agent's will. To consent to objectification and be objectified would involve being seen as an agent in order to provide that consent (e.g. BDSM).

²⁵ This would not apply in cases such as stopping someone on the street to ask the time, as this is a request for assistance, not a denial of agency.

embedded self allows for the coordination of expectations about shared meanings that structure the interactive space. And in creating a shared domain of sense-making, there are opportunities for creating and shaping meaning for the social self that extend beyond the interaction itself.

In contrast, one who is denied aspects of their selfhood is subject to a compromise in that individual's autonomy in participatory sense-making. An example of this would be engaging in an interaction with a person but consistently not using their pronouns. To do so is to perceive one as a social self, with an autonomous identity, and then purposefully undermine that very sense of self. Insisting on denying someone's selfhood in interaction in this way denies full entry into participatory sense-making, as it is a forced regulation of autonomy. This kind of harm, as a denial of selfhood and agential identity (Dembroff 2019, Barnes 2019), limits an agent's ability to participate in the co-creation of meaning (De Jaegher et al. 2016) in a social interaction, amongst causing or perpetuating many other harms.

While there's clearly more to discuss in regards to the perception and denial of agency and selfhood, my intention in this paper was to demonstrate that the direct perception of interpersonal affordances involves the perception of agency. I have also argued that in many forms of interaction, including participatory sense-making, it will also involve seeing the other as a self. While I have not integrated nor provided arguments for the integration of ecological psychology or enactivism, I hope that I have given some indication that further integration in exploring the issues of agency and selfhood in interaction would be fruitful.

6.6 Conclusion

As enactivism and ecological-enactivism progress in explaining complex human realms of being, they grow increasingly concerned with social normativity and social institutions. For example, De Jaegher (2013) has looked at how patriarchal and democratic institutions can be understood through the enactive approach to intersubjectivity. Michelle Maiese and Robert Hanna (2019) have offered concrete suggestions for transforming our political and social institutions using insights from enactivism and ecological psychology. And Rietveld et al. (2017) have brought attention to the important challenge of adapting insights from enactive and embodied cognition into resources for increasing social cohesion and inclusivity.

In this paper, I've argued that recognition of selfhood and maintaining a distinction between environmental affordances and interpersonal affordances are important for these projects. On one hand, this is explanatorily important due to the different kinds of coupling involved. On the other hand, this distinction is important for theorizing about the ethical and political aspects of affordances. To say that perception of affordances is the same, whether environmental or social, generalizes away from the concrete realities of experience and selfhood in interaction.

Both the positive and negative aspects of affordance solicitation imply that we view an agent *as* an agent. However, there are also cases where one is directly perceived as affording a possibility for interaction which denies their agency or selfhood. Using the enactive theory of participatory sense-making, I have shown that this is a denial of autonomy and can limit one's ability to enter into acts of meaning co-creation.

If we are looking for ways to increase social cohesion “understood as the co-existence of disparities, not the elimination of particular backgrounds” (Rietveld et al. 2017, p. 303), as Rietveld et al. have argued we can do through environmental interventions, we also need to understand the concrete particularities of bringing people together in social spaces. The goal of social cohesion “is only possible when individuals from different groups make a shared effort in achieving a common goal and, moreover, for which these groups have to be dependent on each other for reaching this goal” (Rietveld et al. 2017, p. 307). Evaluating the ways in which our social institutions and practices can be transformed also must involve actively building resources for examining and understanding how our habits and actions contribute to devaluation and other harms to other agents.

Chapter 7

Concluding Thoughts

This thesis has offered a number of contributions in the field of feminist philosophy of e-cognition, all organized around the goal of articulating the influence of gender in cognition without basing that influence purely in the social sphere or by reducing it to an object of neurological investigation. By using the enactivist framework, these works have examined how a shift in our approach to naturalism can integrate first-person and third-person perspectives in the cognitive sciences. In doing this work, I have centralized the importance of agency and experience in discussing social norms and the habits of interaction by which those norms permeate our embodied ways of being, while also shaping, reinforcing, or transforming those norms through our interactions. And I have shown that we can have non-essentialist ways of talking about gender, cognition, and embodiment that forefront the roles of gender identity and agency.

In the second chapter, “Naturalizing Situatedness”, I offered an argument against using the computational framework for understanding situatedness. I discussed how naturalism has guided or provided theoretical underpinnings for previous research on situatedness and pointed to the enactivist framework as an alternative that doesn’t encounter the same metaphysical and political conundrums as a reductive approach. Picking up on these themes in the third chapter, “Epistemic Agency in Practice: Language, Knowing, and Epistemic Diversity”, I looked at how the enactivist conception of language can connect with work in critical social epistemology. I argued that an enactivist epistemology ought to start from our epistemic practices rather than trying to map onto analytic epistemology, which is itself a socioculturally situated epistemic practice. My intention in these chapters was to clear the ground for some new ways of thinking about epistemic diversity, which could be explored in further work.

The fourth chapter, “Gender and the Senses of Agency”, connects the narrative and minimal senses of agency in order to illustrate the dynamics between these domains of cognition. I argue that the influence of gender permeates the narrative and the minimal senses of agency, and demonstrate how these scaffold and constrain each other. In shaping our immediate, or pre-reflective, experience of the world, I argue

that we ought to look more at how gender and social norms more broadly might shape affordance salience.

Drawing on this same research, I argue in the fifth chapter, “Distal Engagement: Intentions in Perception” that coordinating our actions towards achieving a goal, or having an intention, ought to be thought of as a particular kind of skill. However, rather than positing representations to account for how we manage to do so, I use the enactive account of languaging to show that the involvement of language, even self-directed language, does not require a representational explanation. As affordance perception is an active process, I also argue that exercising this skill influences affordance salience. Given what I’ve argued in the previous chapter, I think there is potential for future research on how intentions and affordance salience are influenced by social norms, linguistic practices, and linguistic resources (or epistemic resources, as discussed in chapter three).

The sixth chapter, “Interpersonal Affordance Perception: Agency and Selfhood” offers an argument for maintaining a distinction between environmental, social, and interpersonal affordances. I use the theory of participatory sense-making and the theory of direct perception to argue that maintaining a distinction between the perception of environmental affordances and interpersonal affordances is explanatorily valuable, as these involve different types of coupling, and politically valuable, as not seeing someone as an agent or as a self is a serious harm. This work is intended to set up future research specifying the types of specific harms that can be done in interactions (to agents and to the community more broadly) by denying aspects of selfhood or agency altogether, by connecting with work in critical race theory and trans theory.

The significance of this work can be viewed in a number of ways: as epistemic, political, integrative, and resource building. By integrating work in the fields of e-cognition, feminist philosophy of science, feminist epistemology, and feminist phenomenology, we increase the number of perspectives and epistemic resources available for investigating the influence of social differences and disparities in our lived experience.

