Research Projects
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1. Introduction
Most of my research is in the philosophy of mind and cognitive science. From there it reaches into ethics and epistemology, general philosophy of science, philosophy of biology, as well as metaphysics. While it engages central philosophical topics, my approach often involves close dialogue with empirical research in psychology, the neurosciences, and the life sciences more generally.

Specifically, I am investigating the mental capacity for attention. This work forms the center of much of my research. From there, several branches have developed, or are projected to develop in the future. In what follows I will describe some aspects of my work on attention and some of the branches of research that spring from it – mentioning current research projects as well as future research plans.

2. Structuring Mind. The Nature of Attention and How it Shapes Consciousness
My work on attention investigates the nature of attention, the relationship between attention and consciousness, and the role of attention for agency and in the architecture of the mind. It addresses questions like the following: what is attention (is it a brain process or something else)? How does attention shape subjective experience (and what, if anything, does that tell us about consciousness)? How is attention related to other aspects of the mind like perception, cognition, or action (and why have some organisms evolved the capacity for attention)?

I have developed a unified framework that deals with those questions. This framework offers an integration of work on attention in neuroscience and psychology (e.g. findings regarding the effects of attention on sensory processing or selection for action), with work on attention in the phenomenological tradition tracing back to Husserl (e.g. in Gurwitsch or Merleau-Ponty), and with work in the analytic tradition (e.g. work on intentionalism or the essence/ground distinction). My research has been published in a number of articles, has been presented at many international workshops and conferences, and in dialogue with many neuroscientists, psychologists and philosophers. It has culminated in a book called ‘Structuring Mind’ currently in press at Oxford University Press (publication date: March 2017).

The framework treats attention, in a slogan, as constituted by a fundamental structure of our minds, not a specific mental element or cognitive process (though such processes are involved in attention). Attention consists in regulating what I call priority structures. These priority structures have occurrence mental states – like perceptual states, motivational states, cognitive states, or bodily sensations – as their parts. A priority structure orders those states by their relative priority to the subject. The function of priority structures is to organize, integrate, and coordinate the parts of our mind. Attention is the activity of regulating those structures (attention capture is a change in the activity).

Based on earlier work in ‘Attention as Structuring the Stream of Consciousness’, and ‘The Nature of Attention’ the first eight chapters of ‘Structuring Mind’ develop an account of the nature of attention that integrates the diversity of behavioral and cognitive effects, and neuronal and computational underpinnings of attention. I show how to formalize the framework, how to unify various forms of perceptual attention,
as well as cognitive or emotional forms of attention, and how this account illuminates the role of attention in complex, environmentally decoupled, behavior. I also show how the approach sheds new light on central philosophical questions regarding the nature of agency (where I provide an Aristotelian inspired hylomorphic account of activities) and the capacity for self-control. In ‘Is attention a non-propositional attitude?’ I show how this account of attention undermines the view that all mental states are propositional attitudes (though attention is not a non-propositional attitude either).

With regard to the relationship between attention and consciousness, my work argues that the structural nature of attention is reflected in the structure of consciousness. Attentional structure manifests in consciousness as the differentiation of the phenomenal field into center and periphery. This phenomenal structure is distinct from any phenomenal qualities, and cannot be captured in terms of how the world appears to the subject.

This part of my research connects with work in psychology on the effects of attention on appearances and the philosophical consequences of those findings. In ‘Can Intentionalism Explain How Attention Affects Appearances?’ I show how to make precise Ned Block’s recent challenge to intentionalism (the view that phenomenal character is explained by intentional contents) based on those findings, and how to defend intentionalism against that challenge. In ‘How attention structures consciousness’ and in Chapter 8 of Structuring Mind I develop a different challenge to intentionalism (and a broader view I call the appearance view of consciousness) that shows that phenomenal structure is an irreducible aspect of consciousness. The following three chapters of the book then develop a that account of phenomenal structure, connect it to work by William James and Aaron Gurwitsch on the structure of the phenomenal field and the stream of consciousness, and show how the ability to actively guide our attention is linked to our capacity for introspective knowledge about phenomenal structure. In the last two chapters, the book then engages with recent work in neuroscience, psychology and philosophy on whether attention is necessary or sufficient for consciousness. While attention is not sufficient for consciousness, it is necessary (I argue): it is only because of phenomenal structure that consciousness is the subject’s unified subjective perspective (see also ‘Attentional Organization and the Unity of Consciousness’). On the resulting view, consciousness is the mental activity of taking a stance on the world we appear to encounter.

