First-Person Investigations of Consciousness

Brentyn John Ramm

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University
May 31, 2016

© Copyright by Brentyn John Ramm, 2016

Statement of Originality

The work contained in this thesis has not been previously submitted for a degree at this or any other institution of higher education. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

Brentyn John Ramm

[redacted]

31 May, 2016

Acknowledgements

I would like to thank my supervisor David Chalmers for encouraging me to pursue my central topic of interest, even if somewhat unconventional. His critical insight and ability to hone in on the weakest arguments and assumptions, as well as see the big picture, were invaluable. Thank you also to my advisors: Frank Jackson for sharing his insights on the way things look. Daniel Stoljar for detailed comments on an entire draft of the thesis and a number of valuable discussions. Declan Smithies for his generosity with his time and helpful comments and discussions.

I also learnt a lot from my foray into panpsychism and am grateful in that it allowed me the opportunity of meeting Hedda Hassel Mørch, Philip Goff, Erick Llamas, Holger Thiel, Donald Nordblom, Keith Turausky and Galen Strawson, all of whom have helped shape my background metaphysical views.

Special thanks to Jonathon Simon for detailed comments and discussions on earlier drafts of some of the chapters. Thank you to Eric Schwitzgebel for valuable feedback on chapter 2 and to Boyd Millar for helpful comments on chapter 4.

Thanks for valuable discussions go to Sascha Fink, Angela Mendelovici, Colin Klein, Richard Samuels, Miri Albahari (and for great conversations on Buddhism), and David Hilbert who also gave an insightful commentary on my central APA talk on *Phenomenal Size*. I am grateful to Robert Penny for numerous discussions and email correspondences on Harding, as well as for his friendship.

The later stages of writing were completed whilst I was a visiting scholar at the Ohio State University. Thank you also to everyone at OSU for being so welcoming.

I am also grateful for the support of my parents and friends, and especially my wife Jessica Irons for her emotional and financial support both of which were essential in getting through the PhD.

Abstract

This dissertation defends the reliability of first-person methods for studying consciousness, and applies first-person experiments to two philosophical problems: the experience of size and of the self. In chapter 1, I discuss the motivations for taking a first-person approach to consciousness, the background assumptions of the dissertation and some methodological preliminaries.

In chapter 2, I address the claim that phenomenal judgements are far less reliable than perceptual judgements (Schwitzgebel, 2011). I argue that the main errors and limitations in making phenomenal judgements are due to domain-general factors, which are shared in the formation of perceptual judgements. Phenomenal judgements may still be statistically less reliable than perceptual judgements, though I provide reasons for thinking that Schwitzgebel (2011) overstates the case for statistical unreliability. I also provide criteria for distinguishing between reliable and unreliable phenomenal judgements, hence defending phenomenal judgements against general introspective scepticism.

Having identified the main errors in making phenomenal judgements, in chapter 3, I discuss how first-person experiments can be used to control for these errors. I provide examples, and discuss how they overcome attentional and conceptual errors, minimise biases, and exhibit high intersubjective reliability.

In chapter 4, I investigate size experience. I use first-person experiments and empirical findings to argue that distant things looking smaller cannot be explained as an awareness of instantiated objective properties (visual angle or retinal image size). I also discuss how an awareness of uninstantiated objective properties cannot adequately account for the phenomenal character of size experience. This provides support for a subjectivist account of variance in size experience.

In chapter 5, I investigate the sense of self. I distinguish between a weak sense of self (for-me-ness) and a strong sense of self in which there is a polarity between subject and object. I use first-person experiments from Douglas Harding to demonstrate an explicit strong sense of self, specifically when I point at where others see my face. I also argue that this sense of self is not explained by inference, thoughts, feelings, imagination nor the viewpoint. Rather, it is part of the structure of experience that I seem to be looking from here.

Even if there is a sense of self, there may be no self. The question of chapter 6 is whether there can be a direct experience of the self. I argue that to function as a bearer of experience the subject must be single and lack sensory qualities in itself. I use Harding's first-person experiments to investigate the visual gap where I cannot see my head. I argue that it conforms to the above criteria, and hence is a candidate for being the subject. This finding, in conjunction with the fact that I seem to be looking from the same location, provides prima facie evidence for the reality of the subject. I hold then that contrary to Hume and most philosophers since, that there can be a direct self-experience, if one knows which direction to attend.

Contents

1. Introduction.....1

1.1. General Introduction…….…….....…1

1.2. Investigating Conscious Experience Itself……...……..3

1.3. Background Assumptions……...……...6

1.4. Autophenomenology and Heterophenomenology……...……...8

1.5. The Question of the Reliability of Phenomenal Judgements……...10

1.6. First-Person Experiments…….11

1.7. Applications of First-Person Methods to Philosophical Problems……...14

1.8. Overview of the Dissertation……15

Part I: Methodology

2. Dimensions of Reliability in Phenomenal Judgement……..21

2.1. Introduction……..21

2.2. Background Motivations……..26

2.3. Phenomenal Judgements and Perceptual Judgements……..28

2.4. Attention……...30

2.5. Working Memory Limitations…….34

2.5.1 Complexity and the Capacity Limits of Working Memory……..34

2.5.2 Dynamicity and the Failure to Maintain Activation of Concepts….……37

2.6. Conceptual Errors…….……38

2.6.1 Missing Concepts…….….39

2.6.2 Uncertainty in Using Concepts…….…40

2.7. Cognitive Dissociations……41

2.8. Statistical Unreliability and Introspective Scepticism……..44

2.9. The Case for the Domain-General Thesis……51

3. First-Person Experiments.....55

3.1. Introduction……..55

3.2. Historical Background……..57

3.3. First-Person Data and Third-Person Data……60

3.4. Characterising First-Person Experiments……63

3.5. First-Person and Third-Person Experiments……66

3.6. Examples of First-Person Experiments……68

3.7. Phenomenal contrast……72

3.8. Objections to First-Person Methods…….……73

3.8.1. The Unreliability of Naïve Introspection…….……74

3.8.2 Interference from Extraneous Variables……76

3.8.3 Variability in Phenomenal Judgements……80

3.8.4 Not different from behavioural methods……...84

3.9. Conclusion……87

Part II: Applications

4. Variance and Constancy in Size Experience……..89

4.1. Introduction……..89

4.1.1. Terminology……...…..90

4.1.2. The Current Account Contrasted With Some Other Accounts……96

4.2. Perspectival Properties……...103

4.3. Phenomenal Size Variance as Awareness of Uninstantiated Properties?.....113

4.4. The Relational Determination of Size Constancy……..118

4.5. Subjectivism about Size Experience……..123

5. The Sense of Self……..129

5.1. Introduction…….…..129

5.2. First-person Experiments…….…..134

5.2.1 Experiment 5.1: The Pointing Experiment – Part 1……135

5.2.2 Experiment 5.2: The Pointing Experiment – Part 2……136

5.2.3 Experiment 5.3: The Aware Spot……137

5.3. The Strong Sense of Self……137

5.3.1 Inference……..138

5.3.2 Thought, Imagination and Sense of Self…….139

5.3.3 Spatial Visual Structure and the Viewpoint……142

5.4. The Self as a Gap……...147

6. Self-Experience……...149

6.1. Introduction……149

6.2. Hume's Search for the Self……154

6.3. Non-Objectifying Self-Experience…….158

6.4. Characteristics of the Subject…….161

6.5. The Headless Observation……..163

6.6. First-person Experiments……...167

6.7. Results and Discussion……...170

6.8. Objections……...173

6.8.1 A Pure Visual Absence?.....173

6.8.2 From Looker to Experiencer?.....176

6.9. Conclusion……..177

References……183

List of Figures and Tables

Figure 1.1. The Visual Blind Spot……13

Figure 2.1. Reliability Space for Phenomenal Judgements
on the Dimensions of Attentiveness and Conceptual Adequacy……..50

Figure 3.1. The Tse Illusion…….68

Figure 3.2. Subjective Contours……...70

Table 4.1. Theoretical Positions on the Types of
Size Properties that Show up in Visual Experience…….98

Figure 4.1. Measuring Perspectival Size……105

Figure 4.2. The Corridor Illusion……...107

Figure 4.3. Demonstration of the Afterimage Effect……..114

Figure 6.1. Ernst Mach's First-Person Self-Portrait……...164

List of First-Person Experiments

Experiment 1.1: The Visual Blind Spot……..….13

Experiment 3.1: Attention and Perceived Brightness……..68

Experiment 3.2: Subjective Contours……..70

Experiment 3.3: The Visual Periphery…….71

Experiment 4.1: Measuring Perspectival Size……104

Experiment 4.2: The Corridor Illusion……...106

Experiment 4.3: How Large Does Your Head Look in the Mirror?.....107

Experiment 5.1: The Pointing Experiment – Part 1……...135

Experiment 5.2: The Pointing Experiment – Part 2……...136

Experiment 5.3: The Aware Spot……...137

Experiment 5.4: Thinking and Imagining……..139

Experiment 5.5: Eyes Closed Experiment……..143

Experiment 6.1: Exploring the Gap……168

Experiment 6.2: Tracing Out the Gap……168

Experiment 6.3: The Frame Experiment……169

Experiment 6.4: The Pointing Experiment – Part 3……...169

Experiment 6.5: Pure Blind Spot and Blind Spot by Absence……...174

Chapter 1

1. Introduction

1.1 General Introduction

Despite the great success of third-person science in explaining the natural world, consciousness has remained stubbornly baffling. The hard problem of consciousness is explaining why brain processes are associated with phenomenal consciousness (Chalmers, 1995). That third-person science could theoretically give a complete physical explanation of the world without ever invoking consciousness, suggests that the third-person paradigm is incomplete. Another way of putting it is that physical theories do not even predict the existence of consciousness. One potential reason for this is that the phenomenal consciousness of another simply cannot be observed from the third-person perspective. I cannot literally open up someone else's brain and see their thoughts, feelings, imaginings etc. Since consciousness is a first-person phenomenon, the only direct way of investigating it is by careful introspection of one's own experience.

Recent times have seen a resurgence of interest in first-person methods of investigating consciousness (Jack & Roepstorff, 2003; Shear & Varela, 1999). A first-person approach to conscious experience is certainly not without precedent. For centuries meditation has been used in the East as a method of self-inquiry. In the West, we owe much of our conceptions of consciousness to first-person observations made by philosophers such as Berkeley and Hume, polymaths such as Goethe, and those within the traditions of experimental psychology (Helmholtz), introspective psychology (Wundt, Titchener, Külpe), the Gestalt psychologists (Koffka, Kohler,

Wertheimer) and philosophical phenomenology (Brentano, Husserl, Sartre, Merleau-Ponty). William James has been particularly influential and his *Principles of Psychology* (James, 1890) continue to be a source of phenomenological insights.[1] Zahavi (2005) and Gallagher (2005) have recently developed a form of neo-phenomenology, and phenomenological approaches are now used in conjunction with cognitive science (e.g., Neurophenomenology: Lutz & Thompson, 2003; Varela, 1996). A phenomenological approach has also been pursued in recent analytic philosophy (Dainton, 2000; Hatfield, 2009; Strawson, 2009; Velmans, 2000a). For reviews of first-person methods see: Gallagher and Sørensen (2006); Overgaard, Gallagher, and Ramsøy, (2008); Varela & Shear (1999); Vermersch (1999).

While first-person methods have often been used, many philosophers are deeply sceptical of their reliability (Dennett, 1991, 2003; Irvine, 2012; Lyons, 1986; Piccinini, 2010). They point to lack of agreement between introspectors, lack of repeatable methods, and many forms of bias. According to Daniel Dennett (2001a): 'First-person science of consciousness is a discipline with no methods, no data, no results, no future, no promise. It will remain a fantasy'.

Are reliable first-person methods possible or are they just a fantasy as Dennett contends? These criticisms should be taken seriously and I attempt to address them in chapters 2 and 3. The general aim of this dissertation is twofold: (1) to defend the reliability of some first-person methods, in particular first-person experiments and (2) to apply these methods to two philosophical problems - size experience and the experience of the self.

[1] By 'phenomenology' and 'phenomenological' I will not usually be referring specifically to Philosophical Phenomenology in the Husserlian tradition, but rather I use them in a broad sense of any rigorous method of arriving at a description of experience. I also occasionally use phenomenology to refer to phenomenal experience as is common within analytical philosophy.

1.2. Investigating Conscious Experience Itself

My conscious experience is what I know most intimately. No one else can experience my sense of nostalgia when I think about building cubby houses as a child. Phenomenal consciousness can be characterised as what it is like to be a subject (Nagel, 1974). There is something it is like for me to see the colours of a sunset, to taste pumpkin pie, to hear Beethoven's 7th symphony. I use 'phenomenal consciousness' (consciousness for short) and 'experience' interchangeably. The particular feel of an experience is its phenomenal character. The experience of seeing red and seeing green differ in the phenomenal character of colour. Some think that phenomenal character is exhausted by affective and sensory characters. Others think that there are non-sensory phenomenal characters such as for understanding experience (Pitt, 2004; Siewert, 1998; Strawson, 1994, p. 5-13), and subjectivity (Kriegel, 2005, 2009; Levine, 2001, p. 105-111, 167-174). I use phenomenal character to cover all of these possible experiential types. 'Phenomenal character' is meant to be neutral on metaphysical questions as to what that character consists of. Phenomenal character may consist in internal properties of the subject, or properties external to the subject. It is hence compatible for instance with direct realism in which phenomenal character is constituted by mind-independent properties of the environment.

Why take a first-person approach to consciousness? Phenomenal experience exists, and we have at least some knowledge of it, hence it can be studied in its own right. As conscious experience cannot be directly observed from the third-person perspective, a first-person approach is essential in any scientific investigation of consciousness.

Too often however conscious experience has not been taken seriously. It has been treated as an annoyance to materialism, something that is to be explained away. According to Max Velmans:

> In accounts of consciousness the influence of pre-existing theory on phenomenal descriptions has been extreme. Dualists describe consciousness as consisting of immaterial 'qualia', physicalists attempt to redescribe those qualia in terms of brain states, functionalists insist that they can be described as a set of causal relationships, and so on. In developing such accounts, the protagonists do, of course, make reference to examples of conscious phenomenology. But with some notable exceptions, they have been more intent on squeezing the phenomenology into some pre-existing theory than on broadening existing theories to encompass the fullness of the phenomenology itself (Velmans, 2000a, p. 103).

To take consciousness seriously, we need a phenomenological approach, a first-person science of consciousness that proceeds independently of other disciplines.
A science of consciousness requires that we investigate conscious experience as an independent realm of enquiry. As Searle states it we need 'a serious examination of consciousness on its own terms' (Searle, 1994, p. xi). David Chalmers also emphasizes the need for rigorous first-person methods:

> In my opinion, the development of more sophisticated methodologies for investigating first-person data and of formalisms for expressing them is the greatest challenge now facing a science of consciousness. Only by developing

> such methodologies and formalisms will we be able to collect and express first-person data in such a way that it is on a par with third-person data, so that we can find truly systematic and detailed connections between the two. (Chalmers, 1999, p. 10).

Many studies in the new area of consciousness studies are aimed at relating conscious states with brain states, in particular finding neural correlates of consciousness. While this provides such important evidence for a science of consciousness, the limitation with this approach is that it provides relational knowledge about consciousness, rather than knowledge of the properties of the relata. If one is trying to explain how consciousness relates to the world we need a detailed description of its character and structure. Nor indeed do we understand the mind-body problem without understanding the nature of the mind. We cannot understand how the physical relates with consciousness unless we understand the relata. Hence we need a systematic description of both before they can be related (Dainton, 2000, p. xiv-xv, Nagel, 1974, p. 437; Zahavi, 2005, p. 4).

A science of consciousness that does not directly investigate the character and structure of experience would be like a science of biology that refuses to observe and describe cells. If we took the same attitude to biology that is often taken towards consciousness, if we tried to reduce it at all costs to physics, we would know very little about biology. Biology, rather, is its own discipline and can proceed without being concerned with how it relates to physics. In fact, a phenomenological approach can proceed while being neutral about the possibility of the reduction of experience, just as biology can proceed while being neutral about whether or not cells can be reduced to physics.

1.3. Background Assumptions

My Background assumptions in the thesis are: (1) Consciousness Realism, and (2) Scientific Realism

(1) *Consciousness Realism*. Taking consciousness seriously means being a realist about phenomenal experience, and I will assume realism here. My phenomenal experience is what I know most certainly. Even if the world does not exist because I am in the Matrix, it seems to exist, so my experience at least exists. As Descartes (1641) states it in the Second Meditation: 'I certainly seem to see, to hear and to get warm. This cannot be false' (Descartes, 1641, p. 27). This does not yet involve a judgement, and hence there is no possibility of error at this point.[2] That I am having experiences *in general* seems undeniable. I suppose that it is conceivable that there is a conscious being with a radical insanity who may deny that it has experiences (this is a logical possibility).[3] It could think to itself 'I am not conscious' and genuinely believe this. It is inconceivable to me that I am one of those beings. Compare again the possibility that I am in the Matrix. This is something I can consider as a genuine possibility, as it is consistent with all of my experiential evidence. I cannot do that when it comes to experience itself. If I know anything at all, then I know that experience exists. This does not however entail that I am infallible or near infallible in

[2] In fact, Descartes did not endorse 'Cartesian infallibility' of phenomenal judgements. For instance, in the *Principles of Human Knowledge* (Descartes, 1644) he maintains that we can even be wrong in our judgement of strong pain since 'people commonly confuse this perception with their obscure judgement about the nature of something that, they think, is in the painful part of the body and resembles the sensation of pain, which is the only thing they perceive clearly' (p. 129). See Newman (2014, section 5.2) for more on Descartes not subscribing to infallibility.