Through using the feminist lens in doing enactivist research, we also discover or expose issues that come from trying to generalize from dominant perspectives. Treatment of cognitive processes or bodies as neutral is inappropriate for human forms of life, especially on a framework that stresses the interdependence of our

dimensions of embodiment. Gender, race, and our other lived identities should not be treated as additive to a neutral body, and discussions of social situatedness should not be reserved for discussions of our most sophisticated cognitive processes. Our intersubjective starting point needs to adequately reflect the social world most of us are born into: hierarchical, oppressive, patriarchal, and intolerant.

In many ways, I intended for this thesis to clear ground, and I feel that it has done that. My hope is that this work has made connections that will be valuable for future research in understanding how it is that gender influences cognition, in a way that can be gender affirming while also conscious of ongoing oppressions.

References

- Adams, F., 2010. Why we still need a mark of the cognitive. *Cognitive Systems Research* 11, 324–331. <https://doi.org/10.1016/j.cogsys.2010.03.001>
- Adams, F., Aizawa, K., 2008. *The Bounds of Cognition*. Wiley-Blackwell.
- Ahmed, S., 2007. A phenomenology of whiteness. *Feminist Theory* 8, 149–168. <https://doi.org/10.1177/1464700107078139>
- Alcoff, L., 2006. *Visible identities: race, gender, and the self*, *Studies in feminist philosophy*. Oxford University Press, New York.
- Alcoff, L., 1996. *Real knowing: new versions of the coherence theory*. Cornell University Press, Ithaca.
- Alcoff, L.M., 2010. Epistemic Identities. *Episteme* 7, 128–137. <https://doi.org/10.3366/E1742360010000869>
- Alley, T. R. 1988. Social and applied aspects of face perception: An introduction. In T. R. Alley (Ed.), *Social and applied aspects of perceiving faces* (pp. 1-8). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Anderson, E., 2017. *Feminist Epistemology and Philosophy of Science*. The Stanford Encyclopedia of Philosophy.
- Anderson, E., 2004. Uses of value judgments in science: A general argument, with lessons from a case study of feminist research on divorce. *Hypatia* 19, 1–24.
- Anderson, E., 1995. Feminist epistemology: An interpretation and a defense. *Hypatia* 10, 50–84.
- Anderson, Elizabeth, n.d. *Feminist Epistemology and Philosophy of Science*. Stanford Encyclopedia of Philosophy.
- Antony, L., 2016. Things Oughta Make Sense, in: *Proceedings and Addresses of the American Philosophical Association*. pp. 21–39.

Antony, L., 1993. Quine As Feminist: The Radical Import of Naturalized Epistemology, in: Antony, L., Witt, C. (Eds.), *A Mind of One's Own: Feminist Essays on Reason and Objectivity*. Westview Press, Boulder, pp. 185–226.

Antony, L.M., 2016. Bias: Friend or Foe?, in: Brownstein, M., Saul, J. (Eds.), *Implicit Bias and Philosophy, Volume 1*. Oxford University Press, pp. 157–190.
<https://doi.org/10.1093/acprof:oso/9780198713241.003.0007>

Antony, L.M., 2007. Everybody has got it: A defense of non-reductive materialism, in: McLaughlin, B.P., Cohen, J.D. (Eds.), *Contemporary Debates in Philosophy of Mind*. Blackwell.

Antony, L.M., 2002. Embodiment and epistemology. *The Oxford handbook of epistemology* 463–478.

Antony, L.M., 2000. Natures and Norms. *Ethics* 111, 8–36.
<https://doi.org/10.1086/233417>

Anzaldúa, G., 1987. *Borderlands: the new mestiza = La frontera*, 1. ed. ed, Chicana studies. Aunt Lute Books, San Francisco, Calif.

Ataria, Y., 2015. Sense of ownership and sense of agency during trauma. *Phenomenology and the Cognitive Sciences* 14.

Ayala, S., 2016. Speech affordances: A structural take on how much we can do with our words: Speech Capacity: A Structural Approach. *European Journal of Philosophy* 24, 879–891. <https://doi.org/10.1111/ejop.12186>

Baggs, E., Chemero, A., n.d. The third sense of environment.
<https://doi.org/10.4324/9780429316128>

Bakhtin, M.M., Holquist, M., Emerson, C., 1986. *Speech genres and other late essays*, 1st ed. ed, University of Texas Press Slavic series. University of Texas Press, Austin.

Bar On, B.A., 1993. Marginality and epistemic privilege, in: Alcoff, L., Potter, E. (Eds.), *Feminist Epistemologies*. Routledge.

Barad, K., 2007. Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. Duke University Press.

<https://doi.org/10.1215/9780822388128>

Barnes, E., 2019. Gender and Gender Terms1: Gender and Gender Terms. *Noûs*.

<https://doi.org/10.1111/nous.12279>

Barvosa, E., 2008. Wealth of Selves: Multiple Identities, Mestiza Consciousness, and the Subject of Politics. Texas A & M University Press, College Station.

Battaly, H., 2018. Extending Epistemic Virtue. Oxford University Press.

<https://doi.org/10.1093/oso/9780198769811.003.0012>

Bauer, G.R., Hammond, R., Travers, R., Kaay, M., Hohenadel, K.M., Boyce, M., 2009. “I Don’t Think This Is Theoretical; This Is Our Lives”: How Erasure Impacts Health Care for Transgender People. *Journal of the Association of Nurses in AIDS Care* 20, 348–361. <https://doi.org/10.1016/j.jana.2009.07.004>

Boeckle, M., Clayton, N.S., 2017. A raven’s memories are for the future. *Science* 357, 126–127. <https://doi.org/10.1126/science.aan8802>

Bradner, E., 2001. Social Affordances of Computer-Mediated Communication Technology: Understanding Adoption, in: CHI ’01 Extended Abstracts on Human Factors in Computing Systems, CHI EA ’01. Association for Computing Machinery, New York, NY, USA, pp. 67–68. <https://doi.org/10.1145/634067.634111>

Brancazio, N., 2018. Irreducible Aspects of Embodiment: Situating Scientist and Subject. *Australasian Philosophical Review* 2, 219–223.

<https://doi.org/10.1080/24740500.2018.1552101>

Brancazio, N., 2019. Gender and the senses of agency. *Phenomenology and the Cognitive Sciences*. <https://doi.org/10.1007/s11097-018-9581-z>

Brancazio, N., Segundo-Ortin, M., 2020. Distal engagement: Intentions in perception. *Consciousness and Cognition* 79, 102897.