While my work on the nature of attention and its relationship to consciousness has with the publication of the monograph come to a preliminary conclusion, I project several more publications within the coming years. I also would like to deepen the ties to the empirical investigation of attention and seek collaborations in this regard. Finally, I project that more work needs to be done on the suggested view of consciousness as an actively taken stance by investigating how it relates to other currently discussed views.

3. Thought and Sense. On the Relationship between Perception and Cognition

My research on the structuring role of attention has led me to ask questions about the relationship between some allegedly fundamental aspects of the mind. I have hereby focused on the relationship between perception and cognition (to some degree also looking at perception and motivation or affect). In order to properly address this relationship, we have in Fall 2015 started a research project (funded through a major
grant by the Research Council of Norway) that brings together a team of researchers (3 local and 10 international partners) to address the perception/cognition boundary along a number of dimensions. Some of the work has already been published, we have organized three workshops, and been involved in organizing talks and extended research stays for more than six international researchers. Several more such workshops, talks and research stays, a major conference, and a public event are scheduled or in planning, and we expect a range of publications to come out of that project (including a plan for an edited volume or special edition).

Our research starts from the observation that the distinction between sense perception and thought or cognition – while basic to our pre-scientific conception of the mind, and of momentous importance in the history of philosophy (e.g. rationalism vs. empiricism) and in psychology (e.g. the modularity of mind, or parallel vs. serial processing) – needs to be re-examined in light of new developments both in philosophy and in the cognitive sciences. In philosophy, perception is now often treated as a intentional state just like thought, and some cognition is thought to be phenomenally conscious just like perception, and even non-conceptual. In cognitive science, the importance of top-down processing has been recognized (e.g. in the form of feedback-loops or predictive coding), attention is often related to competition mechanisms that integrate top-down and bottom-up information, and several important systems seem to fall neither clearly on the perceptual nor the cognitive side (e.g. Carey’s and Spelke’s core cognition or fast and frugal ‘system 1’ routines). In light of these developments, is there a clear distinction between perception and cognition? Is there one contrast or many? Is there continuity or discontinuity? If there is an important distinction, how is it to be characterized?

In order to make progress we are looking at the boundary along four different dimensions.

(1) Temporality: is there a difference in the temporal profile of perception and cognition? One widely discussed proposal is that in perception (and only in perception) there is a structural match between the temporal properties of the experience and the temporal properties of what is (re)presented in that experience. In my ‘Silencing the Experience of Change’ I challenge the view that perceptual experience is special in its temporal profile (drawing on recent work on the so-called silencing illusions). Other members of our team consider the importance of the time lag involved in all real-world perception, and the significance of continuity illusions. In October 2016 we have organized a workshop that looked closer at these issues.

(2) Conceptuality: in what ways are conceptual capacities involved in perception? Are there non-conceptual forms of cognition, and how – if at all – do these differ from non-conceptual forms of perception? With regard to this dimension, our group draws on work of our partners (Susanna Siegel, Berit Brogaard, Tim Bayne, and others) and earlier work of one of our team members (Anders Nes). Our PhD fellow considers whether moral or mental properties can be perceptually represented, and I myself have a paper in preparation (which I have presented on several occasions) that argues based on work in neuroscience and psychology on social attention that the attention of others is non-conceptually represented in perceptual experience. Future work will more directly focus on the role of concepts in perception and on non-conceptual representations in map-like cognition.

(3) Modularity: what should we make of the alleged modularity of perception in light of findings concerning top-down processing and sensory integration? Several of our
partners have been major figures in the discussion of the cognitive penetrability of perception. We are aiming at synthesizing those efforts. I have already participated in several workshops on this topic, and one of my current MA students is investigating perceptual adaptation effects that may help to mark a modular part of the perceptual systems (building on discussions by Ned Block, Chaz Firestone, and Brian Scholl). In ‘Perceptual guidance’ and ‘Perceptual guidance and perceptual intentionality’ (in preparation) I consider the role of affect in perception. In the future, I am planning to look more closely at how attention might undermine the modularity of perception.