[3] Even someone who is suffering from a delusion such as thinking that they are made of glass believes this because it *feels to them* as if they are made of glass (BBC News, May 8, 2015). This is not a standard type of insanity we are being asked to conceive of, but a radical thorough-going insanity. If someone really insists that I don't know that I'm not radically insane then I cannot argue with them. However this cognitive form of scepticism will generalise to all beliefs including beliefs about the world. Even logic would not escape its grasp. I can be a sceptic about the existence of the external world and other minds, but still maintain belief in experience and logic. I cannot be a sceptic about experience without being sceptical of absolutely everything.

making judgements about my individual experiences. I regularly make errors in judgement about my experience. In fact, I may be mistaken about most of the individual token experiences because their details are elusive (Schwitzgebel, 2011) but that experience in general is occurring would still be what I would know with most certainty (see Smithies, 2013a). Realism about consciousness is inconsistent with the eliminative reduction of consciousness. The eliminativist dispenses with experience by replacing it with brain processes, just as the vital force of vitalism was dispensed with from biology (Churchland, 1984). However there is a disanalogy in that the vital force was a theoretical posit to explain how organisms functioned. Experience on the other hand is not a theoretical posit but an explanandum in itself (Chalmers, 1995, p. 126).[4]

(2) *Scientific Realism*. I assume realism about the entities of third-person science (cells, atoms etc.). I also draw upon third-person scientific methods of cognitive science particularly in chapter 2. In my view, any metaphysical theory should be consistent with the main findings of science such as physics and the theory of evolution. An empirical approach to the world should take seriously anything that can be investigated empirically (or can be inferred from empirical investigations). Conscious experience can also be investigated empirically. First-person science is itself an empirical approach.

[4] Realism about consciousness is consistent with (non-eliminative) reduction of consciousness. I also in fact believe that experience cannot be reduced to non-experiential properties. In particular, experience is ontologically distinct from standard physical properties such as structures and causal relations. There are good reasons for thinking that physicalism, the view that everything is physical or supervenes on the physical (Stoljar, 2010, 2016) is false. Physicalism is an elegant theory, but it is inadequate for explaining consciousness (though see Strawson, 2006 on ‘realistic physicalism’). This has been argued for elsewhere (Chalmers, 1996; Jackson, 1982; McGinn, 1991; Foster, 1982). However, this belief is dispensable for the purposes of the first-person investigations themselves, as these are neutral about the possibility of reduction.

1.4. Autophenomenology and Heterophenomenology

My approach can be considered a version of Max Velman's 'critical phenomenology' (Velmans, 2000a, 2000b, 2007) which also assumes realism about consciousness, that first-person and third-approaches are complementary and both indispensable, and that first-person judgements are not incorrigible (see the next section). This approach can be understood by contrast with Daniel Dennett's Heterophenomenology (Dennett, 1991, 2003, 2007). Daniel Dennett promotes an exclusively third-person approach to consciousness in which the researcher uses others' verbal reports about experience for investigating consciousness. Dennett says that we should take a person's speech acts about experiences as indicating beliefs about experiences rather than experiences themselves (Dennett, 2003, p. 20). Thus if the person reports that they are visualising a house we should take this as data about their belief that they are visualising a house. This is not just because they may be wrong about the token experience, but because there may have no experiences at all – other subjects, and even ourselves, may well be phenomenal zombies (Dennett, 1991, p. 73).[5] However, the assumption of common sense and most researchers is that phenomenal experience does exist. Dennett wants us to be neutral about whether or not a person is a phenomenal zombie. When someone reports that one line in the Müller-Lyer illusion looks longer than another the researcher assumes that the subject is describing their experience. The research question is not about the subject's beliefs or verbal reports, but about their experiences. I accept realism about experience and hence my approach differs from Dennett's heterophenomenology.[6]

---

[5] A phenomenal zombie is a person that is physically, behaviourally and functionally just like other people but lacks conscious experience.

[6] For critiques of Heterophenomenology see: Beenfeldt (2008), Marbach (2007), Piccinini (2010), Velmans (2007), Zahavi (2007).

My approach is also distinct from Dennett's in that I explicitly make judgements about my own experience (what Dennett refers to as 'autophenomenology'). In fact, many of the investigations of this dissertation involve autophenomenology. Dennett (1991, 2003, 2007) and Piccinini (2010) both agree that autophenomenology is unscientific. As Piccinini states it 'I couldn't agree more that lone-wolf autophenomenology - regardless of its heuristic value, which may well be significant - is no scientific method' (Piccinini, 2010, p. 101). This has the consequence that standard practices in psychology such as researchers piloting experiments on themselves are unscientific or at best prescientific. However, it is a common practice for psychologists to self-pilot their experiments. Their experience of what it is like to do the experiment is often used to both alter the parameters of an experiment, and also to generate hypotheses about what other subjects are doing. In fact, the development of illusions would likely be impossible without the experimenter refining the illusions by *testing* 'what works' based upon their own experience. According to Dennett and Piccinini these practices are not scientific. It is autophenomenology and hence pre-scientific. By contrast, I maintain that these autophenomenological practices should not be swept under the carpet but accepted as standard scientific practice in conjunction with intersubjective verification, data analysis etc. (Velmans, 2007, p. 228).

It also seems odd that my own judgements about an illusion only count as scientific data if I verbalise them and someone else uses these judgements as data. Rather I hold that both my first-person judgements and those of others are scientific data, just as a linguist's own judgements and others' judgements about language are data for linguistics. Although this dissertation involves a good deal of autophenomenology, I also draw upon the phenomenal judgements of others and

third-person data (e.g., behaviour, physiology, reaction time and brain activity). These are all valid sources of data for science.

I also ask that the reader conducts the first-person experiments described here for themselves to see if my phenomenal descriptions generalise to their own experience. The results of these experiments provide phenomenological evidence for the philosophical arguments in chapters 4, 5 and 6. Without doing the experiments the reader will not understand the phenomenological descriptions provided. Hence, whatever its scientific credibility, autophenomenology is important as a philosophical method.[7]

1.5. The Question of the Reliability of Phenomenal Judgements

One may accept that a first-person approach is required for a science of consciousness, but also maintain the view that phenomenal judgements are generally unreliable. Eric Schwitzgebel (2011, p. 118) holds this combination of views. This introspective scepticism poses a major threat to first-person methods.

I reject the Cartesian view that all conscious states are known infallibly. However this does not entail treating all phenomenal judgements as untrustworthy. This is an overreaction to the falsity of Cartesianism. It is compelling that I know for instance when I am in extreme pain. Rather than treating phenomenal judgements as infallible or completely untrustworthy, I take a middle ground and treat them (with some qualifications) as having a prima facie, and hence defeasible, warrant (Goldman, 2004; Siewert, 1998; Velmans, 2007). When looking at the Müller-Lyer illusion the subject's report is prima facie (and hence defeasible) evidence that things look that

[7] From here on I drop the term 'autophenomenology' and rather talk about phenomenology and phenomenological methods.

way to them. Likewise, a subject's reports about mental images provide prima facie evidence about their properties.

Of course, if phenomenal judgements are demonstrated to be globally unreliable then they will lose even the status of having prima facie warrant (Goldman, 2004, p. 4). Schwitzgebel (2011) presents problem cases for naïve introspective judgements (judgements without training or the assistance of first-person methods), and uses them to motivate the conclusion that naïve phenomenal judgements are generally unreliable. I argue against the global unreliability of phenomenal judgements in chapter 2. In particular, I claim that the main errors in making phenomenal judgements stem from attentional and conceptual errors. When I am attentive and adequate concepts having been activated then my judgement will be highly reliable. There is no reason for mistrusting these judgements. The establishment of criteria of reliability and unreliability provides a qualification to the prima facie warrant thesis. Some phenomenal judgements will lose the status of having prima facie warrant (Goldman, 2004). For example, in chapter 2, I argue that judgements about unattended/partly attended experiences, complex experiences and very brief experiences are likely to be low in reliability. This does not mean that we necessarily need to discard these judgements as sources of data, but rather more sophisticated techniques will be needed such as employed in psychophysics research.

1.6. First-Person Experiments

First-person experiments are the methodological backbone of this dissertation. These are intraperspective experiments which typically use apparatus for enhancing a phenomenal judgement. These are experiments on experience, not thought

experiments. The use of such experiments puts this dissertation within the tradition of experimental phenomenology, which originated with Stumpf and was developed by the Gestalt psychologists (Albertazzi, 2013; Vicario, 1993). My other major influence is Douglas Harding who developed a first-person experimental approach to investigating the self (chapter 5 and 6).[8]

An early historical example of the use of a first-person experiment was Edme Mariotte's discovery of the visual blind spot in 1668. The lens of the eye projects light onto the retina at the back of the eye. The optic nerve takes up a portion of the optic disc in the centre of the retina such that there are no photoreceptors at this location. The prevailing view at the time was that the optic nerve was the most light sensitive part of the eye. Mariotte tested this hypothesis by performing an experiment in which the light from an object was projected onto the optic nerve. He placed a small circle of white paper on a dark background at eye level, and a larger circle of 4 inches which he placed lower and to the right. He closed his left eye, and keeping his right eye fixated on the small circle he walked backwards. When he was approximately ten feet away the large circle disappeared. He repeated the experiment with his left eye and obtained the same result. Mariotte's discovery of a visual blind spot, which could only derive from the optic nerve, disconfirmed the prevailing view that the optic nerve was light sensitive (Grzybowski & Aydin, 2007). A variation on his experiment is below.

[8] Douglas Harding was a British philosopher and a mystic. His main occupation was as an architect, although he also taught comparative religion at Cambridge. Though he wrote many books, his philosophy was developed almost exclusively outside of academia and is virtually unknown by philosophers. As far as I know, the only place his writings can be found in mainstream philosophy is in *The Minds I: Fantasies and Reflections on Self and Soul* (Hofstadter & Dennett, 1982) which presents excerpts from Harding (1986a). His other academic publications include: Harding (1967) and Harding (1986b). His main work in philosophy was *The Hierarchy of Heaven and Earth* (Harding, 1998). His first-person experiments do not seem to have appeared in detail in any academic contexts.

Experiment 1.1: The Visual Blind Spot

Close your left eye and with your right eye focus on the X. Maintain this focus and move your head towards the page until the O disappears. You have found the visual blind spot. Moving away and towards the page see how it appears and disappears.

X O

Figure 1.1. The Visual Blind Spot

This demonstration takes place in your first-person conscious experience – it is a first-person experiment. The question asked in the experiment is not whether an O is always present or absent on the page as you move towards and away from it, but whether an O *seems to be* present at all distances. It is an experiment on the visual experience of X's and O's. This finding substantiates that theory that the optic nerve is not receptive to visual stimulation. It also has extraordinary implications for how visual experience is constructed. The experience is that the O disappears but that there is not a hole in its place, rather the white background is 'filled in'.[9]

The experiment is replicable both within subjects at different times and across subjects (with the same eye anatomy). As long as I carefully follow the instructions,

[9] Dennett (1991, p. 356) argues that the visual blind spot is not in fact filled in but rather ignored. See Churchland and Ramachandran (1994) for empirical evidence that filling in does occur.

the phenomenon occurs whether I believe in it or not. It is not apparently affected by expectations. It is a reliable phenomenological experiment. Even if I was the only human alive the experiment would demonstrate existence of a visual blind spot. Helmholtz (1860, p. 205-216) discusses a number of variations on this experiment. I provide a characterisation of first-person experiments in chapter 3 and defend their methodological reliability.

1.7. Applications of First-Person Methods to Philosophical Problems

Arguing that first-person experiments can be reliable is one thing, but establishing that they are generally relevant as philosophical methods[10] is more difficult. Perhaps they cannot be used beyond a small number of standard areas such as illusion research and in some rare cases in perception research. In Part II of the thesis I show how these first-person methods can be applied to two philosophical problems.

Our conscious experience is central in perceiving the world, in particular in answering the question of whether it is a direct relation (the problem of perception: Crane & French, 2016). Experience is also essential in why we think that there is a self, and hence in answering what the self is. A first-person approach hence provides vital information for both of these problems in philosophy. In fact, in grappling with these problems we arguably need to investigate phenomenology before we can proceed onto epistemological and metaphysical questions. Further arguments will be required once we have the first-person data, but without this data apriori arguments will be blind.

[10] Examples of philosophical methods include: arguments, thought experiments, analogies, conceptual analysis.

A question in the philosophy of perception is whether the properties that show up in perceptual experience are in the mind or in a mind-independent world. In chapter 4, I investigate the experience of size, in particular the question of whether distant things looking smaller can be treated as the awareness of objective properties, such as visual angle and retinal image size. To answer this question we need methods for deciding whether these objective properties do in fact show up in experience. Merely assuming that they do or appealing to common sense is an unsatisfactory approach. I investigate this question in chapter 4.

Experience is not just what it is like, but what it is like for me. I seem to be seeing this page, but what am I? This problem stems from phenomenology. There is a sense of self, which is arguably built into the structure of experience. Before I can answer whether there is a self, and what it is, I first need to clarify what it is like to be me. Phenomenology needs to come before metaphysics (Strawson, 1997). Ignoring experience in this area would be like doing physics by appealing to common sense or by conceptual analysis, rather than observing the phenomena themselves. In chapters 5 and 6, I employ systematic phenomenological methods from Douglas Harding for investigating the experience of the self. These experimental methods use apparatus such as a pointing finger for orienting attention and for experiencing the contrast between objects of experience and myself as subject - in particular the looker.

1.8. Overview of the Dissertation

The general aim of this dissertation is to defend the reliability of first-person methods and to apply these methods to two philosophical problems. Corresponding to these overall aims, the dissertation is divided into two parts. Part I is methodological

and part II is an application of these methods. Specifically, in the first part of the dissertation, I argue for the reliability of judgements about experience (phenomenal judgements) (chapter 2), particularly when they are enhanced by conducting a first-person experiment (chapters 3). In the second part of the dissertation, I show how first-person experiments can be applied in investigating size experience (chapter 4) and the experience of the self (chapters 5 and 6).

Chapter 1: Introduction

In the present chapter, I discussed the motivations for taking a first-person approach to consciousness, and the background assumptions of the dissertation consciousness realism and scientific realism. I also outlined the general methodological approach as it contrasts with Heterophenomenology and the initial assumption that phenomenal judgements provide prima facie evidence. I also introduced first-person experiments and argued that the use of a first-person approach is an essential preliminary to investigating problems in the perception of size experience and the problem of the self.

Part I: Methodology

Chapter 2: Dimensions of Reliability in Phenomenal Judgement

Schwitzgebel (2011) presents a large number of problem cases for the reliability of phenomenal judgements which threaten to undermine a first-person approach to consciousness. In chapter 2, I draw upon psychological research to argue

that the production of phenomenal judgements and perceptual judgements involves the same underlying attentional, working memory and conceptual mechanisms. This has the consequence that phenomenal judgements are not produced by faulty processes, at least this view cannot be maintained without scepticism also generalising to perceptual judgements. Phenomenal judgements may still be statistically less reliable than perceptual judgements, but this outcome is consistent with the possibility of reliable first-person methods. Finally, this account defends phenomenal judgements against general scepticism by providing criteria for distinguishing between reliable and unreliable phenomenal judgements.

Chapter 3: First-Person Experiments

Having identified attentional and conceptual processes as the main sources of error in making phenomenal judgements, the goal of first-person methods should be to control for these sources of error. In chapter 3, I argue that first-person experiments are effective means of achieving this, and hence reliable first-person methods. I distinguish between first-person methods and third-person methods by the former using phenomenal judgements and the latter using perceptual or objectival judgements. I provide a characterisation of first-person experiments and discuss examples. I then argue that many such first-person experiments overcome attentional and conceptual errors, as well as minimising negative response biases, attentional and conceptual interference, and that some do not suffer from the problem of intersubjective variability. I also respond to the criticism that first-person experiments are not different from behavioural methods.

Part II: Applications

Chapter 4: Variance and Constancy in Size Experience

Do objective (mind-independent) or subjective (mind-dependent) properties show up in perceptual experience? In chapter 4, I investigate the question of whether distant things looking smaller (phenomenal size variance) is an awareness of objective properties or subjective properties. I use first-person experiments to demonstrate instances in which perceptual size variance cannot be accounted for by visual angle or retinal image size. I also draw upon empirical findings to argue that this finding generalises to typical experiences of size variance. I also argue that the awareness of uninstantiated properties is metaphysically implausible. As size variance cannot be accounted for by plausible instantiated properties in the environment nor by the awareness of uninstantiated properties, I conclude that it is an awareness of subjective properties.

Chapter 5: The Sense of Self

What is it like to be me? An arguably essential aspect of ordinary experience is in the sense of self. In chapter 5, I distinguish between a weak sense of self (for-me-ness) and a strong sense of self in which there is a polarity between subject and object. I use first-person experiments from (and variations on) Douglas Harding to investigate the sense of self. I claim that when I point at where others see my face that there is an explicit strong sense of self. I also argue that this sense of looking from here is not explained by inference, thoughts, feelings, imagination nor the viewpoint.

The results of the experiments also includes a gap-experience which is distinct from the sense of self which I suggest may be a candidate for the subject of experience.

Chapter 6: Self-Experience

Can there be a direct experience of the self (a self-experience)? In chapter 6, I continue the enquiry begun in the previous chapter. I argue that if the subject is a bearer of experience that it should be single and non-sensory. A self-experience should then be *as of* these properties. A self-experience should also be non-objectifying in that the target should not seem to be an object for me, but should seem to be myself. I use Harding's first-person experiments and some of my own to show that the gap where I cannot see my head meets the above criteria. I also argue that when I attend to this location it is not a mere visual blind spot (complete lack of visual experience), but that there is a phenomenal character of spacious emptiness. I hold then that contrary to Hume and most philosophers since, that there can be a self-experience, if one knows which direction to attend.

Part I

Methodology

Chapter 2

2. Dimensions of Reliability in Phenomenal Judgement

2.1. Introduction

Eric Schwitzgebel (2011) claims that introspective judgements about conscious experience are generally unreliable, and are far less reliable than perceptual judgements about the world. Some of the cases Schwitzgebel presents against reliability include the failure to distinguish details about our own phenomenology, such as the basic details of visual imagery (Schwitzgebel, 2011, chapter 3). In chapter 7, he highlights the uncertainty we have about the character and location of our emotions and that sometimes we may not notice our emotions at all such as that I'm feeling grumpy. Another case is that we tend to fail to notice broad features of our visual experience such as the fact that it is not clear all the way to the edges. Rather there is only a small central region of clarity. Philosophers also disagree about what visual patterns manifest when one's eyes are closed (*ibid*., chapter 8).[11]

Based upon the weight of such problem cases, Schwitzgebel (2011) draws the pessimistic conclusion that naïve introspection[12] is 'faulty, untrustworthy, and misleading – not just sometimes a little mistaken, but frequently and massively mistaken' (*ibid*., p. 129). More specifically Schwitzgebel (2011) makes the

[11] The present chapter is a modified version of the published paper: Ramm, B. J. (2016). Dimensions of reliability in phenomenal judgment. *Journal of Consciousness Studies* 23(3-4) 101-127.