<https://doi.org/10.1016/j.concog.2020.102897>

- Bratman, M., 1987. *Intention, Plans, and Practical Reason*. Center for the Study of Language and Information.
- Brincker, M., 2015. Beyond sensorimotor segregation: On mirror neurons and social affordance space tracking. *Cognitive Systems Research* 34–35, 18–34.
<https://doi.org/10.1016/j.cogsys.2015.07.002>
- Brown, J., 2013. Cognitive diversity and epistemic norms. *Philosophical Issues* 23, 326–342.
- Bruineberg, J., Chemero, A., Rietveld, E., 2018. General ecological information supports engagement with affordances for ‘higher’ cognition. *Synthese*.
<https://doi.org/10.1007/s11229-018-1716-9>
- Buck, R. 1988. The perception of facial expression: Individual regulation and social coordination. In T. R. Alley (Ed.), *Social and applied aspects of perceiving faces* (pp. 141-165). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Butterworth, G., & Cochran, E. 1980. Towards a mechanism of joint visual attention in human infancy. *International Journal of Behavioral Development*, 3, 253-272.
- Cartwright, N. 1983. *How the Laws of Physics Lie*. Oxford: Oxford University Press.
- Chemero, A., 2009. *Radical embodied cognitive science*. MIT Press, Cambridge, Mass.
- Chemero, A., 2003. An outline of a theory of affordances. *Ecological psychology* 15, 181–195.
- Chomsky, N.A., 1976. *Reflections On Language*. Temple Smith.
- Chua, H.F., Boland, J.E., Nisbett, R.E., 2005. Cultural variation in eye movements during scene perception. *Proceedings of the National Academy of Sciences of the United States of America* 102, 12629–12633.
- Clancey, W., 2009. Scientific antecedents of situated cognition, in: Aydede, M., Robbins, P. (Eds.), *The Cambridge Handbook of Situated Cognition*. Cambridge University Press.

Clark, A., 2016. *Surfing uncertainty: prediction, action, and the embodied mind*. Oxford University Press, Oxford ; New York.

Clark, A., Chalmers, D.J., 1998. The extended mind. *Analysis* 58.

Code, L., 1995. *Rhetorical Spaces: Essays on Gendered Locations*. Routledge.

Collins, P.H., 1991. *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment*. Routledge.

Costall, A., 2012. Canonical affordances in context. *Avant: Trends in Interdisciplinary Studies* 3, 85–93.

Costall, A., Still, A., 1989. Gibson's theory of direct perception and the problem of cultural relativism. *Journal for the Theory of Social Behaviour* 19, 433–441.

Costall, Alan, 1995. Socializing Affordances. *Theory & Psychology* 5, 467–481.
<https://doi.org/10.1177/0959354395054001>

Crocker, M.W., Knoeferle, P., Mayberry, M.R., 2010. Situated sentence processing: The coordinated interplay account and a neurobehavioral model. *Brain and Language* 112, 189–201. <https://doi.org/10.1016/j.bandl.2009.03.004>

Cuffari, E.C., Di Paolo, E., De Jaegher, H., 2015. From participatory sense-making to language: there and back again. *Phenom Cogn Sci* 14, 1089–1125.
<https://doi.org/10.1007/s11097-014-9404-9>

Cumming-Potvin, W.M., Martino, W., 2018. Countering heteronormativity and cisnormativity in Australian schools: Examining English teachers' reflections on gender and sexual diversity in the classroom. *Teaching and Teacher Education* 74, 35–48. <https://doi.org/10.1016/j.tate.2018.04.008>

Daley, A., Radford, K., 2018. Queer and Trans Incarceration Distress: Considerations from a Mad Queer Abolitionist Perspective, in: Mills, A., Kendall, K. (Eds.), *Mental Health in Prisons*. Springer International Publishing, Cham, pp. 285–307. https://doi.org/10.1007/978-3-319-94090-8_12

- Davidoff, J., Fonteneau, E., Fagot, J., 2008. Local and global processing: Observations from a remote culture. *Cognition* 108, 702–709.
<https://doi.org/10.1016/j.cognition.2008.06.004>
- Davidson, D., 1980. *Essays on Actions and Events*. Oxford University Press.
- De Jaegher, H., 2019. Loving and knowing: reflections for an engaged epistemology. *Phenom Cogn Sci*. <https://doi.org/10.1007/s11097-019-09634-5>
- De Jaegher, H., 2018. *The intersubjective turn*. Oxford University Press.
<https://doi.org/10.1093/oxfordhb/9780198735410.013.24>
- De Jaegher, H., 2013. Rigid and fluid interactions with institutions. *Cognitive Systems Research* 25–26, 19–25. <https://doi.org/10.1016/j.cogsys.2013.03.002>
- De Jaegher, H., Di Paolo, E. and Gallagher, S., 2010. Can social interaction constitute social cognition?. *Trends in cognitive sciences*, 14(10), pp. 441-447.
- De Jaegher, H., Di Paolo, E., 2007. Participatory sense-making: An enactive approach to social cognition. *Phenomenology and the Cognitive Sciences* 6, 485–507. <https://doi.org/10.1007/s11097-007-9076-9>
- De Jaegher, H., Peräkylä, A., Stevanovic, M., 2016. The co-creation of meaningful action: bridging enaction and interactional sociology. *Philosophical Transactions of the Royal Society B: Biological Sciences* 371, 20150378.
<https://doi.org/10.1098/rstb.2015.0378>
- de Oliveira, S., Nisbett, R.E., 2017. Beyond East and West: Cognitive Style in Latin America. *Journal of Cross-Cultural Psychology* 48, 1554–1577.
- Dembroff, R., Saint-Croix, C., 2019. “Yep, I’m Gay”: Understanding Agential Identity. *Ergo: An Open Access Journal of Philosophy* 6, 571–599.
- Dennett, D.C., 1991. *Consciousness explained*, 1st ed. ed. Little, Brown and Co, Boston.
- Dent, C.H. 1990. An ecological approach to language development: An alternative functionalism. *Dev. Psychobiol.*, 23: 679-703. doi:[10.1002/dev.420230710](https://doi.org/10.1002/dev.420230710)

- Di Paolo, E.A., 2005. Autopoiesis, Adaptivity, Teleology, Agency. *Phenomenology and the Cognitive Sciences* 4, 429–452. <https://doi.org/10.1007/s11097-005-9002-y>
- Di Paolo, E.A., Cuffari, E.C., De Jaegher, H., 2018. *Linguistic bodies: the continuity between life and language*. The MIT Press, Cambridge, Massachusetts.
- Dotson, K., 2014. Conceptualizing Epistemic Oppression. *Social Epistemology* 28, 115–138. <https://doi.org/10.1080/02691728.2013.782585>
- Dotson, K., 2013. How is this Paper Philosophy? *Comparative Philosophy* 3, 3–29.
- Dotson, K., 2012a. A Cautionary Tale: On Limiting Epistemic Oppression. *Frontiers: A Journal of Women Studies* 33, 24. <https://doi.org/10.5250/fronjwomestud.33.1.0024>
- Dotson, K., 2011. Tracking Epistemic Violence, Tracking Practices of Silencing. *Hypatia* 26, 236–257. <https://doi.org/10.1111/j.1527-2001.2011.01177.x>
- Dupré, J. 1993. *The Disorder of Things: Metaphysical Foundations of the Unity of Science*. Cambridge, MA: Harvard University Press.
- Einstein, G., 2012. Situated neuroscience : exploring biologies of diversity, in: Bluhm, R., Jacobson, A.J., Maibom, H.L. (Eds.), *Neurofeminism: Issues at the Intersection of Feminist Theory and Cognitive Science*. Palgrave-Macmillan.
- Fanon, F., Markmann, C.L., 2000. *Black skin, white masks*, Nachdr. ed, Pluto Classics. Pluto Press, London.
- Farrer, C., Frith, C.D., 2002. Experiencing Oneself vs Another Person as Being the Cause of an Action: The Neural Correlates of the Experience of Agency. *NeuroImage* 15, 596–603. <https://doi.org/10.1006/nimg.2001.1009>
- Fausto-Sterling, A., 2016. How else can we study sex differences in early infancy?: How Else Can We Study Sex Differences in Early Infancy. *Developmental Psychobiology* 58, 5–16. <https://doi.org/10.1002/dev.21345>
- Fausto-Sterling, A., 2012. *Sex/gender: biology in a social world*, The Routledge Series integrating science and culture. Routledge, New York.