(4) Immediacy: is perceptual experience uniquely characterized by phenomenal immediacy, or does such immediacy also apply to some forms of cognition? Work in this area is investigated in detail both by our PhD fellow who is developing a notion of “perceptual contact” that is compatible with a representational view of perception, and by the researcher in our team. I myself am planning to build on a chapter of my dissertation that argues for a unified treatment of illusion and hallucination in order to argue against a disjunctive conception of perceptual immediacy.

We are still in a rather early phase of the Thought and Sense project. Much of my work in the next two years will be involved in this project. And I would like to continue this work also in the further future.

4. Attention Norms. The Normative Structure of Attention and its Proper Regulation

A second big branch that grows out of my work on attention concerns normative questions regarding the regulation of attention. This branch investigates what I call attention norms. While whole fields of philosophy are dedicated to the normative evaluation of the elements of our mind (consider epistemology, which is concerned with the normative dimension of thought and belief), surprisingly, normative questions like the following – while central in our everyday lives – have received fairly little serious philosophical discussion: what should be the focus of our attention? What should we notice? Are we responsible for what we ignore? What, if anything, is bad about mind-wandering? The priority structure framework described above helps to sharpen the target of normative questions like these: how should priority structures be regulated?

The attention norms project thus builds on my previous work on the nature of attention, and its central role in the structure of our minds. But it opens a whole set of new dimensions: are questions about norms of attention ethical questions, or are they epistemological questions? Or are they of their own kind? What should we then make of the distinction between practical and theoretical philosophy? The work in this branch so far has been presented in joint work with Susanna Siegel (Harvard). We have presented this work, either together or one us, at many institutions. We are currently preparing it for publication. Overall, though, I see the attention norms project as much bigger than a few papers. The University of Oslo has recently provided me with a grant to develop it further, and start a research team also on that topic. This team would eventually bring together philosophers working in ethics, political philosophy, epistemology, philosophy of science, and philosophy of mind, as well as cognitive scientists and neuroscientists investigating various forms of attention.

The attention norms project has a number of dimensions. Aside from the ones already mentioned, I believe that attention norms lie at the center of some highly pressing issues of our times. Questions about what should be salient to us and what we should
focus on, as well as questions about how we should and can control our attention, are central to the shaping of our lives. They deserve serious philosophical investigation. I would like to link the attention norms project especially to the following areas: (a) epistemology and the philosophy of science (e.g. are epistemic questions only about what to conclude from the evidence or also about which evidence to focus on?), (b) questions central in much feminist thought about which voices should be salient, heard and listened to (related to work on epistemic injustice on which I have recently co-taught a course) (c) questions about the interrelation between norms for the structure of our individual minds and norms for collectives (e.g. universities or nations) and (d) questions in bioethics about the norms underlying the discussion of attention deficit disorders (e.g. the definition of ‘disorder’ and ‘disease’).

Obviously, all this is too much for a single person to investigate. This is why I see it as a project for a bigger research group, which I would like to build.

5. Further Projects
Aside from the two big branches of my research mentioned in the last two sections, there are several smaller ones. I will briefly describe the two biggest smaller branches.

a. Sociality and Cognition
First, there is the relationship between our social and our cognitive capacities. I started to be interested in this topic partly based on my interest in social and joint attention and social perception, and partially based on an evolutionary perspective that sees the social and cognitive as closely related to each other. I have presented my work on social attention on several occasions, organized workshops, and taught and organized courses on it. I have one paper on it in preparation, and expect some more in the future.

b. Cross-cultural work on Attention and Consciousness
Second, there is a cross-cultural project that seeks to connect the current philosophical and scientific investigation of attention and consciousness with the rich, but in the West often neglected, Eastern traditions in India and China on those topics. I got interested in this topic partly because I discovered the Eastern tradition as a treasure trove of insights into attention, consciousness, their relationship, and role. With respect to this project, I see my role mostly as a facilitator of a cross-cultural dialogue and as a collaborator in the cross-cultural work. So far, I have co-organized a workshop on Indian traditions on attention and consciousness, I have co-presented work on the ethics of mind-wandering (based on which I have committed to a paper), and I am acting as a collaborator for a cross-cultural investigation of how various traditions treat and treated mind-wandering.

6. Conclusion
Overall, my research makes connections to a rather large set of issues in philosophy and related disciplines. What connects those issues in my own research and ties them together is a focus on attention and its role in this variety of areas. Part of what is fascinating about the topic of attention is that it can act as such a focal point that connects a diverse set of topics, people and traditions.