[12] Naïve introspection involves phenomenal judgements which have not been supplemented by training or first-person methods. These are the type of phenomenal judgements I will focus on in this chapter. In what follows I drop the term 'naïve' and simply refer to phenomenal judgements.

comparative claim that phenomenal judgements are in general far less reliable than perceptual judgements. He holds 'Descartes, I think, had it quite backward when he said the mind – including especially current conscious experience – was better known than the outside world'. (*ibid*., p. 136) and 'Our judgements about the world tend to drive our judgements about our experience. Properly so, since the former are the more secure' (*ibid*., p. 137). It is this comparative claim that I will be focusing on here.

What does Schwitzgebel's comparative pessimistic thesis amount to? We can distinguish between two pessimistic theses:

> The Process Unreliability Thesis*:* Errors in the formation of phenomenal judgements are due to factors specific to the formation of phenomenal judgements.
>
> The Statistical Unreliability Thesis*:* Phenomenal judgements are less reliable than perceptual judgements overall in terms of proportion of errors.

Here I will argue against the process unreliability interpretation of introspective pessimism by showing how a domain-general framework can account for the main introspective errors and limitations. My alternative claim will be:

> The Domain-General Thesis*:* Errors and limitations in the formation of phenomenal judgements are due to factors that are domain-general in the sense that they are shared with the formation of perceptual judgements.

The domain general thesis is compatible with a statistical version of the comparative pessimistic thesis. I focus on defending the *domain-general thesis* in this chapter, and I discuss the *statistical unreliability thesis* in section 2.8.

The distinction between process unreliability and statistical unreliability needs to be made explicit, as this has important consequences for questions about the reliability of phenomenal judgements. In particular, if the *process unreliability thesis* is true, then the errors are likely to infect introspection alone. If the alternative *domain-general thesis* is true, then perceptual judgements will be prone to the very same errors as phenomenal judgements. This will also have consequences for the statistical unreliability of phenomenal judgements.

It is not clear in Schwitzgebel (2008, 2011) which thesis the problem cases are meant to provide evidence for. That it is the *statistical unreliability thesis* is implicit in Schwitzgebel (2012) where he argues for a domain-general account of introspection. Although we hence agree on a domain-general account, I think that this is in tension with a large statistical difference in reliability. In particular, according to the domain-general view judgements about perceptual experience should be as reliable as perceptual judgements in the same modality. For example, judging that a rose looks red should be at least as reliable as the judgement that the rose is red on the domain-general view. I evaluate the question of statistical unreliability in section 8. I argue that while there are reasons for holding that some phenomenal judgements are statistically less reliable than perceptual judgements, Schwitzgebel overstates the size of the difference.

I propose that the production of phenomenal judgements involves a number of domain-general factors such as attention, working memory, and conceptualization. In the domain-general framework developed here attention selects experienced features

or objects,[13] and activates/forms concepts in working memory which produce (or perhaps partly constitute) judgements about the experience.

Previous authors have suggested that attentional and conceptual processes can account for many introspective processes (Bayne and Spener, 2010; Block, 2007; Carruthers, 2011; Engelburt & Carruthers, 2010; Hill, 2011; Prinz, 2004; Schwitzgebel, 2012; Watzl & Wu, 2012), with a central role for domain-general processes (Carruthers, 2011; Prinz, 2004; Schwitzgebel, 2012). It remains unclear however whether such explanations are capable of accounting for most errors and limitations in making phenomenal judgements.

The best defence of the reliability of introspection may be to give up on a separate introspective process altogether, and rather just talk of phenomenal judgements that involve the same domain-general processes as perceptual and rational judgements. One may well think that a domain-general account puts pressure on the need to posit a special domain-specific self-monitoring mechanism (Armstrong, 1968; Goldman, 2006; Lycan, 1996; Nichols & Stich, 2003). Previous authors use a domain-general account to motivate scepticism about the existence of a special introspective process (Carruthers, 2011; Prinz, 2004; Schwitzgebel, 2012). However, I do not pursue this question here. The aim of the chapter will not be to assess arguments for and against particular philosophical theories of introspection. Rather, here I focus upon discussing empirical evidence for and against the *domain-general thesis*. Furthermore, a domain-general account of errors is consistent with the existence of domain-specific introspective processes, as long as these are not strongly modular and

[13] I am neutral here as to whether experience is transparent such that the features and objects which engage attention are only ever external (perhaps represented) properties and objects (Harman, 1990; Tye, 1995, 2000), or whether properties of experience can (at least sometimes) be directly attended (Block, 1996; Kind, 2003).

hence preclude a role of domain-general processes in producing phenomenal judgements.

Here I attempt to give a scientifically informed account of domain-general processes that could plausibly account for the major classes of introspective errors and limitations. Accounting for all errors is obviously beyond the scope of a single chapter. The aim here is rather to develop a general framework which could in principle account for most of the introspective errors and limitations. This project should also be of general interest to cognitive scientists as the assumption is that the same processes are also involved in making conscious judgements in general, and will hence be involved in most psychological tasks ranging from perceptual judgement to moral judgement, to mathematical calculation.

As an empirical hypothesis I cannot claim to establish the necessary truth of the *domain-general thesis*. Evidence which undermines the hypothesis can be uncovered at any time. Rather my claim is that there is currently enough supporting evidence to make the thesis more sufficiently probable than the *process unreliability thesis*.

The aim of the chapter will not be to argue for an exhaustive theoretical account of every problem case considered here, thus deciding whether it is definitely an error or not. Rather the goal is to argue for the disjunction: problem cases for phenomenal judgements either do not count as errors or if they do count as errors then they can be accounted for by domain-general factors.

The plan for the chapter is as follows: In section 2.2, I discuss the motivation for using a domain-general approach as a response to introspective scepticism. In section 2.3, I characterise the difference between phenomenal and perceptual judgements. In sections 2.4, 2.5 and 2.6, I investigate in detail how domain-general

factors (respectively, attention, working memory and conceptualization) can account for problem cases for phenomenal judgements. I discuss cognitive dissociations and their challenge to a domain-general framework in section 2.7. In section 2.8, I discuss the *statistical unreliability thesis* and argue against general scepticism towards phenomenal judgements. In section 2.9, I conclude by summarising the case for the *domain-general thesis*.

2.2. Background Motivations

That phenomenal judgements are generally untrustworthy (or at least exhibit very high levels of unreliability) are motivations for Daniel Dennett's (1991, 2001a) rejection of first-person methods and for Schwitzgebel to take a pessimistic position towards the possibility of reliable methods (Hurlburt & Schwitzgebel, 2007; Schwitzgebel, 2011, p. 129, p. 167, though see chapter 4). Philosophers, in conversation with me, have also professed pessimism about first-person methods on the basis of Schwitzgebel's problem cases, presumably because they interpret them as establishing the general untrustworthiness of introspection.

One motivation for the chapter is to provide an initial defence of the possibility of reliable first-person methods as part of a science of consciousness. That there can be reliable first-person methods is compatible with holding that naïve introspection is statistically less reliable than perceptual judgements. Hence the truth or falsity of the *statistical unreliability thesis* is not a concern from the point of view of a researcher in the science of consciousness, on the condition that phenomenal judgements are sufficiently reliable when assisted by first-person methods. Titchener

for example held that introspective judgements are only reliable after subjects have undergone extensive training (Schwitzgebel, 2011, p. 74-75).

If Schwitzgebel's cases are taken as establishing that all phenomenal judgements are untrustworthy – 'introspective scepticism' (Bayne & Spener, 2010) – then this result arguably undermines the possibility of reliable first-person methods. This may be the case because phenomenal judgements stem from pervasively faulty processes. Thus no amount of training nor use of methods would be expected to improve them.

Introspective scepticism also presents a danger to the many everyday phenomenal judgements that are prima facie highly reliable: For example, judging that I feel hungry, feel an intense toothache, foveal colour judgements, and similarity judgements such as orange seems more similar to yellow than to blue. As Bayne and Spener (2010, p. 8) point out, it seems perverse to doubt the reliability of these phenomenal judgements. No amount of philosophical argument will convince some one, for example, that they should doubt the fact that they are experiencing a severe toothache. Even Schwitzgebel (2011, p. 139) pulls back from distrusting these judgements, yet without a positive reason for trusting these judgements general introspective scepticism looms as threat.

Introspective scepticism based upon faulty processes can be undermined (or at least rendered unattractive) by showing that errors in phenomenal judgements stem from domain-general processes. However, if the number of errors was high enough then this could still provide a reason for introspective scepticism. I respond to this further threat in section 2.8.

2.3. Phenomenal Judgements and Perceptual Judgements

The term 'introspection' suggests some sort of 'inner looking' as opposed to perception or 'outer looking'. However, I have doubts that there is a substantially separate faculty of introspection apart from those processes which produce perceptual and intellectual judgements. So as to remain neutral about the underlying processes, following Chalmers (1996, p. 173-176), I generally use the term 'phenomenal judgement' rather than introspection.

For the purposes of this dissertation, a 'phenomenal judgement' is a judgement about one's current phenomenology, formed using attentional resources, on the basis of (or intended to be on the basis of) current relevant experience.[14] This includes judgements about thoughts, emotions, pain, mental imagery, and sensory experiences (for example, how things seem, look, appear, feel). Some examples of judgements about experience are 'the rose looks red', [15] 'the stove feels hot', 'the town looks far away'. Thus one may judge that 'the stove feels hot' on the basis of the stove feeling hot. I say 'intended to be on the basis of' because I want to allow that one could base their judgement upon the wrong experience such as the stove feeling cold. Otherwise the possibility of erroneous phenomenal judgements may be ruled out by definition. I say 'relevant experience' because that the stove feels hot should not be based upon the stove looking hot, but rather upon the stove feeling hot.

---

[14] The standard view of the basing relation is that it is a type of causal relation between the reason for having the belief (here the experience) and the belief (Korcz, 2010). An alternative to a causal relation is a constitutive relation, for instance if the concept red is partly constituted by a presently experienced phenomenal character of red. This direct phenomenal concept can in turn be part of a direct phenomenal belief such as 'the apple looks red' (Chalmers, 2010). Though this constitutive relation would only apply to a small set of beliefs. This is not the place to defend a theory of the basing-relation. It should be sufficient for current purposes if the reader understands 'basing' as a form of causal relation or constitutive relation between the reason for the belief (i.e., experience) and the belief.

[15] The full phrase would be 'the rose looks red to me'. which distinguishes it from 'the rose looks red (for the average person)'.

The relevant class of ‘perceptual judgement’ are noninferential judgements about objects, events and properties of the world, formed using attentional resources, on the basis of (or intended to be on the basis of) current relevant conscious perception. For example, ‘the rose is red’, ‘the stove is hot’, and ‘the town is far away’. Thus one may judge that ‘the stove is hot’ on the basis of the stove feeling hot (perhaps looking hot also counts, if hotness is a property of visual experience). However, for the purposes of this dissertation judging that ‘the stove is hot’ on the basis of seeing smoke coming from the chimney would not count, as the conscious perception does not include the stove and hotness, but rather these are derived by inference from a conscious perception.

Schwitzgebel (2012, p. 34-35) points out that it is easy to confuse judgements about sensory experience and judgements about properties of the world. For example, in a psychophysics experiment one may make repeated judgements about colour experience (the colour things look to have). In this case it is easy to slip into making a judgement about properties of the world (e.g., about the stimuli on the screen). Thus a judgement that the rose ‘looks red’ and ‘is red’ are often interchangeable in ordinary circumstances.

Importantly for present purposes, even though confusion can happen, phenomenal and perceptual judgements are nevertheless conceptually distinct. With enough effort or when I think an illusion may be involved ‘looks red’ and ‘is red’ are sharply distinguishable. When I look at a white rose through red tinted glasses I may judge that ‘the rose looks pink’ but, having seen it without the glasses, nevertheless also believe that ‘the rose is actually white’.[16]

[16] This latter belief would not count as a perceptual judgement in the sense I am using it here.

2.4. Attention

In the next three sections I discuss how errors and limitations in making phenomenal judgements can be accounted for by domain-general factors. I discuss attention in this section. By ‘attention’ I mean the allocation of a limited pool of processing resources (Just & Carpenter, 1992; Kahneman, 1973). On this view there are degrees of attention, rather than attention being fully on or off like in some spotlight models. This being said, most of what I argue will be consistent with other theories of attention.

Inattention is responsible for errors in both perceptual and phenomenal judgements. The effect of failing to attend in making judgements about the world is dramatically evident in studies of inattentional blindness in which subjects fail to notice unexpected events such as a gorilla walking through a basketball game when their attention is distracted. (Simons & Chabris, 1999: see also, Mack & Rock, 1998; Most, Scholl & Clifford & Simons, 2005; Simons, 2000).

An introspective case that is plausibly explained by inattention is my failure to notice the degree of acuity of my visual field. Schwitzgebel (2011, p. 125-127) and Dennett (1991, p. 53-54, 68, 2001, 2002) point out that many people believe that their visual field is clear all the way to the edges, whereas objects in the periphery actually appear indistinct and blurry. Furthermore there is only a small central region of clarity of two degrees, whereas most would judge it to be a large window of clarity. That subjects possess a false belief about their visual field is evidenced by the surprise people express upon been shown the low resolution for shapes and colours in peripheral vision (Dennett, 1991, p. 68, 2001b).

This case seems to be at least in part a failure in attentional orienting, in particular a failure to attend to objects in peripheral vision while keeping their eyes fixated on an unmoving central point (Schwitzgebel, 2011; Engelburt & Carruthers, 2010; Hill, 2011; Waltz & Wu, 2012). In particular, we tend to shift our eyes to a peripheral object when we attend to it. It is has also been previously argued that subject's belief in a large window of clarity is due to them making a judgement about dynamic vision in contrast to gaze fixed vision (see, Hill, 2011, p. 27; Engelburt & Carruthers, 2010, p. 251). In normal vision, the eyes perform a saccade a few times a second (e.g., Land, 1999), which the visual system combines into a single visual scene. We would not expect subjects to be aware of information at such short durations any more than we would expect them to see the images of a film as static rather than moving, or a spinning flame on the end of a pole as a point of light rather than a circle of flame. Dennett's and Schwitzgebel's subjects were only mistaken then if their beliefs were about fixed gaze vision. If their belief in a large window of clarity referred to typical, dynamic vision, then they (and most of us) were correct after all.[17]

Another challenge to the reliability of first-person judgements is the apparent fact that I often fail to notice some of my experiences, such as being angry, sad, depressed or anxious. Schwitzgebel (2011, p. 122-123) gives the case of my partner mentioning that I seem to be grumpy about doing the dishes. I carefully reflect on this and deny that I am feeling grumpy. But from the look on my face, and the way I bang the dishes about, it is evident that I am grumpy. Perhaps upon further reflection I do actually detect feelings of grumpiness. It seems that my initial judgement was mistaken. Even though I attempt to carefully reflect, it is likely that the anger will

[17] Interestingly, both Schwitzgebel and Dennett provide first-person methods for keeping one's eyes fixated while orienting attention to the periphery. An example would be focusing on one's thumbnail held at arm's length while attending to peripheral vision (Hill, 2011, p. 27). Upon doing this, the lack of acuity becomes highly evident. This shows that, while naïve first-person observations often fail, more sophisticated first-person techniques can succeed. See chapter 3 for more on this method.

cause me to be disposed to reject the accusation that I am grumpy without attending sufficiently carefully. If I am repressing the emotion then I may be disposed (have an attentional bias) to attend briefly to the emotion and then rapidly disengage attention, hence inhibiting explicit recognition of its presence (Derakshan, Eysenck & Myers, 2007).

Alternatively no error may have occurred at all. Other possibilities are that the emotion did not reach consciousness, or was merely dispositional, or perhaps I did not really feel grumpy at T1, but only felt so after the fact when my partner suggested that I am grumpy. Also even if I retrospectively recall that I did seem to feel grumpy at the time, my initial judgement may still be correct, as this may be a false memory created by the suggestion that I am grumpy.

Even if the above explanations of these errors are correct, it does not follow that the attention used in making phenomenal judgements is a domain-general faculty. Perhaps there is a special faculty of 'introspective attention' that is responsible for these errors. For examples of the use of this term see: Bayne & Spener, (2010, p. 12), Hohwy, (2011, p. 270), Schwitzgebel (2011, p. 126, 175).

A reason for rejecting this hypothesis is the observation that attending to visual images, pains, thoughts and emotions can distract someone from making correct perceptual judgements and vice versa. If there is a separate introspective attention then I should be able to fully attend to my thoughts and the world simultaneously without any interference. For example, on this view it is difficult to account for why I am more likely to walk into street poles when I am absorbed in my thoughts. This strongly suggests that in attending to my thoughts I was withdrawing attention from the world.

There is also evidence for a single attentional mechanism in the domains of emotion and pain. For example, it has been found that felt pain is reduced when attention is distracted (e.g., Buhle & Wager, 2010; Legrain, Damme, Eccleston, Daris, Seminowicz & Crombez, 2009) and high working memory load reduces negative affective responses to negative images (Schmeichel, Volokhov & Demaree, 2008; Van Dillen & Koole, 2007) and reduces attentional capture by pain (Legrain, Crombez, Verhoeven & Mouraux, 2011). The best explanation of these findings seems to be that judgements about emotions, and pains (so-called introspections) utilise the same attentional system.

Of course, there are exceptions when I do not seem to be interfered with by attending to multiple domains, for instance when attending to my thoughts or feelings and the traffic as I am driving. Musing that I feel happy today does not always seem to interfere with my ability to drive efficiently. However, such cases do not necessitate that there are domain-specific attentional mechanisms, as they can be explained by rapid switches of attention between the two activities, or by one of the activities continuing ‘on autopilot’ while the other consumes my attention.