Fausto-Sterling, A., 2000. Sexing the body : gender politics and the construction of sexuality. Basic Books, New York, NY.

Favela, L.H., Chemero, A., 2016. The animal-environment system, in: Coello, Y., Fischer, M.H. (Eds.), Foundations of Embodied Cognition: Volume 1: Perceptual and Emotional Embodiment. Routledge, pp. 59–74.

Fiebich, A., 2014. Perceiving Affordances and Social Cognition, in: Gallotti, M., Michael, J. (Eds.), Perspectives on Social Ontology and Social Cognition. Springer Netherlands, Dordrecht, pp. 149–166. https://doi.org/10.1007/978-94-017-9147-2_11

Fine, C., 2012. Explaining, or Sustaining, the Status Quo? The Potentially Self-Fulfilling Effects of ‘Hardwired’ Accounts of Sex Differences. Neuroethics 5, 285–294. <https://doi.org/10.1007/s12152-011-9118-4>

Fine, C., 2011. Delusions of gender: how our minds, society, and neurosexism create difference, Norton paperback. ed. W.W. Norton & Company, New York London.

Fischer, M.H., Zwaan, R.A., 2008. Embodied Language: A Review of the Role of the Motor System in Language Comprehension. Quarterly Journal of Experimental Psychology 61, 825–850. <https://doi.org/10.1080/17470210701623605>

Fodor, J.A., 1975. The Language of Thought. Harvard University Press.

Fodor, J.A., Pylyshyn, Z.W., 1981. How direct is visual perception?: Some reflections on Gibson’s “ecological approach.” Cognition 9, 139–196. [https://doi.org/10.1016/0010-0277\(81\)90009-3](https://doi.org/10.1016/0010-0277(81)90009-3)

Freeman, L., 2017. Embodied Harm: A Phenomenological Engagement with Stereotype Threat. Hum Stud 40, 637–662. <https://doi.org/10.1007/s10746-017-9438-4>

Fricker, M., 2007. Epistemic Injustice: Power and the Ethics of Knowing. Oxford University Press.

Fricker, M., Jenkins, K., 2017. Epistemic Injustice, Ignorance, and Trans Experiences, in: Garry, A., Khader, S.J., Stone, A. (Eds.), The Routledge Companion

to Feminist Philosophy. Routledge, 1 [edition]. | New York : Routledge, 2017. | Series: Routledge philosophy companions, pp. 268–278.

<https://doi.org/10.4324/9781315758152-23>

Gallagher, S., 2018. Rethinking Nature: Phenomenology and a Non-reductionist Cognitive Science. *Australasian Philosophical Review* 2, 125–137.

<https://doi.org/10.1080/24740500.2018.1552074>

Gallagher, S., 2017. *Enactivist interventions: rethinking the mind*, First edition. ed. Oxford University Press, Oxford, United Kingdom.

Gallagher, S., 2015. Relations Between Agency and Ownership in the Case of Schizophrenic Thought Insertion and Delusions of Control. *Review of Philosophy and Psychology* 6.

Gallagher, S., 2013. The socially extended mind. *Cognitive Systems Research* 25–26, 4–12. <https://doi.org/10.1016/j.cogsys.2013.03.008>

Gallagher, S., 2012. Multiple aspects in the sense of agency. *New Ideas in Psychology* 30, 15–31. <https://doi.org/10.1016/j.newideapsych.2010.03.003>

Gallagher, S., 2008a. Intersubjectivity in perception. *Continental Philosophy Review* 41, 163–178.

Gallagher, S., 2008b. Direct perception in the intersubjective context. *Consciousness and Cognition* 17, 535–543. <https://doi.org/10.1016/j.concog.2008.03.003>

Gallagher, S., 2005. *How the Body Shapes the Mind*. Oxford University Press UK.

Gallagher, S., 2000. Philosophical conceptions of the self. *Trends in Cognitive Sciences* 4.

Gallagher, S., Ransom, T.G., n.d. *Artifacting Minds: Material Engagement Theory and Joint Action* 15.

Gallagher, S., Schechtman, M., 2011. *The Narrative Self*. Oxford University Press.

- Gallagher, S., Trigg, D., 2016. Agency and Anxiety: Delusions of Control and Loss of Control in Schizophrenia and Agoraphobia. *Frontiers in Human Neuroscience* 10, 459. <https://doi.org/10.3389/fnhum.2016.00459>
- Gallagher, S., Varga, S., 2014. Social Constraints on the Direct Perception of Emotions and Intentions. *Topoi* 33, 185–199. <https://doi.org/10.1007/s11245-013-9203-x>
- Gallagher, S., Zahavi, D., 2012. *The Phenomenological Mind*. Routledge.
- Gallese, V. 2005. Embodied simulation: From neurons to phenomenal experience. *Phenomenology and the cognitive sciences* 4, 23–48.
- Gibson, E., Rader, N., 1979. Attention, in: Hale, G.A., Lewis, M. (Eds.), *Attention and Cognitive Development*. Springer US, Boston, MA, pp. 1–21. https://doi.org/10.1007/978-1-4613-2985-5_1
- Gibson, E.J., 1963. Perceptual Learning. *Annual Review of Psychology* 14, 29–56. <https://doi.org/doi:10.1146/annurev.ps.14.020163.000333>
- Gibson, J.J., 1979a. *The Ecological Approach to Visual Perception*. Houghton Mifflin.
- Gibson, J.J., 1979b. *The ecological approach to visual perception*, Psychology Press classic editions. New York, NY : Psychology Press, 2015.
- Gibson, J.J., 1972. A theory of direct visual perception, in: Noe, A., Thompson, E. (Eds.), *Vision and Mind: Selected Readings in the Philosophy of Perception*. MIT Press, pp. 77--89.
- Gibson, J.J., 1966. *The senses considered as perceptual systems*. Greenwood Press, Westport, Conn.
- Gibson, J.J., Reed, E., Jones, R., 1982. *Reasons for realism: selected essays of James J. Gibson*, Resources for ecological psychology. L. Erlbaum, Hillsdale, N.J.
- Goguen, S., 2016. Stereotype Threat, Epistemic Injustice, and Rationality, in: Brownstein, M., Saul, J. (Eds.), *Implicit Bias and Philosophy*. Oxford University Press, pp. 216–237.