Furthermore, on a resources theory, attention is a single limited cognitive resource that can be flexibly allocated between multiple domains (Just & Carpenter, 1992; Kahneman, 1973). On this view significant interference only occurs when attentional resources are exhausted. For example, it has been found that talking on a hands-free cell phone while driving significantly reduces driving performance even though the two activities rely upon different sensory modalities (Strayer & Johnston, 2001). Finally, while there is empirical evidence in favour of a single domain-general selection process, I am unaware of any empirical research which supports the existence of a special introspective attentional mechanism.

2.5. Working Memory Limitations

What about unreliability in judging aspects of experience that I am in fact currently attending to, such as thoughts and emotions? My claim here is that the limitations of working memory explain the difficulty of judging features of complex and dynamic events such as emotions and much of our mental imagery.

Working memory is usually thought to have a central capacity-limited component or an upper limit in processing resources (e.g., Baddeley, 2000, 2003; Cowan, 2001; Just & Carpenter, 1992; Halford, Wilson & Phillips, 1998), and time-limited short-term memory stores (e.g., phonological, visual-spatial) which are subject to decay and interference. Some theorists include a short-term store for affective information (Mikels, Reuter-Karenz & Beyer, 2008). I suggest that limits in judging complex phenomena stems from an upper limit to the number of concepts that can be formed/activated at any one time in working memory (Block 2007, p. 487-489).[18] Furthermore, the unreliability in judging dynamic phenomena stems from the failure to maintain concepts active in working memory.

2.5.1 Complexity and the Capacity Limits of Working Memory

Unsurprisingly in vision and other modalities, when phenomena are highly complex, it is more difficult to categorise all of their properties. For instance, it is difficult to report all of the items in a complex scene. This can be explained by the limits of working memory. Cowan (2001) presents a large amount of experimental evidence that there is a capacity limit to working memory of approximately four items

[18] Ramm and Halford (2012) provide evidence that conceptual combination draws upon capacity-limited processing resources, and thus that new concepts are formed in working memory.

(chunks). For example, there is a limit of approximately four items in visual working memory (Luck and Vogel, 1997), recall of verbal material (Broadbent, 1975), in the discrimination of complex aromas (Laing & Francis, 1989), and in recalling items from visual iconic memory (Sperling, 1960). That a capacity limit of four holds between so many domains, including at least some paradigmatically introspective processes, suggests a single central capacity limit.

An alternative interpretation is to posit that there are modality-specific resources such as separate capacities for visual and auditory information rather than a central attentional resource (Wickens, 1984, 2002). However, importantly Saults and Cowan (2007) found that for a simultaneously presented visual and auditory array recall was limited to 3-4 items, thus providing evidence for a single capacity limit which goes across sensory modalities. This finding is difficult to account for by a multiple capacities view.

As discussed above, research in emotion and pain provides some evidence for the domain-general hypothesis. There has been far more extensive research in visual imagery and iconic memory, and hence more evidence supporting the hypothesis that these draw upon the same capacity-limited resources as visual perception. For example, it has been found that mental imagery is associated with many of the same brain areas as high-level visual perception (Ishai & Sagi, 1995; Kosslyn, Ganis & Thompson, 2001; Kosslyn, Thompson & Alpert, 1997), and so it is plausible that mental imagery relies upon the same capacity limits as visual perception. It has also been found that it takes longer to generate a more complex imagined letter or shape than a simple one (Bruyer & Scailquin, 1998; Kosslyn, 1980; Dror & Kosslyn, 1994). Furthermore, the generation and rotation of images is interfered with more by random letter generation (a task that requires capacity-limited resources) than articulatory

suppression (which is considered to be a relatively automatic process) (Bruyer & Scailquin, 1998).

The capacity limits in extracting information from experiences also accounts for the classic problem case of why I do not know how many spots are on a perceived speckled hen (Ayer, 1940; Chisholm, 1942).[19] Studies on subitizing (automatic recognition of number) show a limit of approximately four in subitizing items in briefly viewed displays (Mandler & Shebo, 1982; Trick & Pylyshyn 1994) and after images (Atkinson, Campbell & Francis, 1976; Simon & Vaisnavi, 1996). Again, whilst such evidence shows that knowledge of experience is not infallible, neither in such cases is there a reason to believe that it is more fallible than perceptual knowledge in cases of equivalent complexity. Judging the number of spots on a briefly perceived speckled hen is just as difficult as judging the number of spots on an imagined hen (although the instability of mental images probably contributes an additional source of errors/limits).

The evidence suggests then a capacity limit to our phenomenological judgements. Importantly, this limit applies to both phenomenological and perceptual judgements (see also Hill 2011, p. 28-31). This hypothesis also partly explains the variability in subject's reports regarding the patterns seen when one's eyes are closed. As these visual patterns are both complex and dynamic, inaccuracy and variability would be expected in reports. This is no different from the fact that we would not expect subjects to give a perfectly accurate account of the colours and patterns of a fireworks display. When the 'inner light show' and 'outer light show' share the same degree of complexity one would expect both to lead to similar levels of inaccuracy in reports. One may also expect more individual variability in eyes closed patterns than

[19] For recent discussions of the speckled hen, see: Fumerton (2005), Markie, (2009), Poston, (2007), Sosa (2003a, 2003b), Tye (2009).

fireworks, due to differences in lighting conditions, and perhaps even differences in visual systems.

Of course, this cannot be the whole story in accounting for disagreements in describing eyes closed phenomenology. It is odd for instance that historically Goethe, Purkinje, Muller and Helmholtz all report ‘wandering cloudy stripes’, but such descriptions disappear after the early 19th century (Schwitzgebel, 2011. p. 142-149). It seems like theory must have been driving these descriptions, in particular influence from reading previous authors such as Purkinje.

2.5.2 Dynamicity and the Failure to Maintain Activation of Concepts

If a phenomenon is rapidly changing over time this adds further difficulties to making a phenomenal judgement. In fact, emotions, thoughts and pains seem to be more like sounds in their dynamically changing character. Visual imagery also seems to be unstable, which can be considered a form of dynamicity. Schwitzgebel asks what are the gross and fine features of emotion and pain? Although these are often difficult questions to answer, we seem to be reliable at identifying broad features of emotions, pleasures and pains such as intensity, pleasantness, unpleasantness, and often use dynamic terms such as surging, crescendo, fading etc. (Lambie & Marcel, 2002, p. 230).

I propose here that limitations in making phenomenal judgements about dynamic experiences are due to failures in retaining concepts active in short-term memory. Suppose that there are rapidly flashing coloured lights (green, red, yellow, blue, green, yellow, red). I am attending to them and they are not so brief that I am

unaware of them[20]. Yet I fail to judge that 'there was a blue light'. One possibility is that blue was not encoded in short-term memory and thus I was unable to report it. Another possibility is that blue was encoded in short-term memory, but it was interfered with by preceding or subsequent concepts such as red. Or finally blue was encoded but the information was lost due to decay. In all cases, it is a failure to maintain a concept active which explains the oversight. The same limitations also would presumably apply to comparable perceptual judgements about the dynamically changing shape of ripples on a lake, the topology of flame shape, and the number of forks on flashes of lightning.[21] Overall then, errors and limitations involving complexity and dynamicity do not seem to derive from domain-specific introspective processes.

2.6. Conceptual Errors

I have proposed that working memory places a limit on how many concepts can be formed/activated at a time, and thus how much information I can extract from an experience, and how long concepts remain active. Two other ways in which conceptual errors/limitations may occur include: 1. Missing concepts, 2. Uncertainty in using concepts.[22]

[20] At very short durations the phenomena may be masked and not even reach consciousness at all: Breitmeyer & Ogmen (2006); Kouider & Dehaene (2007).
[21] Watzl and Wu (2012) also emphasize this point.
[22] A third type of conceptual error which I do not discuss here is the activation of incorrect concepts, For example, suppose I am exposed to something cold such as ice, but I have been primed to expect a sensation of heat and hence I briefly mistakenly judge that I am feeling heat. Again this type of error affects both phenomenal and perceptual judgements.

2.6.1 Missing Concepts

As Schwitzgebel points out there are many aspects of the character of emotions that I cannot decide upon. Even holding fixed working memory limitations there are many details of my emotion and pain experiences that I simply cannot categorise. The main reason for this is that I usually lack the appropriate concepts for delineating the details of these experiences. For example, I may not possess adequate concepts for distinguishing between annoyance and jealousy, and thus think that I am merely feeling annoyed rather than jealous. It's not a matter of just possessing the words. It may come to a surprise to me when I realise that I feel jealous. I may have an incomplete concept of jealousy, for example I know how people act when jealous, but presumably I do not know what it's like to feel jealous until I actually experience it (and realise what it is I'm feeling). The same applies to feelings such as love, grief, awe, aesthetic pleasure etc. I can possess the words for these without possessing a phenomenal concept for these feelings.

Does the difficulty in acquiring concepts of certain emotions suggest that there is a domain-specific limitation here? In a sense it does, but this does not entail the existence of a faulty or more limited domain-specific process. As to why we may possess fewer concepts in one domain than another it is helpful to consider how we often acquire phenomenal concepts. An example is colour experience. I can easily acquire the phenomenal concept of turquoise because someone can point to something that is turquoise, such as a turquoise opal. By doing this I am provided with a phenomenal sample of turquoise. I learn what it is like to experience it and how it relates to other colours (e.g., that it is a greenish-blue). I can then identify it again on other occasions.

Emotions on the other hand are more difficult to learn presumably because it is more difficult to provide a phenomenal sample. Someone cannot simply flick a switch and turn on my feeling of tenderness. They may set up the appropriate situation or show a scene from a movie where characters are portraying this feeling, but it is not guaranteed that I will thereby feel tenderness, and certainly not as reliably as I can be made to experience turquoise. Thus it seems that I will be unlikely to acquire concepts for the myriad of affective subtleties, like anger 22 versus anger 23, as I can potentially do for colour experience. This does not show that that there is a unique process for making judgements about emotions that is less reliable or more limited than for making judgements about colours. Rather there is a non-introspective limitation here. If colours were as difficult to manipulate as emotions and as unstable then they would be just as difficult to learn.

2.6.2 Uncertainty in Using Concepts

On other occasions, I possess the appropriate concept, and it is currently activated, but I am uncertain as to how to employ it. An example, given by Schwitzgebel is in making judgements about visual imagery. Schwitzgebel asks if you can give medium-level details of your mental image of a house (Schwitzgebel, 2011, chapter 3). How clear is it? How detailed is it? How stable is it? Your uncertainty in answering these questions suggests that you are an unreliable introspector.

A recent study provides support for the view that subjects can in fact accurately report the vividness of their visual imagery (Pearson, Rademaker & Tong, 2011). In an ingenious task, subjects were asked to imagine either an image of green vertical or red horizontal grating and subsequently rate the vividness of the image.

This was followed by a binocular rivalry trial in which green vertical grating or red horizontal grating was presented to each eye (or a mock rivalry trial). Subjects then decided whether they saw primarily the red or green grating or a combination of both. It was found that ratings of vividness (but not effort) significantly predicted the subsequent perceptual bias in the rivalry task, thus providing support for the hypothesis that subjects are reliable at judging the vividness of their visual images. A subsequent study also found that subjects can improve this metacognitive ability with training (Rademaker & Pearson, 2012). This provides evidence against Schwitzgebel's claim that we are poor at judging details of our visual images such as vividness.[23]

Even though we presumably do get such questions wrong on occasion, there are analogous examples of perceptual judgements where there are similar amounts of uncertainty. For example: 'where exactly does that haystack begin and end?' 'How large is that bus?' 'How bushy is that tree?' These are difficult questions to answer. Yet this does not show that my perception of haystacks, buses or trees is unreliable, only that I am not always sure how to apply these categories. Of course, the instability and low resolution of visual images most likely makes answering many questions about them more difficult than many visual perceptions.

2.7. Cognitive Dissociations

Cognitive dissociations present a challenge to a domain-general theory as they provide examples of deficits in making judgements within specific modalities, while leaving general cognitive abilities intact. For example, visual associative agnosia is

[23] My thanks to Helen Yetter-Chappell for pointing me towards these studies.

the inability to identify visually perceived ordinary objects such as cups despite intact visual perception (Farah, 2004). Subjects with this condition can also recognise a familiar object as a cup if they are allowed to touch it, thus showing that the conceptual system is intact, and that the deficit is specific to visual recognition. Such neurological conditions suggest that there are domain-specific informational links between different sensory modalities and the activation of concepts in working memory.

One particularly relevant example for the present inquiry is Alexithymia which is a clinical condition which literally means 'no words for feelings' (Samur, Tops, Schlinkert, Quirin, Cuijpers & Koole, 2013).[24] It is characterized by a subject's difficulty in describing emotions. For example sufferers may not be able distinguish whether they are feeling angry, sad or anxious, or distinguish whether they are feeling a bodily sensation or an emotional state, and they also may not be able to identify other's emotions. Alexithymia is a challenge for a domain-general cognitive theory because sufferers have difficulties describing their emotions even though their attentional and working memory systems and other conceptual abilities remain intact, thereby suggesting the existence of a domain-specific process.

In fact, two types of alexithymia have been distinguished (Larsen, Brand, Bermond & Hijman, 2003). Type I is associated with a lack of emotional experience. Since sufferers feel a blunting or an absence of emotions, this has a flow on effect to the cognitive processing of emotions in general. An analogy here is colour-blindness (Lane et al. 1996). A subject that is colour-blind has problems identifying colour, but this is due to not experiencing them in the first place, not due to a general attentional

[24] Thank you to an anonymous reviewer for the Journal of Consciousness Studies for pressing me on this case.

or conceptual malfunction. Hence this form of Alexithymia is not problematic for the current hypothesis.

Type II alexithymia appears to be analogous to visual associative agnosia. It is characterized by no deficit in feeling emotions, but predominantly in identifying and describing them. This form of Alexithymia is associated with damage to the person's corpus callosum and hence a disorder in interhemispheric communication. This suggests that there can be a domain-specific disruption between the experiencing of an emotion and the activation of a concept for the emotion in working memory.

This is compatible with the present domain-general framework for three reasons: Firstly, it does not entail that identifying emotions relies upon a special introspective attentional mechanism, working memory resource or conceptual system, only that there is an additional domain-specific informational link (particularly in interhemispheric communication).

Secondly, the existence of domain-specific processes does not invalidate the present framework because the hypothesis was that *most* errors can be accounted for by domain-general processes (not that there are no domain-specific processes which contribute to phenomenal judgements). This is consistent with domain-specific processes also contributing to the judgement as long as their role in producing errors in neurally typical individuals is relatively small. While I cannot conclusively prove that this is in fact the case, I think that there can be indirect evidence for this hypothesis. In particular, in accounting for the unreliability of different phenomenal judgements I have drawn upon attentional, working memory and conceptual factors, as well as properties of the target phenomenal states such as complexity and dynamicity. There has so far been no need to posit any other significant sources of error in accounting for problem cases in typical individuals.

Thirdly, alexithymia is also associated with a difficulty in identifying other's emotional states (a judgement about the world) as well as one's own emotional states (a phenomenal judgment). Lane et al. (1996) present evidence that individuals with Alexithymia have difficulty in recognising the emotions displayed by faces. That is, it is not just a deficit unique to identifying one's own emotional states, but in emotion processing in general. Goldman (2006) also reviews evidence that a deficit in feeling a specific emotion is paired with a deficit in recognising the same specific emotion in others. This suggests that making judgements about one's own emotions and those of others share underlying processes, which is a version of the domain-general thesis. Thus even if evidence was found that these informational links were significantly unreliable in neurally typical subjects, alexithymia still does not provide evidence for a separate introspective process apart from processes involved in making judgements about the world. Rather it is consistent with the domain-general thesis.

2.8. Statistical Unreliability and Introspective Scepticism

In sections 2.4-2.6, I argued that most errors and limitations of phenomenal judgements can in principle be accounted for by the domain-general dimensions of attention, working memory limitations and conceptualization. If true then this account undermines the *process unreliability thesis* - the view that errors in the formation of phenomenal judgements are due to factors specific to the formation of phenomenal judgements. I provide reasons in support of the *domain-general thesis* in the next section.

What about the statistical unreliability thesis? It can still be held that phenomenology is in general more complex, dynamic and elusive, and thus we will

always be less reliable at judging it than facts about the world. The *statistical unreliability thesis* is compatible with the domain-general account. According to the current framework the greater unreliability of phenomenal judgements (if they are indeed less reliable) is typically due to properties of the target of the judgement such as complexity and dynamicity, or other factors such as a lack of expertise in making phenomenal judgements, rather than a fault in specific processes which produce the judgement. This can lead to statistical differences in the reliability of phenomenal judgements, but this uniqueness does not imply that the errors stem from separate domain-specific processes.

Perhaps a type of scepticism can be based upon statistical unreliability. In this section I consider some motivations for holding the statistical unreliability thesis. I argue that while there are reasons for holding that some phenomenal judgements are less reliable than perceptual judgements, there are a number of reasons suggesting that Schwitzgebel overstates the size of the difference. I then present an argument for blocking a move from statistical unreliability to introspective scepticism.

In my view, Schwitzgebel's (2011, p. 136) claim that experience is almost always 'gelatinous, disjointed, swift, shy, changeable' is incorrect, especially when it comes to perceptual experience. For example, my visual experience of desks, the sky, and trees are very stable. According to Schwitzgebel (2011) 'The tomato is stable. My visual experience as I look at the tomato shifts with each saccade, each blink, each observation of a blemish, each alteration of attention, with the adaptation of my eyes to lighting and color'. (p. 136). On the contrary, it seems to me that a tomato usually does *look* stable. I visually experience it as stable, and this is the typical experience. I do not infer that it is stable. When I attend more closely to the minute details of how my visual experience is given taking into account eye movements, blinks and lighting,

have I not altered my ordinary experience? In any case, both object constant and inconstant features are part of experience. Schwitzgebel could respond that the tomato also looks stable, but hold that *most* of perceptual experience is nevertheless unstable. My sense by contrast is that it is ordinarily stable. Is most of perceptual experience unstable before I attend to these micro-features, or did I make it unstable by trying to attend to how things look with eye blinks, and colour inconstancy (while ignoring colour constancy etc.)? Did I create the instability by focusing my attention? Experiments on naïve subjects would be required to decide between the views. One reason in favour of ordinary perceptual experience being stable is that if it was not then it would be difficult to filter the constant features out of the chaos. Yet we do not have this difficulty. Even newborns have been found to exhibit size constancy (Slater, Mattock & Brown, 1990) and shape constancy (Slater & Morrison, 1985), and colour constancy is evident at 20 weeks (Dannemiller, 1989). This suggests that ordinary perceptual experience from early on is mostly stable – rather than a 'blooming buzzing confusion' (as famously quipped by William James (1890, vol 1, p. 488)). These are the aspects of experience that we use to navigate the world. At least judgements about the stable aspects of experience will presumably be as reliable as the corresponding perceptual judgements. Overall then I think that Schwitzgebel overstates the dynamicity and elusiveness of perceptual experience by focusing on its inconstant features and micro-phenomenology.

The dynamicity of thoughts, emotions and mental imagery is a central point that Schwitzgebel makes in favour of comparative statistical unreliability. However, he also tends to compare introspection to visual perception, a particularly powerful sense, hence over inflating the apparent difference. How do introspective judgements compare to other sensory modalities such as the sense of smell? I am often uncertain

as to the identity and location of things from their smell alone. What Schwitzgebel has not shown is that phenomenal judgements are in general less reliable than perceptual judgements based upon non-visual modalities (Kriegel, 2011).

One consideration in favour of the comparative unreliability thesis is the possibility that we are experts when it comes to making judgements about the world as social factors and biological survival depend upon this.[25] Since we have far more practice at getting these judgements right perhaps we are more likely to attend more effectively and to acquire more fine-grained concepts like expert wine tasters (Ballester, et al., 2008; Solomon, 1990) than for untrained judgements about experience.

Perhaps we can also chunk items of the world more efficiently and thus can make more accurate judgements about complex situations such as being in traffic in comparison to the patterns when one's eyes are closed just as chess experts are better at assessing and memorising positions on a chess board than novices (Chase & Simon, 1973). Also there may be few negative consequences if we get details of our emotional phenomenology, visual acuity, visual imagery and eyes closed phenomenology incorrect, and so perhaps we tend to be novices particularly when it comes to these experiences. Again while we may be experts when it comes to making visual judgements about the world, most of us are not so good at making non-visual perceptual judgements. What's causing that bad smell? What bird is making that call? What jagged thing did I step on? What instruments are playing in the symphony? Does the pasta sauce have basil or oregano in it, or both?

Furthermore judgements about sensory experience such as 'the rose looks red' are intimately related to perceptual judgements such as 'the rose is red'. In making

[25] Thank you to Eric Schwitzgebel for suggesting this argument to me.

both types of judgement, I attend outwards to the rose and its perceptible properties. I do not shift my attention inwards to decide how the rose looks. Schwitzgebel (2012, p. 34-35) makes a similar point when he discusses how we easily slip between judgements about our perceptual experience and properties of the world and takes it as evidence for overlapping processes in making judgements. However he does not mention the implication of this - that this is a reason for thinking that a large number of phenomenal judgements and perceptual judgements (in the veridical case) are hence equivalent in reliability. Furthermore, expertise in one would then be expected to entail an equivalent level of expertise in the other. Wine tasting is a salient example. Overall, then the novice argument is a point in favour of statistical unreliability for some though not all phenomenal judgements. It also works against many perceptual judgements. The flipside of the argument from lack of expertise is that it should then be possible (at least in principle) to train subjects to overcome these errors.

Finally, in this chapter I argued that the errors and limitations in making phenomenal judgements stem from domain-general processes. This has the consequence that perceptual judgements suffer from the same types of errors and limitations as phenomenal judgements. This suggests that Schwitzgebel may be underestimating the number of errors and limitations in making perceptual judgements. I also disputed whether we are unreliable at recognising the size of the region of clarity in the visual field and the vividness of mental imagery.

Suppose that it was the case that the statistical unreliability of phenomenal judgements was very high (although this seems unlikely for reasons already given). One might hold that this justifies a form of scepticism in which one should mistrust all of these judgements. Thus it may be that a strong form of pessimism is still viable

based upon their statistical unreliability. I think that the current account blocks the threat of scepticism based upon statistical unreliability by providing criteria for distinguishing between reliable and unreliable phenomenal judgements.

The proposal is that identifying the dimensions involved in making phenomenal errors vindicates the apparently trustworthy cases of phenomenal judgements such as foveal colour judgements, knowing that I am in intense pain etc., by showing why they are so often correct. These highly trustworthy, virtually undoubtable judgements are characterised by the stability and high intensity of the experience, and the high degree of attentiveness at the time of the judgement, as well as the possession of appropriate concepts.

This enables us to locate the reliability of a particular phenomenal judgement in Reliability Space (Figure 2.1). I will provide an example using wine tasting judgements (for the sake of simplicity I do not include all of the relevant factors in the figure).[26] For example, the judgements of a wine taster who is inattentive and with a low degree of conceptual adequacy would be located at A (e.g., an inattentive novice taster); inattentive but high conceptual adequacy at B (e.g., an inattentive expert taster); attentive but low conceptual adequacy at C (e.g., an attentive novice taster); and attentive and high conceptual adequacy at D (e.g., an attentive expert taster).[27] As there are principled criteria for distinguishing between reliable and unreliable phenomenal judgements, there is no reason to doubt judgements that reside in a superior position in reliability space, thus undermining the potential slide into introspective scepticism.

---

[26] Errors due to the complexity or dynamicity of the experience can be incorporated into this simplified reliability space as these tend to cause a failure of the appropriate concepts to either be activated or maintained in working memory. A more explanatorily adequate figure would also include these factors.

[27] In a study by Solomon (1990) it was found that wine experts are better at picking the odd wine out of three glasses of wine than novices, which suggests that it is the possession of concepts, rather than terminology that differentiates experts from novices (see also Ballester, et al., 2008).

A response to this account by the pessimist is to move the pessimism to a higher level and ask: how do you know that you are in a situation where you are being appropriately attentive and have adequate concepts, etc.? However, this question also applies to perception, reasoning, and mathematics so one cannot be a higher-order pessimist about phenomenal judgements without also generalizing this pessimism to these other domains. This argument works independently of the truth of the *domain-general thesis*. Suppose evidence arose that there are multiple domain-specific attentional mechanisms. Nevertheless, by identifying a *type* of error as attentional, this provides criteria for deciding if a phenomenal judgement is likely to be erroneous.

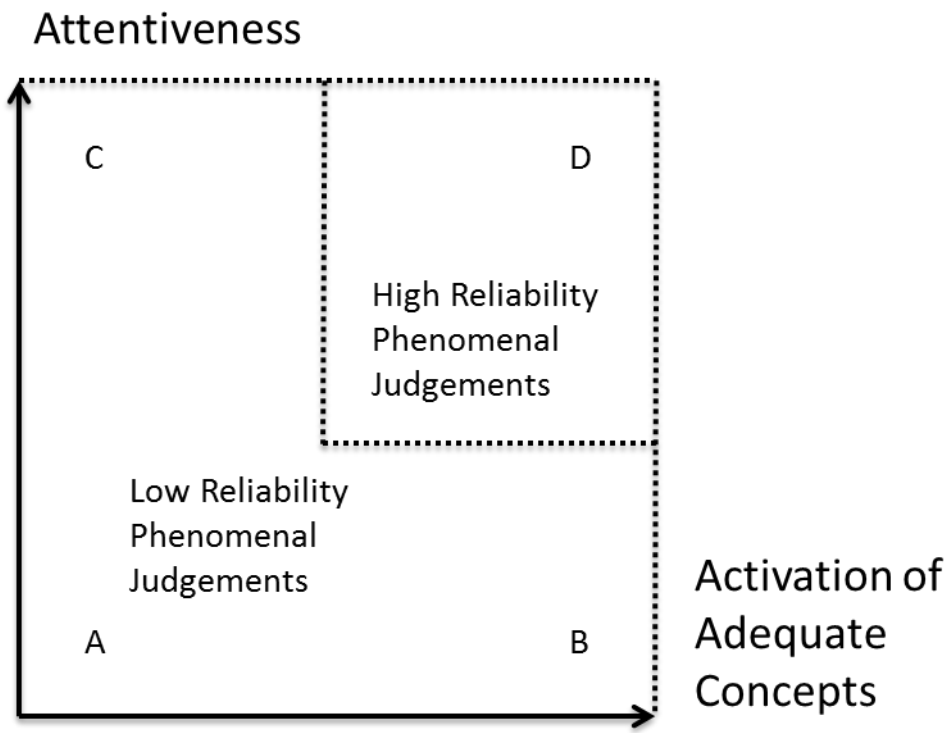

Figure 2.1. Reliability Space for Phenomenal Judgements on the Dimensions of Attentiveness and Conceptual Adequacy. (A) Low attentiveness and low conceptual adequacy, (B) low attentiveness and high conceptual adequacy, (C) high attentiveness and low conceptual adequacy, (D) high attentiveness and high conceptual adequacy.

2.9. The Case for the Domain-General Thesis

The primary aim of the chapter was to argue against the *process unreliability thesis* which holds that phenomenal judgements are unreliable due to faulty domain-specific processes. The strategy was to argue that problem cases for phenomenal judgements can either be discounted as non-errors or accounted for by domain-general factors such as attention, working memory and conceptualization. Thus it is not that mechanisms involved in making phenomenal judgements are unreliable per se, but any judgement in which there are attentional and conceptual errors or working memory limits are exceeded, including phenomenal, perceptual, mathematical and rational judgements. If true then this account undermines the *process unreliability thesis*.

Furthermore, this would significantly limit the scope of pessimism about phenomenal judgements because perceptual judgements would also suffer from the same errors and limitations as phenomenal judgements. One outcome of the current account if true is that theorists who claim that phenomenal judgements are generally unreliable must mean that they are unreliable in terms of overall numbers, not that the underlying processes are unreliable. If they mean that the underlying processes themselves are generally unreliable, then the claim would over generalise, such that perceptual and intellectual judgements would also be generally unreliable. This is presumably an outcome that no one wants.

Should we accept the domain-general account of errors and limitations? As it is an empirical hypothesis it is always open to defeating evidence, so I cannot claim to have proved the hypothesis here. I do however think that it is sufficiently probable

enough to warrant assenting to this thesis over a domain-specific account. The reasons in favour of the present thesis are:

(1) Attentional distraction between different modalities, suggesting that there is a single focus of attention. If there was a separate introspective attention then I should be able to attend to my thoughts and the world simultaneously without distraction.

(2) A working memory capacity-limit of approximately four chunks for many different domains (Cowan, 2001) (including stereotypically introspective cases), as well as direct empirical evidence for a single capacity across sensory modalities (Saults and Cowan, 2007).

(3) Phenomenal judgements and perceptual judgements are subject to the same types of conceptual errors.

(4) That most errors and limitations for neurally typical individuals stem from a domain-general system is compatible with cognitive dissociations such as Alexithymia.

(5) The domain-general framework is more parsimonious than positing multiple domain-specific systems that are responsible for the same types of errors and limitations. Why posit special types of attention, working memory capacity and conceptualization when a single system could perform the same functions? This arguably shifts the burden of proof onto the proponent of the *process unreliability thesis*.

At the very least this chapter blocks an argument for the *process unreliability thesis*. However, I claim that we can draw a stronger conclusion than this.

The above reasons do not prove the hypothesis, but I think that they provide sufficient support, in conjunction with being the simpler hypothesis, for provisionally accepting

the *domain-general thesis* over the *process unreliability thesis* barring evidence arising to the contrary.

The present account also provides systematic criteria for distinguishing reliable from unreliable phenomenal judgements, which blocks the argument for general introspective scepticism based upon statistical unreliability. By limiting the scope of pessimism, this chapter also contributes to the wider project of defending the possibility of reliable first-person methods for investigating conscious experience. What such first-person methods might consist in is the topic for the next chapter.

Chapter 3

3. First-Person Experiments

3.1. Introduction

In recent decades there has been a renewal of interest in using first-person methods for investigating consciousness (Ericsson, 2003; Ericsson and Simon, 1993; Hurlburt 1990; Hurlburt and Heavey 2004; Jack & Roepstorff, 2003; Jack & Shallice, 2001; Lutz & Thompson, 2003; Overgaard, Gallagher, & Ramsøy, 2008; Overgaard, Rote, Mouridse & Ramsøy, 2006; Ramsoy & Overgaard, 2004; Varela, 1996; Varela & Shear, 1999; Vermersch, 1999). The general reliability of these methods is controversial. According to a number of philosophers and psychologists first-person methods are irredeemably fraught with sources of error (Dennett, 1991, 2001; Hurlburt & Schwitzgebel, 2007; Lyons, 1986; Irvine, 2012; Nisbett & Wilson, 1977; Schwitzgebel, 2011). In a particularly strong statement of this sceptical attitude, Daniel Dennett (2001a) states: ‘First-person science of consciousness is a discipline with no methods, no data, no results, no future, no promise. It will remain a fantasy’. Elizabeth Irvine also criticises a number of contemporary first-person methods and concludes that ‘the persistent and ineradicable presence of bias in subjective measures… affects… all introspective methods’ (Irvine, 2012, p. 642).

Pessimism about first-person methods involves questioning the reliability of the link between phenomenal judgements and experiences. A first-person report may fail to indicate an experience because the subject may be confabulating, have biases, be influenced by the experimenter’s biases, and the attempt to make a judgment about an experience may interfere with the experience. These potential sources of error should

be taken seriously, however the conclusion that all first-person methods are unreliable does not follow. Advances in controlling for errors in making verbal reports are particularly found in Ericsson and Simon's method of Protocol Analysis (Ericsson, 2003; Ericsson and Simon, 1993) and Hulburt and colleague's Descriptive Experience Sampling (Hurlburt 1990, 1993; Hurlburt and Heavey 2004: though see Schwitzgebel in Hurlburt and Schwitzgebel (2007) for criticism).[28] Furthermore, the conclusion of general unreliability can only be maintained by discounting psychophysics as involving introspection[29] and ignoring Gestalt psychology and illusion research altogether, both of which are generally accepted as employing reliable methods.

No doubt there are many sources of first-person errors, however, third-person methods are also subject to many sources of error, which often require sophisticated techniques to control. Taking further inspiration from science, we find that experiments are a particularly effective method for isolating variables of interest, and for controlling for sources of error. Hence a potentially reliable first-person method would be to use a first-person equivalent of standard scientific experiments in investigating questions about experience – first-person experiments. Such methods have been proposed by Ginsburg (2005). There have been many discussions of first-person methods used in conjunction with third-person methods (e.g., Lutz & Thompson, 2003; Varela, 1996) but few discussions on appropriate methods for intraperspective experiments.

In this chapter I seek to characterise what a first-person experiment is, and to distinguish them from third-person experiments. I also argue that many such experiments do not fall prey to common objections to first-person methods. I begin with the historical origin of first-person experiments.

---

[28] See Goldman (2004) and Hatfield (2005) for general defences of first-person methods.
[29] See Horst (2005) for arguments against psychophysics as being merely third-person methods.

3.2. Historical Background

Historically one of the reasons for the failure of introspective psychology was reputably its inability to resolve the dispute over imageless thought (Boring, 1953; Lyons, 1986). Members of the Würzburg School claimed to find introspective evidence of imageless thought, while Titchener and his followers claimed the opposite. Neither could the schools agree on the number of sensory elements nor upon their basic attributes. [30] In his famous behaviourist manifesto, John Watson (1913) criticised introspective psychology for its inability to resolve such questions:

> I firmly believe that two hundred years from now, unless the introspective method is discarded, psychology will still be divided on the question as to whether auditory sensations have the quality of 'extension', whether intensity is an attribute which can be applied to color, whether there is a difference in 'texture' between image and sensation and upon many hundreds of others of like character (Watson, 1913, p. 164).

According to the received historical account such examples of the unreliability of introspection account for why they were abandoned and why only third-person methods should be used now.

---

[30] A quibble over history: A popular illustration of the disagreement between Introspective schools has been to cite Boring (1942), as reporting that Külpe's laboratory found less than 12,000 discriminable sensations, while Titchener's laboratory discovered more than 44,435 (e.g., Güzeldere, 1995, p. 39; Nahmias, 2002, p. 6; Velmans, 2000a, p. 48-49). This is an apparently very large disagreement. However these numbers exaggerate the difference because the 44,435 was the *total* number from Titchener's laboratory, while the 11,916 from Külpe's laboratory is the *sum* of the numbers provided by Boring. Boring does not actually provide the number of smells identified by Külpe – he merely says that he discovered 'numerous smells' (Boring, 1942, p. 10). This unspecified number is in addition to the sum of 11,916, so there is no way of calculating the actual total of sensations from Külpe from the numbers provided by Boring. The only numbers that are directly comparable are tastes (each laboratory identifying 4), and tones which was 11,063 for Külpe and 11,600 for Titchener. These are hardly large differences.

There a number of problems with the received view. Firstly, Danziger (1980) points to historical factors such as changes in research interests as more important than internal difficulties to introspective methods. Much of introspective psychology involved the attempt to identify sensory elements which only extensively trained subjects could uncover. For instance, the Gestalt psychologist Wolfgang Kohler (1947) criticised introspectionist methods not due to their unreliability but due to their artificiality in attempting to exclude sensory context and meaning from experience. An example of an introspective method was to view two objects one at a time through a hole in a card so as to remove the influence of background. In this way an obliquely viewed plate would seem elliptical rather than circular. Similar methods were used to eradicate size and brightness constancy from experience and to thus arrive at the 'pure sensations'. Kohler remarks, 'when I apply the Introspectionist's methods I often find the same experiences as he does. But I am far from attributing to such facts a rare value as though they were more 'true' than the facts of everyday experience' (Kohler, 1947, p. 52). Interest shifted away from the introspectionist's narrow research goals to more applied psychology such as learning, memory and intelligence.