- Goldman, A.I., 1970. *A Theory of Human Action*. Princeton University Press.
- Gopnik, A., Wellman, H.M., 1992. Why the Child's Theory of Mind Really Is a Theory. *Mind & Language* 7, 145–171. <https://doi.org/10.1111/j.1468-0017.1992.tb00202.x>
- Grasswick, H.E., 2004. Individuals-in-Communities: The Search for a Feminist Model of Epistemic Subjects. *Hypatia* 19, 85–120. <https://doi.org/10.1111/j.1527-2001.2004.tb01303.x>
- Grimm, S., 2012. “The Value of Understanding”: The Value of Understanding. *Philosophy Compass* 7, 103–117. <https://doi.org/10.1111/j.1747-9991.2011.00460.x>
- Grosz, E., 1994. Sexual difference and the problem of essentialism. *The essential difference* 82–97.
- Haraway, D., 1988. Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies* 14, 575. <https://doi.org/10.2307/3178066>
- Harding, S., Vassallo, N., 2001. Is Science Multi-cultural? Postcolonialism, Feminism, and Epistemologies. *Epistemologia* 24.
- Harding, S.G., 2004. *The Feminist Standpoint Theory Reader: Intellectual and Political Controversies*. Routledge.
- Harding, S.G., 1991. *Whose science? Whose knowledge? thinking from women's lives*. Cornell University Press, Ithaca, N.Y.
- Harding, S., 1987. Is There a Feminist Method?, in: Tuana, N. (Ed.), *Feminism and Science*. Bloomington, IN: Indiana University Press, pp. 18–32.
- Hartsock, N., 1983. The Feminist Standpoint: Developing the Ground for a Specifically Feminist Historical Materialism, in: Harding, S., Hintikka, M. (Eds.), *Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology, and the Philosophy of Science*. Dordrecht, D. Reidel, pp. 283–310.
- Haslam, N., 2006. Dehumanization: An Integrative Review. *Pers Soc Psychol Rev* 10, 252–264. https://doi.org/10.1207/s15327957pspr1003_4

- Haslanger, S.A., 2012. *Resisting reality: social construction and social critique*. Oxford University Press, New York.
- Hatfield, E., Cacioppo, J.T., Rapson, R.L., 1993. Emotional Contagion. *Curr Dir Psychol Sci* 2, 96–100. <https://doi.org/10.1111/1467-8721.ep10770953>
- Heft, H., 2007a. The social constitution of perceiver-environment reciprocity. *Ecological psychology* 19, 85–105.
- Heft, H., 2007b. The Social Constitution of Perceiver-Environment Reciprocity. *Ecological Psychology* 19, 85–105. <https://doi.org/10.1080/10407410701331934>
- Heft, H., 1989a. Affordances and the Body: An Intentional Analysis of Gibson's Ecological Approach to Visual Perception. *Journal for the Theory of Social Behaviour* 19, 1–30. <https://doi.org/10.1111/j.1468-5914.1989.tb00133.x>
- Heft, H., 1989b. Affordances and the Body: An Intentional Analysis of Gibson's Ecological Approach to Visual Perception. *J Theory of Social Behaviour* 19, 1–30. <https://doi.org/10.1111/j.1468-5914.1989.tb00133.x>
- Heidegger, M., Stambaugh, J., 1996. *Being and time: a translation of Sein und Zeit*, SUNY series in contemporary continental philosophy. State University of New York Press, Albany, NY.
- Hekman, S., 1997. Truth and Method: Feminist Standpoint Theory Revisited. *Signs: Journal of Women in Culture and Society* 22, 341–365. <https://doi.org/10.1086/495159>
- Hekman, S.J., 2010. *The material of knowledge: feminist disclosures*. Indiana University Press, Bloomington, Ind.
- Heras-Escribano, M., 2019. *The Philosophy of Affordances*. Springer International Publishing, Cham. <https://doi.org/10.1007/978-3-319-98830-6>
- Hurley, S.L., 1998. *Consciousness in Action*. Harvard University Press.
- Hutto, D., 2009. Folk psychology as narrative practice. *Journal of Consciousness Studies* 16, 9–39.

Hutto, D.D., 2008. The narrative practice hypothesis: Clarifications and implications. *Philosophical Explorations* 11.

Hutto, D.D., Myin, E., 2017. *Evolving enactivism: basic minds meet content*. MIT Press, Cambridge, MA.

Hutto, D.D., Myin, E., 2013. *Radicalizing Enactivism: Basic Minds Without Content*. MIT Press.

Intemann, K., 2010. 25 Years of Feminist Empiricism and Standpoint Theory: Where Are We Now? *Hypatia* 25, 778–796. <https://doi.org/10.1111/j.1527-2001.2010.01138.x>

Jacobson, A.J., 2012. Seeing as a social phenomenon : feminist theory and the cognitive sciences, in: Bluhm, R., Jacobson, A.J., Maibom, H.L. (Eds.), *Neurofeminism: Issues at the Intersection of Feminist Theory and Cognitive Science*. Palgrave-Macmillan.

Joel, D., Fausto-Sterling, A., 2016. Beyond sex differences: new approaches for thinking about variation in brain structure and function. *Philosophical Transactions of the Royal Society B: Biological Sciences* 371, 20150451. <https://doi.org/10.1098/rstb.2015.0451>

Jordan-Young, R., Rumiati, R.I., 2012. Hardwired for Sexism? Approaches to Sex/Gender in Neuroscience. *Neuroethics* 5, 305–315. <https://doi.org/10.1007/s12152-011-9134-4>

Kaiser, A., 2012. Re-Conceptualizing “Sex” and “Gender” in the Human Brain. *Zeitschrift für Psychologie* 220, 130–136. <https://doi.org/10.1027/2151-2604/a000104>

Keller, E.F., 1985. *Reflections on gender and science*. Yale University Press, New Haven.

Keller, E.F., 1983. *A feeling for the organism: the life and work of Barbara McClintock*. W.H. Freeman, San Francisco.

- Kiverstein, J., 2018. Free Energy and the Self: An Ecological–Enactive Interpretation. *Topoi*. <https://doi.org/10.1007/s11245-018-9561-5>
- Kiverstein, J., Rietveld, E., 2015. The Primacy of Skilled Intentionality: on Hutto & Satne’s the Natural Origins of Content. *Philosophia* 43.
- Kiverstein, J.D., Rietveld, E., 2018. Reconceiving representation-hungry cognition: an ecological-enactive proposal. *Adaptive Behavior* 105971231877277. <https://doi.org/10.1177/1059712318772778>
- Kuhn, T.S., 1962. *The Structure of Scientific Revolutions*. University of Chicago Press.
- Lave, J., & Wenger, E. 1991. *Situated learning: Legitimate peripheral participation*. Cambridge, MA: Cambridge University Press.
- Lee, E.S., 2011. The epistemology of the question of authenticity, in place of strategic essentialism. *Hypatia* 26, 258–279.
- Longino, H., 2010. Feminist Epistemology at Hypatia’s 25th Anniversary¹. *Hypatia* 25, 733–741. <https://doi.org/10.1111/j.1527-2001.2010.01131.x>
- Longino, H., 2002. Subjects, Power, and Knowledge, in: Kourany, J.A. (Ed.), *The Gender of Science*. Prentice-Hall.
- Longino, H.E., 1994. In search of feminist epistemology. *The monist* 77, 472–485.
- Longino, H.E., 1992. Taking Gender Seriously in Philosophy of Science. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association 1992*, 333–340. <https://doi.org/10.1086/psaprocbienmeetp.1992.2.192847>
- Longino, H.E., 1990. *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry*. Princeton University Press.
- Loveland, K.A., 1991. Social affordances and interaction II: Autism and the affordances of the human environment. *Ecological psychology* 3, 99–119.
- Lyon, P. 2013. Reflections on Maturana’s Biogenic Explanation of Cognition 27.