A second problem with the received account is that the use of introspection never actually ceased. Boring (1953) points out that although introspective psychology fell out of favour, first-person methods continued under different names in the form of verbal reports, particularly in Gestalt psychology and psychophysics. First-person methods were never in fact abandoned, even during the heyday of behaviourism. They have continued unabated in some form to this day. In particular, first-person reports play an essential role in scientific studies of consciousness (Jack & Shallice, 2001).

Phenomenology is an alternative first-person approach also with roots in early German experimental psychology. Beginning with Brentano, phenomenology split off into two main branches. Husserl developed philosophical phenomenology with followers such as Merleau-Ponty, Heidegger and Sartre. In the second branch, Carl Stumpf initiated an experimental approach to phenomenology – 'experimental phenomenology' (Vicario, 1993). Stumpf's students, Werheimer, Koffka and Kohler pioneered Gestalt psychology, in particular they used first-person experiments in the identification of laws of sensory grouping (Koffka, 1935; Kohler, 1947; Wertheimer, 1912). Unlike the introspective psychologists, the Gestalt psychologists emphasised the investigation of ordinary experience without the extensive training of subjects.

A first-person experimental approach is also found in the investigation of illusions (Kanizsa, 1976; Müller-Lyer, 1889). Hatfield (2005, p. 276-277) emphasizes the important role that 'demonstration drawings' play in these investigations and how they continue to be used in perception textbooks for demonstrating phenomenological effects. Vicario remarks that 'Gaetano Kanizsa used to say… that he performed his own experiments on the pages of his books' (Vicario, 1993, p. 202). Figures that result in multi-stable perception such as the Necker cube are also examples of the use of demonstration drawings (see also, Ihde, 2012). Many examples can be found in Robinson (2013), Rock (1975) and Palmer (1999). A handbook dedicated to experimental phenomenology has recently appeared (Albertazzi, 2013). The first-person experiments I discuss here are also in the tradition of experimental phenomenology.

3.3. First-Person Data and Third-Person Data

Before discussing first-person experiments we need to be clear on the difference between a first-person method and a third-person method. A first-person method differs from a third-person method in that the former produces first-person data and the latter produces third-person data.[31] First-person data represent phenomenal experiences, such as the way things seem, feel, appears etc. to a subject. Examples are the verbal judgements 'I feel a throbbing pain', 'the lines look unequal in size to me', 'the mental image of the house is vivid'. A subject can also indicate the experience behaviourally such as by pressing a button to select whether two lines look the same size or not, and selecting a number on a scale to represent the intensity of a pain. These are all examples of subjects making judgements about their experience. For the purposes of this thesis, only methods which involve a subject making a phenomenal judgement will be referred to as first-person methods. First-person data are sentences, phrases, symbols or numbers which record phenomenal judgements.[32] The explanandum of first-person data is what the data represents, namely phenomenal experiences.

Third-person data by contrast represents properties and events in the world - the way things are. Third-person data represents phenomena such as gestures, reaction time, eye movements and fixations, heart rate, skin conductance and brain activity.

---

[31] The terms first-person and third-person are somewhat unfortunate as all third-person perspectives upon me are just others' first-person perspectives upon me. Even the behaviourist observes the rat's behaviour by consciously experiencing it. The cognitive psychologist investigates the data from a reaction time study by visually experiencing the numbers on a computer screen. There is no question of 'objective' methods eliminating 'subjectivity' from science (for a discussion see Velmans, 2000a, chapter 6). Clearer terminology would be between 'phenomenal data' – data about experiences, and 'objectival data' – data about objects, properties and events in the world. As first-person and third-person are the standard terms I will continue to use them, though this potential source of confusion should be kept in mind.

[32] Levine (1994) and Chalmers (2004) use a different definition of first-person data in which the phenomenal experiences themselves are the data. Here I follow Piccinini's (2009) usage.

Third-person methods are methods that collect third-person data. A mixed method collects both types of data. For example, a study that asks subjects to rate the intensity of their pain (first-person data) and also records skin conductance (third-person data) is using a mixture of first-person and third-person methods.

It may be objected that skin conductance also indicates (and hence represents) the presence of pain and therefore the distinction between first-person and third-person data collapses. While skin conductance, heart rate and pulse rate can all be used as indicators of pain, the function of these physiological responses is not to symbolise pain – rather there is a merely an association between them. This is like the association between tree rings and its age. This is a 'natural sign' of the tree's age (Dretske, 1988, p. 54-59).[33] First-person judgements on the other hand are embedded in system of convention. The function of first-person report such as 'the pain in my foot is excruciating!' is to symbolise the pain either to myself or to others. It is a symbolic representation in which the speech act is about the pain. It is also essential to a symbolic representation that it can misrepresent. A map can misrepresent the distance between two cities. I can report that my left foot hurts, when it is actually my right foot that hurts. Smoke on the other hand does not misrepresent the presence of fire if there is no fire, it just fails to be associated with it. Here I will restrict the use of 'first-person data' to data that is about phenomenal experiences in virtue of recording (or being) a subject's phenomenal judgements. Assigning numbers to a subject's phenomenal judgements or a list of their first-person reports are both types of first-person data. Third-person data, on the other hand, represent the physiological activity of an organism, which may also be used as a (non-symbolic) sign of the experiential state of that organism.

[33] Ideas in this paragraph are loosely drawn from the third chapter of Dretske (1988) on *Representational Systems*.

For Daniel Dennett (1991, 2003, 2007) first-person data is always in the medium of behaviour (speech acts, gestures, cries, groans) and technologies such as computer read outs. However first-person data also exists in non-behavioural and non-technological mediums. Subjects often make judgements about their experience by consciously thinking about it. These judgements are also first-person data. A subject that memorises numbers which represent the intensity of their pain experience and uses these numbers to calculate their average pain over some period is also manipulating first-person data. First-person data comes in many different mediums. It is not limited exclusively to behavioural or technological mediums.[34]

Pressing a button to indicate the intensity of a pain is behavioural, however, assuming that the subject is using their behaviour to communicate properties of their experience, the behaviour represents an experience - it is a first-person behaviour (Piccinini, 2009), and hence is a source of first-person data. However, some philosophers treat all data that is collected by behavioural means as third-person methods (e.g., Dennett, 1991, 2003, 2007). If so then there would be no substantial debate between those that support first-person methods and those that criticise them. By distinguishing between first-person and third-person data the debate is not merely terminological. There is then a substantial question as to whether or not first-person data reliably represent subject's phenomenal experiences.

[34] Some would object to calling this scientific data as it seems to be private. I will not discuss the private-public debate in detail here. My response is that this data is at least potentially communicable and so in this sense it also counts as public. I agree with Piccinini (2003, 2009) that first-person methods should be public in the sense that they are intersubjectively repeatable. Otherwise, as he points out, the observation of auras would count as a scientific method. However, Picinini uses 'third-person methods' and 'public methods' interchangeably which obscures the fact that all third-person observations are made from a first-person perspective. There are no third-person observations, just first-person observations, and all first-person observations are private (Velmans, 1999, 2000a). I observe the star by experiencing it, and my experience is private. Neither do I have access to your experience of the star. Nevertheless each experience has a common cause (the star) and each of us can verify the other's experience when suitably positioned. In this sense it is public – that is, intersubjectively accessible.

3.4. Characterising First-Person Experiments

How can we characterise a first-person experiment? This question can be divided into two further questions: (1) What is a scientific experiment? and (2) What is a specifically first-person experiment?

A standard scientific experiment is often characterised as differing from observation in that it involves an intervention on a system. In particular, an experiment involves an intervention the system in order to observe the effect on properties of the system (Bogan, 2010; Hacking, 1983; Parker, 2009; Tiles, 1993; Woodward, 2003).[35] As Wendy Parker states it 'an experiment can be characterized as an investigative activity that involves intervening on a system in order to see how properties of interest of the system change, if at all, in light of that intervention' (Parker, 2009, p. 487). The advantage of an experiment is that it can produce a predicted change/non-change in a dependent variable hence testing a hypothesis about that system. By putting the system into a novel state an experiment can isolate a property of interest and also be used to control for confounding background factors.

As an example, suppose I want to test the electrical conductivity of water that has sodium chloride dissolved in it. By setting up a circuit through a beaker of water and connecting it to a galvanometer it can be shown that the salt solution conducts electricity. This can be compared with distilled water which will not conduct a current. How different levels of sodium chloride affect conductivity can be tested by varying the amount of salt in the solution. By holding fixed other factors such as amount of water, water temperature and distance of the electrodes from each other in

[35] See Meketa (2012) for a criticism of the experiment-observation distinction in scientific practice.

the water, the effect of sodium chloride concentration on electrical conductivity can be isolated.

An initial characterisation of a first-person experiment then is:

> (1) An investigative activity in which there is an intervention on a subject's experience and the subject makes a phenomenal judgement about the resulting phenomenal character of that experience.

A clarification of this characterisation is that the intervention on the subject's experience could be made by the investigator themselves such that they intervene on their own experience, or by an investigator who is not the subject.

A problem with the above characterisation is that it seems to be too thin. Imagining a house and then making a judgement about it will fit the criteria for a first-person experiment. The mere act of imagining changes experience in that there is now a visual image where before there was not, and hence involves an intervention upon experience. However this does not seem to involve enough constraints to count as an experiment. An experiment needs to include an effort to manipulate some properties of experience, while keeping others fixed. A thicker characterisation then is:

> (2) An investigative activity in which there is an intervention on a subject's experience in which independent variables (phenomenal or non-phenomenal) are manipulated, and extraneous variables (phenomenal or non-phenomenal) are held fixed, and in which the subject makes a phenomenal judgement about the dependent variable (target phenomenal character of the investigation).

I discuss this characterization in reference to an example. Kirby and Kosslyn (1990) describe an unpublished study involving mental imagery which fits this criterion for a first-person experiment. They asked subjects to imagine a brick as clearly as possible, and then further additional bricks until any of them became unclear. The experiment manipulates the number of bricks (independent variable) and the target phenomenal character is imagery vividness (dependent variable). There was an average limit of 6.3 bricks with a range of 4-9, suggesting that there is a capacity limit to the details that can be maintained in a visual image at any one time.[36]

The dependent variable is assumed to depend upon the independent variable such that changing the independent variable will change the dependent variable. Changing the number of imagined bricks manipulates the complexity of the visual image. If there is a capacity limit to the details that can be clearly maintained in a visual image then manipulating the complexity of those details should affect the overall vividness of the mental image. The house example by contrast does not involve the manipulation of an independent variable.

Non-phenomenal factors may include cognitive factors such as effort and degree of attentiveness. For example, the amount of effort the subject puts into the imagery task. Other extraneous variables such as bodily experience are held fixed in the experiment, or at least allowed to fluctuate randomly. For the purposes of the experiment it may be assumed that bodily experience has a negligible effect on the imagery vividness or at least one that averages out over the course of the experiment. If there is a theoretical reason for expecting an interaction between extraneous variables and the independent and dependent variables then it may have to be actively held fixed or actively manipulated (that is, it becomes an independent variable). Other

[36] Note that I am not claiming that this is a reliable experiment. I am just using it for illustrative purposes.

extraneous variables such as lighting and instructions are held fixed, whilst others are controlled for (e.g., practice effects can be controlled for by counter-balancing).

The first-person experiment described above takes places within a single subject's experience and the subject makes the critical judgement about the target experience. These intraperspective experiments can be distinguished from experiments in which the subject plays a more passive role. For example subjects may rate the vividness of their mental images in high working memory load and low working memory conditions. The experimenter will then typically test the hypothesis about how the vividness of mental imagery interacts with working memory load by statistical methods. Here the critical comparison which controls for extraneous variables is done by the experimenter, outside of the subject's experience. In the experiment described above, on the other hand, the subject themselves made the critical decision as to how many bricks they can vividly imagine. These are the types of experiments that I will focus on here. Although both are experiments involve phenomenal judgements, I will reserve the term 'first-person experiments' for the latter type of first-person methods.

3.5. First-Person and Third-Person Experiments

Many experiments involve an intervention on a subject's experience. A subject's experience is systematically manipulated in most psychological experiments yet most investigations in psychology do not explicitly use first-person methods, such as experiments on concepts, memory, attention, priming, perceptual processing. The reason for this is that most of these studies do not involve subjects making a judgement about experience. For example, perceptual judgements such as when a

subject judges whether a red X is present or absent in a display involve judgements about the presented stimuli. On the other hand, if we were to ask whether a red X seems to be present or absent then this would be a first-person method. Thus it is the manipulation of independent variables in conjunction with the subject making phenomenal judgements about the resulting experiences that makes a method a first-person experiment. This allows that not all experiments in psychology count as first-person experiments.

The experiment with the galvanometer also relies upon an observer experiencing it, but it is not a first-person experiment. This is because my judgement is not about what it is like to see the galvanometer, but about the conductivity of the water. I make judgements about properties of the world based upon my experience of it in conjunction with background beliefs and theory. Call these judgements 'objectival judgements'. These are distinguished from an experiment in which I make a 'phenomenal judgement', that is a judgement about the phenomenal character of my present experience such as how things look, seem, and feel. For example, in looking at a wall through red coloured spectacles, I may judge that the wall looks pink (phenomenal judgement), or judge that the wall is white (objectival judgement). In the latter case, my belief that I am looking through red spectacles is used infer beyond how things look. In other cases, in standard lighting and viewing conditions, I may judge that the wall both looks white (phenomenal judgement) and is white (perceptual judgement). In a perceptual judgment, I make a judgement about the world but I do not infer beyond currently perceptible properties.

As I previously mentioned, only methods which involve subjects making a phenomenal judgement about their experience will be treated as first-person methods. For example, upon being presented with the Müller-Lyer illusion subjects are asked if

the lines look the same size or different in size. Subjects will usually respond ‘different’. If subjects are asked whether the lines are actually the same size or not they may well respond that they are the same size. As another example, questions about how large a distant disc *is* elicit different responses than questions about how large the disc *looks*. Granrud (2009) found that in older children and adults, the former question produced underconstancy whereas the latter question produced constancy. First-person experiments hence have a clearly distinguishable subject matter from third-person experiments. In particular, the target of the judgement differs between third-person and first-person experiments.

3.6. Examples of First-Person Experiments

Experiment 3.1: Attention and Perceived Brightness

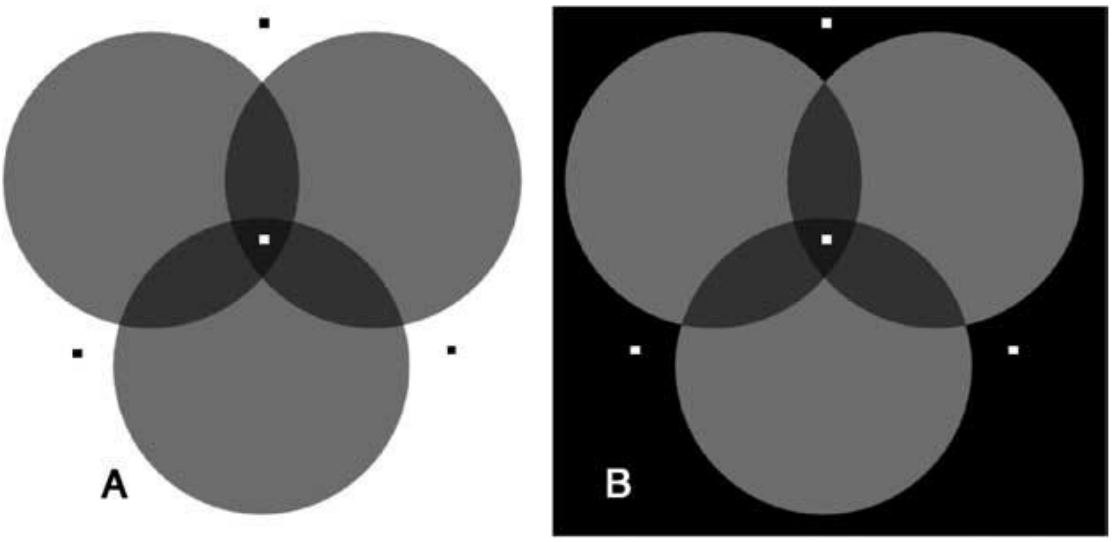

Figure 3.1. The Tse Illusion. In A, focusing on a square and attending to a disc decreases the brightness of the attended disc. The effect is absent in B. Figure from Tse (2005, p. 1096).

On the above characterisation there is little doubt that there can be, and in fact are, numerous first-person experiments. An example is the Tse Illusion (Tse, 2005).

Look at A and fixate on one of small squares. Now shift attention to one of the discs. The perceived brightness of the attended disc decreases. It seems darker. This demonstrates that attention can change perceived brightness. Repeat this for B and notice that the effect is absent.

The effect seems to stem from the visual system interpreting the discs as transparent. This explanation is supported by B where the effect is absent. Here the discs are overlaid on a black background, which removes an important cue indicating that the discs are transparent.

This is a first-person experiment because it involves subjects making a judgement about how bright the discs look (dependent variable), rather than how bright they actually are. It also involves holding fixed variables such as colour, shape and eye focus, while manipulating attention to different discs (independent variable). The decrease in brightness to an attended disc in A involves the experience of a phenomenal difference between the attended and non-attended discs. In B on the other hand, there is no phenomenal difference in brightness between attended and non-attended discs. The presence of the effect in A but not in B shows a further phenomenal difference. In both cases, subject's judge whether there is a phenomenal contrast between the targets. These experiments hence systematically manipulate attentional focus and background colour, while holding fixed other factors (see Tse (2005) for a manipulation of further factors).

Experiment 3.2: Subjective Contours

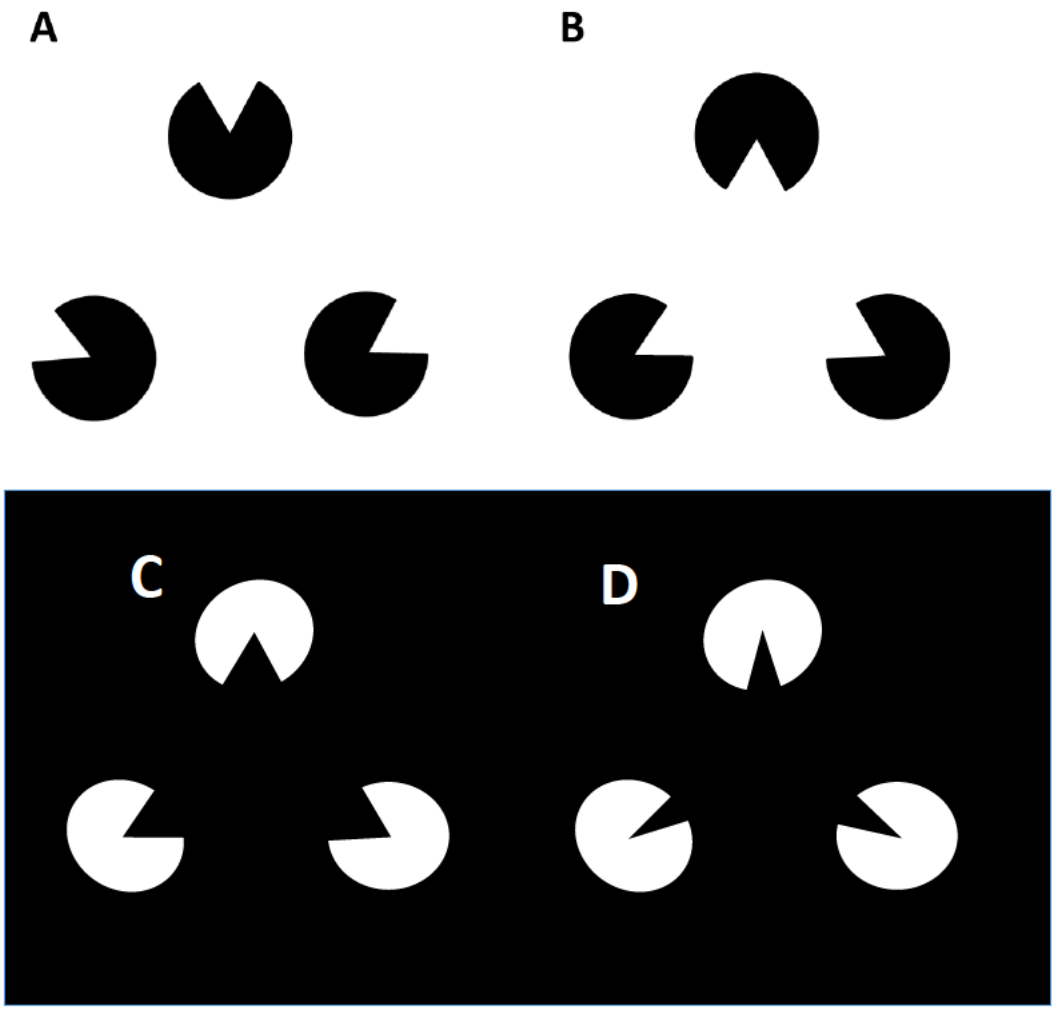

Figure 3.2. Subjective Contours. A phenomenal contrast between A and B demonstrates that changes in spatial organisation can lead to emergent shape phenomenology, in particular a triangle in B but not in A. Subjective contours also occur with a black background in C and D, and non-straight contours in D.

Another example of first-person experiments comes from the investigation of 'subjective contours' by Kanizsa (1976). Using the depicted images in Figure 3.2, one can test the hypothesis that changes in spatial organisation can lead to emergent phenomenal character. The images in A and B show two groups of black pie-shapes. The only difference between the A group and B group is the spatial orientation of the shapes (the independent variable). The result of the experiment is that there is an

additional type of phenomenal character in experiencing B which is not present in experiencing A, that of seeing a triangle (the dependent variable). I see lines connecting the shapes where there are none. This experiment supports the hypothesis that changes in spatial organisation can lead to emergent or gestalt phenomenology.

Further questions arise such as whether such phenomenal shapes occur with different coloured backgrounds and pie-shapes, which can be explored by manipulating these variables. Thus for instance, it is found that subjective contours also occur when the background is black as in C, and that the apparent lines do not need to be straight as in D. By manipulating variables one can systematically investigate the conditions under which the phenomenon occurs (see Kanizsa, 1976 for further conditions in which subjective contours manifest).

Experiment 3.3: The Visual Periphery

Hold out a single finger and focus your eyes on it. Now hold a hand up in your peripheral vision so that it is at the same depth as your finger. Now without moving your eyes attend to your hand. How many fingers can you distinguish? I find that it looks pink and blurry. I seem to have somewhere between four and five fingers, and there is no clear boundary where one finger ends and the next begins. Now look directly at your hand and see by contrast that the two appearances of your hand are radically different. The same applies to all objects seen peripherally and in the centre of your vision. In the centre objects seem distinct and in the periphery they seemingly blur together.

This provides an example of using a method of phenomenal contrast to notice my visual experience, and the use of apparatus (my hands) to assist in doing so (for other versions of the experiment see also Dennett, 1991, p. 53-54; Hill, 2011, p. 27; Schwitzgebel, 2011, p. 125-127).

3.7. Phenomenal contrast

Many first-person experiments (but not all) use a method of phenomenal contrast (Bayne, 2009; Bayne, & Montague, 2011; Kriegel, 2007; Masrour, 2011; Siegel 2006, 2007; Robinson, 2005). Rather than asking whether a plate viewed obliquely looks elliptical, one asks whether it looks elliptical in contrast to a plate viewed straight on. That is, one looks for a phenomenal difference, thus allowing for a more refined phenomenal judgement. The critical test for whether phenomenal character differs between two scenarios is whether there is a phenomenal difference (Siewert, 1998, p. 219). Where there is no phenomenal difference between two experiences, then phenomenal character is identical.[37]

First-person experiments are intraperspective methods which often involve a subject making a phenomenal contrast between two target phenomena. These intraperspective phenomenal contrasts should be distinguished from theoretical phenomenal contrasts. As an example of the latter, Bayne (2009) considers the phenomenal difference in what it must be like to have visual agnosia in which objects are not recognized and what it is like to have normal visual recognition of objects. It is a thought experiment rather than a first-person experiment. By thinking about two cases I come to believe that there must be a difference between the two types of

[37] I do not say detectable phenomenal difference here because there are many situations such as 'change blindness' in which we would want to say that there is a phenomenal difference, however, the subject fails to recognise it.

experience (for other examples of theoretical phenomenal contrasts see Kriegel (2007) and Siegel (2006)).

On the other hand, an intraperspective contrast involves experiencing the phenomenal difference for oneself, either simultaneously or by contrasting a current experience with a recalled experience. For example, in experiment 3.1 the phenomenal contrast in apparent brightness is made between attended discs and unattended discs. The attended disc *looks darker than* the unattended disc. The phenomenal contrast is required for isolating the phenomena. Without the contrast it would have been difficult to recognise that any change in apparent brightness had occurred at all. The Kanizsa triangle, on the other hand, provides an example where phenomenal contrast is not essential to the experiment. One does not need to use phenomenal contrast to see the subjective contours in experiment 3.2. However, making a contrast can tell us something, in particular that the figures are not deceptions. Perhaps I have drawn in very faint lines between the pie-shapes. By making the contrast it can be demonstrated that it is the change in spatial organisation that leads to the phenomenology in B, C and D but not in A, and no tricks have been played. Another way of performing the contrast is to occlude two of the pie-shapes. When I do so the apparent connecting lines disappear.

3.8. Objections to First-Person Methods

In this section I discuss how first-person experiments control for common errors in making phenomenal judgements: (1) The Unreliability of Naïve Introspection, (2) Interference From Extraneous Variables (3) Variability in

responses. I also respond to the criticism that (4) first-person methods are not different from behavioural methods.

3.8.1. The Unreliability of Naïve Introspection

Schwitzgebel (2011) presents a large number of problem cases to motivate the conclusion that naïve introspection is unreliable. One of the main aims of using a first-person experiment is to avoid or at least reduce errors in making phenomenal judgements. In chapter 2, by categorising the errors in Schwitzgebel's cases, I identified two main errors in phenomenal judgements: attentional and conceptual. We make errors either because we fail to attend to the target experience or because there is a failure in possessing, forming or employing the correct phenomenal concept about the target (or both). It is a goal of first-person methods to control for these sources of error. In particular, the methods are used to orient attention to the experience, as well as providing a salient sample of an experience, so that a phenomenal concept can be activated or formed.

While naïve introspection can frequently go wrong, first-person experiments use methods for overcoming these common errors. Experiment 3.1 assists subjects in controlling their attention by asking them to keep their eyes fixated on one of the squares and then shifting their attention to one of the discs at a time. Similarly in experiment 3.3, keeping your eyes focused on a fixed point avoids the error of moving your eyes. This may be one of the main reasons that subjects typically do not notice extent of the low resolution of the visual periphery.

All three experiments provide a phenomenal sample of the target phenomena of interest. I experience the darkening of a disc when I attend to it, while all other

factors are held constant. This succeeds in isolating the effect of attention changing subjective brightness. Although I probably had no concept of a subjective contour before looking at a diagram such as in figure 3.2, doing so provides just such a sample phenomenal character. By providing a sample of the property of interest the appropriate phenomenal concept can be activated or formed, hence the probability of making a conceptual error becomes very low.

Wine tasting provides another example of the method of providing phenomenal samples. The wine taster needs to possess or form the appropriate concepts before they can make reliable judgements about wine aromas. The problem of how to train subjects to acquire the appropriate concepts is solved by providing subjects with phenomenal samples. For instance, give a group of tasters examples of wines with coffee, burnt match, and honey aromas and keep giving them examples until they can reliably identify them. This method allows people to overcome their personally acquired ideas of aroma (e.g., ‘it really tastes like my granny’s baked cookies’ – perhaps it does!) and adopt a standardised system of categories (e.g., Noble, et al. 1987). Whether or not an individual has their own category that may be more accurate than the current category is beside the point. The point is that we enable communication about dimensions of the experience. First-person experiments are an effective means of enhancing a subject’s ability to isolate the target of interest and hence in forming or activating the appropriate concept to make a correct judgement about it.

3.8.2 Interference from Extraneous Variables

Another objection to first-person methods is that the act of introspection interferes with its target. One plausible mechanism by which distortion may occur is by attention. Suppose that attending to a pain always increases its felt intensity. If I am to introspect what it is like to feel a pain it seems then that I must change it. A general response to this objection is to question its coherence. To assume that introspection distorts the target experience is to presuppose that there is such a thing as an undistorted experience. But how does one know that this undistorted experience exists? To do so I must sometimes know my conscious states without distorting them, so not all introspection distorts experience. If we do not know that there are any undistorted experiences then the objection does not even get off the ground. To know that attention changes the pain I must have already been aware of the pain either without attending to it or by partly attending to it (see Zahavi, 2005, p. 74-78). It seems then that I can judge what effect increased attention has on a target experience.

The effect of attending to something can also be directly investigated. Experiment 1A shows how attending to a disc in certain conditions changes the subjective brightness of the disc. However, the subjects only know this by contrasting the subjective brightness of the disc in the focus of attention with the discs outside of the focus of attention. Thus it seems that subjects can either make a judgement about these other discs without attending to them (and hence without interference) or they were partly attending to them. In either case, the effect of attention upon experience becomes a dependent variable in the experiment. In 1B there is no apparent change in subjective brightness with changes of attention. Also in experiment 2 the subjective

contours seem to be present whether I directly attend to them in or not. This suggests that attention does not always significantly change the target property.

A second way in which interference may occur is from my concepts changing experience. Cognitive penetration is an example of such a change. For instance, I may experience a red coloured heart as redder than it is due its association with the colour red (MacPherson, 2012).[38] This will cause errors in making a perceptual judgement about the actual colour of the heart. However it is not an error in my phenomenal judgements as the question is 'how red does the heart look?' That my concepts were causally involved in how red the heart seems is beside the point. Suppose instead that my occurrent belief, or the judgement itself, actually changes the experience. Suppose I look at a pattern of black blotches and see no organisation. I am told that the picture shows a giraffe and suddenly I can see this animal where formerly there was none. My belief has changed my experience. Of course, the change between the two experiences is highly salient (I am aware of the phenomenal contrast) so there is no problematic interference going on here. Moreover, there is little evidence that changes in experience from occurrent conscious beliefs are a generally occurring phenomenon.

Another possibility is that my expectations affect the judgement itself. Thus I may judge that the heart looks redder than it appears because of my expectation that hearts are coloured deep red. This is a problem of response biases rather than interference with the experience. These are extraneous variables that can affect the judgement and hence are confounds to be minimised or controlled for. The effect of expectation can be directly investigated by including it as an independent variable in the experiment. For example, subjects can be shown objects that are the same shade of red that are either associated or not associated with red to gauge the effect of the bias.

[38] For a criticism of this evidence for cognitive penetration see Gross et al. (2014). Firestone and Scholl (2015) argue strongly that the purportedly overwhelming evidence for cognitive penetration is in fact weak.

It is worth considering why biases typically occur. As Irvine (2012) points out these biases are negative when the bias tends towards a false judgement about experience and positive when they tend towards a true judgement about experience. One case where biases seem to be particularly evident is in the question of rich versus sparse experience. Do you constantly have tactile experience of your left foot (Schwitzgebel, 2011, chapter 6)? This question is difficult to answer without shifting your attention to your foot ('the refrigerator light illusion'). To avoid this problem, Schwitzgebel (2011) asked subjects to retrospect. Although an advance over naïve introspection, Irvine and Schwitzgebel are both pessimistic about this methodology. As well as errors in recalling the experience, it is difficult to know if subjects really had (or did not have) the experience they report as they may be influenced by their expectations about whether or not experience is rich or sparse, as well as the experimenter's expectations. Schwitzgebel does point out that some of these biases can be assessed by asking subject's what their expectations were to see if it predicts their responses and by replicating the experiment with an experimenter with different expectations. There may however be no reliable way of testing whether experience is rich or sparse outside of attention given the plausible view that reliable phenomenal judgements require attention to a target before a judgement can be formed about it. This is also a problem for retrospection. If unattended (or partly attended) experiences do not (or perhaps infrequently) activate a concept in short-term memory or perhaps only very briefly, then we should not expect subjects to recall them. Neither should we expect subjects to know from introspection whether or not an experience was unattended or partly attended.

Other cases where biases are particularly problematic are with low intensity experiences. Do subjects reliably report the presence of a low volume sound? Irvine

points out that signal detection theory treats such reports as inherently unreliable. Of course, this is again not surprising. Experiences that are low intensity are extremely difficult to report upon. False negatives and false positives abound. Stimuli that are close to threshold or extremely brief should not be expected to be reported reliably. These problems are overcome in psychophysics by collecting data from a large number of trials, and using sophisticated methodologies and statistical analyses to discover the threshold for experiencing a stimulus and 'just noticeable differences' in discrimination tasks.[39]

From the low reliability of judgements about unattended experiences, close to threshold experiences, and extremely brief experiences it does not follow that all experiences are unreliably reported. Given the meagre information to go on in these cases, subjects augment their judgement with other sources of information such as their expectations and the experimenter's expectations. It is not entailed that these bias-driven errors generalise to judgements about experiences that are fully attended, well above threshold and long lasting. The experiments presented here provide examples of such judgements.

Irvine (2012) argues that context affects the phenomenal judgements that we make. This should be readily admitted. In this sense all judgements are biased – not just phenomenal judgements. Just asking someone a question about their experience is to have a causal influence on the judgement and how it is made. This is a rather trivial sense in which context effects phenomenal judgements. Biases are problematic when we cannot distinguish whether the phenomenal judgements are accurate or are being completely driven by biases. This is certainly a significant problem when it comes to

[39] It is also unclear whether subjects can be reliably trained to identify micro-phenomenology such as the sensory elements investigated by the Introspective Psychologists. It is plausible that many of the 'discovered' sensory elements were artifacts of that very training. Though again, it does not follow from this that subjects cannot reliably identify broad properties and structures of consciousness.

unattended experience. What has not been shown by Irvine, however, is that this problematic influence of biases affects all phenomenal judgements. The important question is whether phenomenal judgements *in general* are driven more by context and expectation than other judgements such as mathematical and perceptual judgements. In chapter 2, I argued that phenomenal judgements and perceptual judgements are equally reliable when you hold fixed the complexity and dynamicity of the target. To the extent that biases affect a phenomenal judgement about the number of spots on a visual image of a speckled hen, these will (presumably) equally affect perceptual judgements about the number of spots on a perceptually experienced speckled hen.

The experiments presented here do not seem to involve any significant interference or response biases. The subjective brightness differences (experiment 3.1), the subjective contours (experiment 3.2) and the low detail of the visual periphery (experiment 3.3) are experienced whether I believe in them or not. Consider also the Müller-Lyer illusion in which the lines appear unequal despite my belief that they are actually equal. Neither do the experiments involve unattended, fleeting or low intensity experiences, so the effect of biases can be expected to be minimal (or at least no worse than standard experiments in psychology).

3.8.3 Variability in Phenomenal Judgements

A common criticism of first-person methods is that they often produce variable responses (Schwitzgebel, 2011). Such disputes between subjects question the reliability of these methods. A notorious example is the dispute over whether the experience of thoughts includes a non-sensory phenomenology – cognitive

phenomenology. In fact, the standard means for testing this qualifies as a first-person experiment. An example is reading a sentence in a nonsense language with a sentence in one's own language:

A. The Gufon of nolkestion yotoles that midats rebarg krowl cisteroh vigefion.

B. The theory of evolution proposes that species emerge through natural selection.

The important idea is that one can approximately hold fixed syntax, and the visual and auditory properties of the words so as to bring out the phenomenology of meaning (whatever this may be) (Strawson, 1994; Pitt, 2004, p. 28-29). Despite using phenomenal contrast to isolate the phenomena philosophers still disagree as to whether or not there is distinct non-sensory phenomenology of meaning. Liberals maintain that there is (Horgan & Tienson, 2002; Pitt, 2004; Siewert, 1998; Strawson, 1994), while conservatives deny this (Carruthers, 2005; Lormand, 1996; Nelkin, 1989; Robinson, 2005; Tye, 1995).[40] While the method of phenomenal contrast provides more refined data than naïve phenomenal judgements there is still room for disagreement. Assuming that the method supplies the same results across subjects, there is still the possibility of disagreement over how to categorise the phenomenal outcome. According to Susanna Siegel:

[40] See also Bayne & Montague (2011).