- MacKinnon, C.A., 1989. *Toward a feminist theory of the state*. Harvard University Press, Cambridge, Mass.
- Maiese, M., 2019a. Embodiment, sociality, and the life shaping thesis. *Phenom Cogn Sci* 18, 353–374. <https://doi.org/10.1007/s11097-018-9565-z>
- Maiese, M., 2017. Transformative Learning, Enactivism, and Affectivity. *Stud Philos Educ* 36, 197–216. <https://doi.org/10.1007/s11217-015-9506-z>
- Maiese, M., Hanna, R., 2019. *The Mind-Body Politic*. Palgrave Macmillan.
- Marcel, A.J., 2003. The sense of agency: Awareness and ownership of action, in: Roessler, J., Eilan, N. (Eds.), *Agency and Self-Awareness: Issues in Philosophy and Psychology*. Oxford: Clarendon Press.
- Marr, D., 1982. *Vision: a computational investigation into the human representation and processing of visual information*. MIT Press, Cambridge, Mass.
- Mason, M.F., Morris, M.W., 2010. Culture, attribution and automaticity: a social cognitive neuroscience view. *Social Cognitive and Affective Neuroscience* 5, 292–306. <https://doi.org/10.1093/scan/nsq034>
- Maturana, H.R., Varela, F.J., 1987. *The tree of knowledge: the biological roots of human understanding*, 1st ed. ed. New Science Library : Distributed in the United State by Random House, Boston.
- Maturana, H.R., Varela, F.J., 1980a. *Autopoiesis and Cognition—The Realization of the Living*, ser. Boston Studies on the Philosophy of Science. Dordrecht, Holland: D.
- Maturana, H.R., Varela, F.J., 1980b. *Autopoiesis and Cognition: the Realization of the Living*. Springer Netherlands, Dordrecht.
- McArthur, L. Z., & Baron, R. M. 1983. Toward an ecological psychology of social perception. *Psychological Review*, 90, 215-238.
- McGann, M., 2014. Enacting a social ecology: radically embodied intersubjectivity. *Frontiers in Psychology* 5. <https://doi.org/10.3389/fpsyg.2014.01321>

- McGivern, P., 2018. Gallagher on Non-Reductive Naturalism: Complementarity, Integration or Multiscale Science? *Australasian Philosophical Review* 2, 159–170.
<https://doi.org/10.1080/24740500.2018.1552089>
- Merleau-Ponty, M., 2012. *Phenomenology of perception*. Routledge, London.
- Merritt, M., 2014. Making (non) sense of Gender, in: *Enactive Cognition at the Edge of Sense-Making*. Springer, pp. 285–306.
- Merritt, M., 2013. Instituting impairment: Extended cognition and the construction of Female Sexual Dysfunction. *Cognitive Systems Research* 25–26, 47–53.
<https://doi.org/10.1016/j.cogsys.2013.03.005>
- Merritt, M.C., 2010. *Queering Cognition: Extended Minds and Sociotechnologically Hybridized Gender*. University of South Florida.
- Meyer, R., 2018. The Nonmechanistic Option: Defending Dynamical Explanation. *British Journal for the Philosophy of Science* 0–0.
- Michaels, C.F., Palatinus, Z., 2014. A ten commandments for ecological psychology., in: Shapiro, L., Shapiro, L. (Ed) (Eds.), *The Routledge Handbook of Embodied Cognition*., Routledge Handbooks in Philosophy. Routledge/Taylor & Francis Group, New York, NY, US, pp. 19–28.
- Miłkowski, M., 2013. *Explaining the computational mind*. Mit Press.
- Millikan, R.G., 1984. *Language, Thought, and Other Biological Categories*. MIT Press.
- Mossio, M., Taraborelli, D., 2008. Action-dependent perceptual invariants: From ecological to sensorimotor approaches. *Consciousness and Cognition* 17, 1324–1340.
<https://doi.org/10.1016/j.concog.2007.12.003>
- Nanay, B., 2011. Do we see apples as edible? *Pacific Philosophical Quarterly* 92, 305–322.
- Nelson, L.H., 1990. *Who Knows: From Quine to a Feminist Empiricism*. Temple University Press.

- Nisbett, R.E., Masuda, T., 2003. Culture and point of view. *Proceedings of the National Academy of Sciences* 100, 11163–11170.
- Nisbett, R.E., Peng, K., Choi, I., Norenzayan, A., 2001. Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review* 108.
- Noë, A., 2004a. *Action in perception, Representation and mind*. MIT Press, Cambridge, Mass.
- Noë, A., 2004b. *Action in perception, 1*. MIT Press paperback ed. ed, *Representation and mind*. MIT Press, Cambridge, Mass.
- Norman, D.A., 2013. *The design of everyday things*, Revised and expanded edition. ed. Basic Books, New York, New York.
- Ortega, M., 2001. “New Mestizas,” “World’-Travelers,” and “Dasein”: Phenomenology and the Multi-Voiced, Multi-Cultural Self. *Hypatia* 16, 1–29.
- Paauwe, R.A., Hoorn, J.F., Konijn, E.A., Keyson, D.V., 2015. Designing Robot Embodiments for Social Interaction: Affordances Topple Realism and Aesthetics. *International Journal of Social Robotics* 7, 697–708. <https://doi.org/10.1007/s12369-015-0301-3>
- Pacherie, E., 2014. *Conscious Intentions*, in: *Open MIND*. Open MIND. Frankfurt am Main: MIND Group.
- Pacherie, E., 2008. The phenomenology of action: A conceptual framework. *Cognition* 107, 179–217. <https://doi.org/10.1016/j.cognition.2007.09.003>
- Pacherie, E., 2007. The Sense of Control and the Sense of Agency. *Psyche* 13.
- Palmer, S., 1999. *Vision Science: Photons to Phenomenology*. MIT Press.
- Peeters, A., Segundo-Ortin, M., 2019. Misplacing memories? An enactive approach to the virtual memory palace. *Consciousness and Cognition* 76, 102834. <https://doi.org/10.1016/j.concog.2019.102834>
- Pickering, A., 1995. *The mangle of practice: time, agency, and science*. University of Chicago Press, Chicago.

Pitts-Taylor, V. (Ed.), 2016. *Mattering: feminism, science, and materialism, Biopolitics: medicine, technoscience, and health in the twenty-first century*. New York University Press, New York.

Pohlhaus, G., 2012a. Relational Knowing and Epistemic Injustice: Toward a Theory of *Willful Hermeneutical Ignorance*. *Hypatia* 27, 715–735.
<https://doi.org/10.1111/j.1527-2001.2011.01222.x>

Pohlhaus, G., 2012b. Relational Knowing and Epistemic Injustice: Toward a Theory of Willful Hermeneutical Ignorance. *Hypatia* 27, 715–735.
<https://doi.org/10.1111/j.1527-2001.2011.01222.x>

Pöyhönen, S., 2017. Value of cognitive diversity in science. *Synthese* 194, 4519–4540.
<https://doi.org/10.1007/s11229-016-1147-4>

Pulvermüller, F., 2018. Neural reuse of action perception circuits for language, concepts and communication. *Progress in Neurobiology* 160, 1–44.
<https://doi.org/10.1016/j.pneurobio.2017.07.001>

Pylyshyn, Z.W., 1984. *Computation and Cognition*. MIT Press.

Quine, W.V., 1969. *Epistemology Naturalized*, in: *Ontological Relativity and Other Essays*. Columbia University Press.

Raczaszek-Leonardi, J., Nomikou, I., Rohlfing, K.J., 2013. Young Children's Dialogical Actions: The Beginnings of Purposeful Intersubjectivity. *IEEE Transactions on Autonomous Mental Development* 5, 210–221.
<https://doi.org/10.1109/TAMD.2013.2273258>

Rączaszek-Leonardi, J., Nomikou, I., Rohlfing, K.J., Deacon, T.W., 2018. Language Development From an Ecological Perspective: Ecologically Valid Ways to Abstract Symbols. *Ecological Psychology* 30, 39–73.
<https://doi.org/10.1080/10407413.2017.1410387>

Ramstead, M.J.D., Veissière, S.P.L., Kirmayer, L.J., 2016. Cultural Affordances: Scaffolding Local Worlds Through Shared Intentionality and Regimes of Attention. *Frontiers in Psychology* 7. <https://doi.org/10.3389/fpsyg.2016.01090>

Reed, E. S. 1988. The affordances of the animate environment: Social science from the ecological point of view. In T. Ingold (Ed.), *What is an animal?*. London: Allen & Unwin, 110-126.

Reed, E., 1996. *Encountering the world: toward an ecological psychology*. Oxford University Press, New York.

Richardson, S.S., 2013. *Sex itself: the search for male and female in the human genome*. The University of Chicago Press, Chicago ; London.

Richardson, M.J., Marsh, K.L., Baron, R.M., 2007. Judging and actualizing intrapersonal and interpersonal affordances. *Journal of Experimental Psychology: Human Perception and Performance* 33, 845–859. <https://doi.org/10.1037/0096-1523.33.4.845>

Richardson, M.J., Marsh, K.L., Schmidt, R.C., 2005. Effects of Visual and Verbal Interaction on Unintentional Interpersonal Coordination. *Journal of Experimental Psychology: Human Perception and Performance* 31, 62–79. <https://doi.org/10.1037/0096-1523.31.1.62>

Rietveld, E., De Haan, S., Denys, D., 2013. Social affordances in context: What is it that we are bodily responsive to? *Behavioral and Brain Sciences* 36.

Rietveld, E., Kiverstein, J., 2014. A Rich Landscape of Affordances. *Ecological Psychology* 26, 325–352. <https://doi.org/10.1080/10407413.2014.958035>

Rietveld, E., Rietveld, R., Martens, J., 2017. Trusted strangers: social affordances for social cohesion. *Phenomenology and the Cognitive Sciences*. <https://doi.org/10.1007/s11097-017-9554-7>

Robbins, P., Aydede, M. (Eds.), 2009. *The Cambridge handbook of situated cognition*. Cambridge University Press, Cambridge ; New York.

Rolin, K., 2016. Values, standpoints, and scientific/intellectual movements. *Studies in History and Philosophy of Science Part A* 56, 11–19. <https://doi.org/10.1016/j.shpsa.2015.10.008>

- Rolin, K., 2006. The bias paradox in feminist standpoint epistemology. *Episteme* 3, 125–136.
- Rorty, R., 1979. *Philosophy and the Mirror of Nature*. Princeton University Press.
- Rouse, J., 2009. Standpoint Theories Reconsidered. *Hypatia* 24, 200–209.
<https://doi.org/10.1111/j.1527-2001.2009.01068.x>
- Rowbottom, D.P., 2019. *The instrument of science: scientific anti-realism revitalised*. Routledge: London.
- Runeson, S., & Frykholm, G. 1983. Kinematic specification of dynamics as an informational basis for person-and-action perception: Expectation, gender recognition and deceptive intention. *Journal of Experimental Psychology: General*, 112, 585-615.
- Scaife, M., & Bruner, J. S. 1975. The capacity for joint visual attention in the infant. *Nature* 253, 265-266.
- Schechtman, M., 1996. *The Constitution of Selves*. Cornell University Press.
- Schechtman, M., 2011. The Narrative Self. In Gallagher, S. (Ed.) *The Oxford Handbook of the Self*. Oxford University Press.
- Scheman, N., 1983. Individualism and the Objects of Psychology, in: Harding, S., Hintikka, M.B. (Eds.), *Discovering Reality: Feminist Perspectives on Epistemology, Metaphysics, Methodology, and Philosophy of Science*. Springer Netherlands, Dordrecht, pp. 225–244. https://doi.org/10.1007/0-306-48017-4_13
- Schilbach, L., Timmermans, B., Reddy, V., Costall, A., Bente, G., Schlicht, T., Vogeley, K., 2013. Toward a second-person neuroscience. *Behavioral and Brain Sciences* 36, 393–414. <https://doi.org/10.1017/S0140525X12000660>
- Schmidt, M.F.H., Rakoczy, H., Tomasello, M., 2012. Young children enforce social norms selectively depending on the violator's group affiliation. *Cognition* 124, 325–333. <https://doi.org/10.1016/j.cognition.2012.06.004>

- Segundo-Ortin, M., Heras-Escribano, M., Raja, V., 2019. Ecological psychology is radical enough: A reply to radical enactivists. *Philosophical Psychology* 32, 1001–1023. <https://doi.org/10.1080/09515089.2019.1668238>
- Shaw, R., Kinsella-Shaw, J., 1988. Ecological mechanics: A physical geometry for intentional constraints. *Human Movement Science* 7, 155–200. [https://doi.org/10.1016/0167-9457\(88\)90011-5](https://doi.org/10.1016/0167-9457(88)90011-5)
- Solomon, M., 2006. Situated cognition. *Philosophy of Psychology and Cognitive Science: A Volume of the Handbook of the Philosophy of Science Series*. 359–374.
- Solomon, M., 1994. Social Empiricism. *Noûs* 28, 325. <https://doi.org/10.2307/2216062>
- Spelman, E.V., 1990. *Inessential woman: problems of exclusion of feminist thought*. Beacon Press, Boston.
- Stephens, G.L., Graham, G., 1994. Self-consciousness, mental agency, and the clinical psychopathology of thought-insertion. *Philosophy, Psychiatry, and Psychology* 1.
- Stewart, J., Gapenne, O., Di Paolo, E.A. (Eds.), 2010. *Enaction: Toward a New Paradigm for Cognitive Science*. The MIT Press. <https://doi.org/10.7551/mitpress/9780262014601.001.0001>
- Sveinsdóttir, Á., 2015. The Naturalism Question in Feminism. *The Blackwell Companion to Naturalism* 49–60.
- Tang, Y., Zhang, W., Chen, K., Feng, S., Ji, Y., Shen, J., Reiman, E.M., Liu, Y., 2006. Arithmetic processing in the brain shaped by cultures. *Proceedings of the National Academy of Sciences* 103, 10775–10780.
- Thompson, E., 2007. *Mind in life: Biology, phenomenology, and the sciences of mind*. Harvard University Press.
- Tiilikainen, M., 2001. Suffering and symptoms: Aspects of everyday life of Somali refugee women. *Variations on the Theme of Somaliness, Finland: Centre for Continuing Education* 309–17.

- Tollefsen, D., 2004. Collective epistemic agency. *Southwest Philosophy Review* 20.
- Tomasello, M. 1988. The role of joint attentional processes in early language development. *Language Sciences* 10: 69-88.
- Townley, C., *The Society for Philosophy in the Contemporary World*, 2003. Trust and the Curse of Cassandra (An Exploration of the Value of Trust): *Philosophy in the Contemporary World* 10, 105–111. <https://doi.org/10.5840/pcw200310225>
- Trierweiler, S., Donovan, C., 1994. Exploring the ecological foundations of memory in psychotherapy: Interpersonal affordance, perception, and recollection in real time. *Clinical Psychology Review* 14, 301–326. [https://doi.org/10.1016/0272-7358\(94\)90027-2](https://doi.org/10.1016/0272-7358(94)90027-2)
- Tuana, N., 2004. Coming to Understand: Orgasm and the Epistemology of Ignorance. *Hypatia: A Journal of Feminist Philosophy* 19, 194–232. <https://doi.org/10.2979/HYP.2004.19.1.194>
- Tuana, N. 2008. Chapter 6: Viscous porosity: Witnessing Katrina, in: Stacy Alaimo, Susan J. Hekman (Eds.), *Material Feminisms*. Indiana University Press, Bloomington, IN, pp. 188–213.
- Van Acker, R., & Valenti, S. S. 1989. Perception of social affordances by children with mild handicapping conditions: Implications for social skills research and training. *Ecological Psychology*, 1, 383-405.
- van Dijk, L., Rietveld, E., 2018. Situated anticipation. *Synthese*. <https://doi.org/10.1007/s11229-018-02013-8>
- van Dijk, L., Rietveld, E., 2017. Foregrounding Sociomaterial Practice in Our Understanding of Affordances: The Skilled Intentionality Framework. *Frontiers in Psychology* 7. <https://doi.org/10.3389/fpsyg.2016.01969>
- Varela, F., Thompson, E., Rosch, E., 1991. *The Embodied Mind: Cognitive Science and Human Experience*. MIT Press.

- Varga, S. 2020, Toward a Perceptual Account of Mindreading. *Philos Phenomenol Res*, 100: 380-401. doi:[10.1111/phpr.12556](https://doi.org/10.1111/phpr.12556)
- Varga, S., 2017. The case for mind perception. *Synthese* 194, 787–807.
<https://doi.org/10.1007/s11229-015-0994-8>
- Velleman, D., 1989. *Practical Reflection*. Princeton University Press.
- Walker, A. S. 1982. Intermodal perception of expressive behaviors by human infants. *Journal of Experimental Child Psychology*, 33, 514-535.
- Walker-Andrews, A. 1986. Intermodal perception of expressive behaviors: Relation of eye and voice? *Developmental Psychology* 22, 373-377.
- Ward, D., Silverman, D., Villalobos, M., 2017. Introduction: The Varieties of Enactivism. *Topoi* 36, 365–375. <https://doi.org/10.1007/s11245-017-9484-6>
- Warren, W.H., 1984. Perceiving affordances: Visual guidance of stair climbing. *Journal of Experimental Psychology: Human Perception and Performance* 10, 683–703. <https://doi.org/10.1037/0096-1523.10.5.683>
- Weinberg, J.M., Nichols, S., Stich, S., 2001. Normativity and epistemic intuitions. *Philosophical topics* 29, 429–460.
- Weiss, G., Canadian Society for Continental Philosophy, 2017. The Perils and Pleasures of the “I Can” Body: Symposium 21, 63–80.
<https://doi.org/10.5840/symposium201721220>
- Williamson, T., 2000. *Knowledge and its limits*, Repr. ed. Oxford Univ. Press, Oxford.
- Withagen, R., de Poel, H.J., Araújo, D., Pepping, G.-J., 2012. Affordances can invite behavior: Reconsidering the relationship between affordances and agency. *New Ideas in Psychology* 30, 250–258.
<https://doi.org/10.1016/j.newideapsych.2011.12.003>

- Withagen, R., van der Kamp, J., 2010. Towards a new ecological conception of perceptual information: lessons from a developmental systems perspective. *Hum Mov Sci* 29, 149–163. <https://doi.org/10.1016/j.humov.2009.09.003>
- Witt, C., 2011. *The metaphysics of gender*, Studies in feminist philosophy. Oxford University Press, Oxford ; New York.
- Wylie, A., 2017. *Feminist Philosophy of Social Science*, in: *The Routledge Companion to Feminist Philosophy*. Routledge, pp. 328–340.
- Wylie, A., 2003. Why standpoint matters, in: Figueroa, R., Harding, S.G. (Eds.), *Science and Other Cultures: Issues in Philosophies of Science and Technology*. Routledge.
- Yang, Y., Barth, J.M., 2015. Gender differences in STEM undergraduates' vocational interests: People–thing orientation and goal affordances. *Journal of Vocational Behavior* 91, 65–75. <https://doi.org/10.1016/j.jvb.2015.09.007>
- Young, I.M., 2005. *On female body experience: “Throwing like a girl” and other essays*, Studies in feminist philosophy. Oxford University Press, New York.
- Zahavi, D., 2010. Minimal self and narrative self. A distinction in need of refinement, in: Fuchs, T., Sattel, H., Heningnsen, P. (Eds.), *The Embodied Self: Dimensions, Coherence, and Disorders*. Heningnsen.
- Zwaan, R.A., 2014. Embodiment and language comprehension: reframing the discussion. *Trends in Cognitive Sciences* 18, 229–234. <https://doi.org/10.1016/j.tics.2014.02.008>