> The method of phenomenal contrast is a way to limit the use of introspection in theorizing about visual experience. All that introspection is relied upon to do is to detect the phenomenal contrast. The method need not take a stand on the *category* of the phenomenally contrasting states, such as whether they are sensory, cognitive or some other kind (Siegel, 2007, p. 139).

Thus continued disagreement does not invalidate the use of the method. In particular, I suspect that philosophers are actually having a verbal dispute, that is, using different terms to describe the same experience. It is likely that a theoretical dispute partly explains the disagreement over cognitive phenomenology (Bayne & Spener, 2010; Smithies, 2013b). A resolution may come not via phenomenological methods, but via philosophical debate. A closely related example was the dispute amongst Introspective Psychologists over imageless thought. This is often used as evidence that first-person methods are unreliable. Monson (1993) however argues that the raw data obtained from subjects within the different labs was actually very similar, it was just that each school coded the raw data differently depending upon their theoretical commitments. The introspectors were not unreliable, rather it was the experimenters themselves who produced the theoretical dispute.

Hence we need to distinguish between the reliability of an experiment in producing data, and disagreements in interpretation. Even when experiments are well designed they often underdetermine the scope of hypotheses that they support. Different interpretations of the data are always possible. The challenge then becomes designing experiments that distinguish between the competing interpretations, or using reasoning to decide between the interpretations. In such cases, as long as the experiment is free from confounds (etc.) and the data is robust between and within

subjects, then a method should be considered reliable (otherwise reliable scientific methods are impossible). That is, a dispute by itself does not show that an experiment, nor indeed that 'introspection', is unreliable. The method may reliably produce the same types of data, it's just that the data is compatible with varying interpretations.

As another example of the effect of interpretation, someone might object to experiment 3.3 on the grounds that it is not clear what subjects mean by saying that objects in the visual periphery 'look blurry'. Here they could use descriptions such as fuzzy, unclear, low detail etc. It may not be clear how to define these terms but this was not the goal of the experiment. The only goal of the experiment was to produce a reliable phenomenal difference. How to conceptualise this difference is a philosophical problem not an introspective problem.

Many first-person experiments will of course produce unreliable results, however, it does not follow from this that all first-person experiments are unreliable. Others produce reliable data but simply fail to resolve the original question. There are also long standing disputes in psychology which appear to be unresolvable (e.g., early selection versus late selection theories of attention). If the existence of disputes shows that first-person methods are in general unreliable then the same applies to psychology as a discipline.

Phenomenal contrast has also been criticised on the grounds that it often does not always resolve the dispute it was meant to resolve (Bayne, & Montague, 2011; Koksvik, 2015; Nanay, 2012). I agree that phenomenal contrast does not always help in questions of high-level perception and meaning, however for low level perception the results are often clear cut. The results of the experiments presented here do exhibit high intersubjective agreement. For example, in viewing the Tse Illusion all 16 subjects reported that the discs in A looked darker when they were attended. All 16

subjects also reported no darkening of the discs in B when they were attended. That subjects experience subjective contours when viewing figures such as 2 and 3 has also been replicated on numerous occasions. Upon conducting a test like experiment 3, everyone will agree that peripheral vision is low in detail, perhaps to a far greater extent than they had previously realised.

3.8.4 Not different from behavioural methods

I argued that the present experiments are not hostage to many of the biases that afflicts methods investigating unattended and close to threshold phenomena. Irvine poses a dilemma for the proponents of first-person methods. She argues that these methods are either unreliable or if they are reliable they do not differ from existing behavioural methods. She criticises a version of the third experiment reported by Schwitzgebel on this basis:

> It could be argued that asking if an object appears clear to me is just to ask how precisely I can discriminate it, and how confident I am in my judgments about it. That is, objects may appear clear if I can confidently detect exactly where their edges are, if I can identify the patterns on its surface, and so on. If this is the case, is not immediately clear if trained introspective reports can add to the body of already existing behavioural evidence about the boundaries of conscious experience (Irvine, 2012, p. 633).

There a number of problems for this analysis of the task. The first reason is that how things seem does not reduce to discriminative abilities in that the two can

come apart. Things seem unclear in the visual periphery whether or not I am making a judgement about it. This supports the interpretation that how things seem is independent of the discriminative capacity. Smithies (2014) argues that for typical subjects how things perceptually seem to them provides justification for their perceptual judgements. On the face of it, the difficulty in discriminating shapes in the periphery of vision is because they *look* blurry. That is typical visual discriminations depend upon the visual experience. Such phenomenal discriminations can be contrasted with non-phenomenal discriminations as evident in blindsight (Weiskrantz, 1986). Subjects with blindsight lack visual experience in a region of their visual field after sustaining a lesion to the visual cortex. Despite this, when prompted, they can reliably make some basic visual discriminations such as guessing whether an X or O has been presented in the blind field ('blindsight'). The blindsighter hence makes this discrimination even though they deny that they are visually conscious of that which they are discriminating. For the non-blindsighter there is a way that things visually seem to them which provides a basis for making their decision, which is lacking for the blindsighter. Arguably then I have difficulty discriminating the edges of objects in peripheral vision because they appear unclear, they do not seem unclear because I cannot discriminate their edges. Hence Irvine's above statement plausibly gets the explanation backwards.

Secondly, the horn of the dilemma that first-person methods are not significantly different from 'objective' measures does not seem particularly serious. It is not a hard pill to swallow. In fact, the criticism veils the positive outcome for a supporter of first-person methods. Suppose that we ask subject 1 to complete an experiment in which they judge whether or not a red X is present, and we ask subject 2 whether or not a red X seems to be present. The former is often labelled an

‘objective’ method, while the latter is labelled a ‘subjective’ method. The results will be likely to be very similar in terms of accuracy. This is a positive result for the supporter of first-person methods as it falsifies the generalisation that all phenomenal judgements are hopelessly biased, open to interference etc. It does not show that there are no biases in play, but whatever biases are occurring are effecting both decisions equally. Hence, there are at least some cases where first-person methods and ‘objective’ methods are equally reliable.

Lastly, the criticism that first-person methods do not add anything new does not apply to experiments 3.1 and 3.2. That the subject makes a phenomenal judgement is critical. If they were to judge how the stimuli actually are they may well judge that the discs are equal in luminance and that there is no triangle present. This would be to miss the phenomena of interest entirely. The phenomena in which we are interested in just is how things seem, not how they are. The first-person report adds something which the outside observer only has access to by the subject’s first-person report or by the observer experiencing the subjective brightness and subjective contours for themselves. Neither can these judgements be reduced to the discrimination of properties of the stimuli because the stimuli do not have these properties (Horst, 2005). The first-person data adds something that a mere third-person method could not.

This being said third-person methods also provide information that a first-person method does not. For instance, the response time in judging how things look gives an insight into the duration of the underlying cognitive processes in making those judgements. A difference in response time between conditions provides evidence that different processes are involved in making that response. First-person

and third-person methods provide complimentary data. It is not a matter of choosing between them. Both provide vital data in the investigation of conscious experience.

3.9. Conclusion

In this chapter, I have characterised first-person experiments and how they differ from third-person experiments. I have also discussed how they avoid the main criticisms regularly made of first-person methods. Of course, not all first-person experiments are successful, but this is also true of third-person experiments. The important fact is that many first-person experiments are reliable. This is a needed balance to the scepticism of first-person methods professed by many philosophers and psychologists (Dennett, 1991, 2001; Hurlburt & Schwitzgebel, 2007; Lyons, 1986; Irvine, 2012; Nisbett & Wilson, 1977; Schwitzgebel, 2011). A critical stance is laudable, and scepticism is well deserved for many first-person methods, but neither should we ignore the reliable first-person methods that do exist.

The first-person experiments presented here allow for the testing of hypotheses about experience, and produce reliable results over many occasions both within subjects and across subjects. In fact, numerous first-person experiments such as these have been in use since the late 19th century and continue to be used to investigate perceptual illusions and many other phenomena (Albertazzi, 2013). Praises of these methods may not always be sung by philosophers, but they continue to flourish as respectable scientific methods nevertheless.

Part II

Applications

Chapter 4

4. Variance and Constancy in Size Experience

'I see no more than you, but I have trained myself to notice what I see'. – Sherlock Holmes[41]

4.1. Introduction

A distant tree looks smaller than a closer tree in some sense despite being the same objective size. The stars look smaller than the moon, even though according to scientists the stars are actually much vaster in size than the moon. These are examples of how the experience of size differs from the sizes that common sense and science says they actually have. Such variance in perceptual experience has traditionally been used by Early modern philosophers like Descartes, Locke, Berkeley and Hume and 20th century philosophers like Moore, Broad, Price and Russell to support accounts of size experience in which we are directly aware of mind-dependent properties (subjectivism). This was usually at the expense of ignoring perceptual constancy altogether. This was a criticism that Ayer (1988, p. 81) levelled at Russell's description of perceptual experience.

More recently perceptual constancy has been used to support the view that we are directly aware of mind-independent properties (objectivism) (Smith, 2002; Tye, 2000). For example, Tye (2000, chapter 7) uses the phenomenon of colour constancy

---

[41] From *The Adventure of the Blanched Soldier*, Arthur Conan Doyle (1926, p. 1072).

to argue that colours are objective properties. Examples of size constancy that subjectivists need to account for include for example light posts looking the same size in some sense as they recede into the distance, and cars looking to remain the same size as they approach. A full account of visual experience should not ignore either perceptual variance or constancy, and theories can be assessed by whether they provide a more adequate account for both phenomena than competing theories. I will be arguing that perceptual objectivism cannot account for variance in size experience, hence providing support for perceptual subjectivism.

4.1.1 Terminology

In this section I will clarify the terminology being used in the chapter. A popular view in the philosophy of mind is ‘perceptual objectivism’. This is the thesis that, in perceptual experience, I am directly aware of either properties instantiated in the external world or uninstantiated properties. These properties exist outside of minds (mind-independent). This view comes in representationalist versions (Dretske, 1995; Harman, 1990; Lycan, 1996, 2001; Siegel, 2006b, 2010; Tye, 1995, 2000) in which experience represents these properties, and naïve realist varieties (Campbell, 2002; Campbell & Cassim, 2014, chapter 1-4; Johnston, 2004; Kennedy, 2009; Martin, 2002; Smith, 2002) in which there is a direct perceptual relation to the properties of mind-independent objects (in veridical perceptual experience). Representationalists can also hold that the representational content is the surfaces of physical objects in the case of veridical experience, hence allowing for a direct perceptual relation.

Pappas (1989) uses the term ‘perceptual direct realism’ to label these views. The perception is direct (or immediate) in that it is not mediated by the perception of other properties or objects such as mental properties. In understanding this claim I follow Jackson (1977, p. 15-20) who analyses perceptual directness in terms of an *in virtue of* relation. I see the plane overhead in virtue of seeing a part of the plane - its underside (*ibid*., p. 19). I see the plane’s underside directly and the plane indirectly. According to perceptual objectivism mind-independent properties are present in awareness in such an immediate fashion.

Perceptual subjectivism is the thesis that in perceptual experience I am directly aware of mental properties. These are properties of minds (mind-dependent). This definition is neutral as to whether minds and their properties are physical or non-physical. For example, a mind could be a substance or a person’s current total brain states. A common definition of colour subjectivism is that colours are neural processes (Byrne & Hilbert, 2003; Hardin, 1988; Revonsuo, 2001; Ross, 2001). A perceptual subjectivist may be an indirect realist in which case the perception of the objective properties of the world is mediated by the awareness of subjective properties (e.g., qualia) or objects (e.g., sense data). They may also be an irrealist about some or all objective properties. Berkeley as an idealist was an irrealist about all perceptible properties.[42] Locke on the other hand proposed a primary-secondary distinction in which size, shape and extension belonged to the mind-independent object (realism), and colours, taste and smell belonged only to the mind (irrealism). Nevertheless he also thought that we were only ever directly aware of a two-dimensional array of impressions (Jacovides, 2016). Hence we are aware of an ellipse when viewing a

[42] Although realism and irrealism is standard terminology it is unfortunate in that no one is denying that colours exist, they are just disagree over whether they are mind-independent or not. Berkeley for example would have denied that he was an irrealist about colour, shape, size etc. In fact, these properties all belong to objects. He just holds that these objects and properties are not mind-independent.

tilted coin despite the coin actually being circular. We are only directly aware of impressions in the mind, not the mind-independent objects themselves. Hence he was a subjectivist about all perceptible properties. Objectivism on the other hand involves both direct awareness of mind-independent properties and realism about those properties.[43]

Helmholtz (1860, p. 283) recalled an occasion as a child walking with his mother, in which he saw two people in the window of a chapel and because he thought that they were dolls, he asked his mother to reach up and retrieve them for him. Young Helmholtz was exhibiting a failure in size constancy. Drawing upon Hatfield (2012), two types of size constancy can be distinguished: phenomenal size constancy and response constancy. 'Phenomenal size constancy' is usually defined by psychologists as things looking to remain constant in size despite variable image sizes on the retina as the distance between the eye and the object changes. Alternatively, a more phenomenologically motivated definition of phenomenal size constancy is things looking to remain the same size despite variability in the area they take up in the visual field as the distance between perceiver and object changes.[44] This form of size constancy can be distinguished from 'response constancy' which includes abilities such as making reliable judgements of objective size, and exhibiting

[43] I make the distinction between perceptual objectivism and perceptual subjectivism rather than between perceptual direct realism and perceptual indirect realism as the question here is whether objective properties show up in perceptual experience or not, rather than whether realism about objective macro-properties is true or false. Perceptual objectivists are almost always phenomenal externalists about perceptual experience. Phenomenal externalism is the thesis that phenomenal qualities are properties of a mind-independent world – in particular located outside the head or body. This is contrasted with phenomenal internalism which is the thesis that phenomenal qualities are located in the brain or body. However, perceptual subjectivism can be distinguished from internalism, in that it is neutral as to whether phenomenal qualities are located in the head or not. Rather they may be in the mind, which may or may not be located in the head. For example, Descartes was a perceptual subjectivist who held that the mind was an unextended substance with no spatial location and so did not think of the mind as literally located inside the head. Where phenomenal qualities are located is orthogonal to the question of whether the properties presented in experience are mind-independent or not (Farkas, 2003).

[44] In fact, constancy also covers cases where objects at different distances project the same size on the retina/take up the same proportion of the visual field, but nevertheless look different sizes. I set aside these cases here.

behavioural and emotional responses which reflect knowledge of objective size. This may be based upon phenomenal size constancy or a result of perceptual and cognitive factors which correct for variability in size experience. It is unclear whether young Helmholz's judgement was based upon phenomenal size variance or whether he was merely making an erroneous response to an experience which included size constancy. From here on, unless otherwise indicated, by 'constancy' I will be referring to phenomenal constancy. I will use 'phenomenal variance' ('or 'variance' for short), to mean the inverse of phenomenal constancy. I will use the terms 'phenomenal size' and 'size experience' interchangeably. These terms as I use them are both neutral between objectivism and subjectivism about size experience.

Upon what aspect of experience if any was young Helmholz basing his judgement? A plausible explanation is that because distant people take up a small proportion of the visual field ('visual area' for short) he mistook the people for dolls (Rock, 1975, p. 36-39; see also Harding, 1998, p. 428). As a provisional characterisation I use 'visual field' to refer to the totality of currently visible objects, properties and relations.[45] I will restrict the discussion here to seen properties rather than imagined properties. This 'field' can be recognised by fixating at a point in front of you and putting a hand out to one side until it seems to blur and then disappear. This is the edge of the field of vision. Its shape can be traced out by running your hands around this edge. It is longer on the horizontal axis (left to right) than the vertical axis (up and down). In particular, it is an oval shaped field. This is a phenomenological characterisation of the term 'visual field' and is intended to be neutral as to whether the field itself or its objects, properties and relations are subjective or objective. I will specify when I am not using the term neutrally. 'Visual

[45] Armstrong (1968, p. 236-237) uses a similar definition.

area' is the proportion that things look to take up on the horizontal and vertical axes of the visual field. I say 'look to take up' because in some cases visual area is not tracked by the objective size of things nor what is projected on the retina. In the Müller-Lyer illusion it really does look like one line takes up more visual area on the horizontal axis than the other. Again 'visual field' and 'visual area' are phenomenologically characterised, they are not derived from theoretically inspired considerations such as the common view that the visual field just is what is projected on the retina. The eyes do not appear in vision so they are not eligible for the phenomenological characterisation. Another important point, as I discuss in the next section, is that the visual field is not merely a two dimensional plane. It has a dimension of depth. This is another point against the visual field being merely the image projected on the retina.

It is common for philosophers to make a distinction between two senses of 'looks' - phenomenal and epistemic (Chisholm, 1957; Jackson, 1977; Hill & Bennett, 2008).[46] The phenomenal sense is referring to what properties and objects presently show up in visual experience independently of what I believe about them. I presently seem to see a computer screen and black text on a white background, a desk, and a window beyond it. I do not presently seem to see Bondi Beach, a tiger, or Jupiter. This epistemic sense of looks refers to the occurrent beliefs about the world I form based upon visual experience. Since there visually seems to be a computer in front of me I form the belief that 'there is a computer in front of me'. However, the epistemic sense does not require that the objects and properties I form beliefs about are visually presented to me. For example, 'it looks as if we've been broken into', 'it looks as if it's going to rain'. Given that the window is broken, and front door open I may judge that 'it looks as if we've been broken into'. In response to the visual evidence I form a

[46] Chisholm (1957) and Jackson (1977) also distinguish a sense of 'looks like' but this won't be relevant for our purposes here.

belief about what happened. I take it that the epistemic sense could also include automatic factors. Thus if the train tracks appear to converge, the visual system may automatically dispose me to judge that they are actually parallel (Hunter, Biver Fuqua & 2007, cited by Cohen 2013). In this chapter, I will only be interested in the phenomenal sense of 'looks'.

Finally, one of the goals of a phenomenological method is to describe experience using terminology that is as theory neutral as possible. This is done in an attempt to avoid contaminating the first-person data with material that is foreign to it. It is common for philosophers to describe experience as 'representing' such as 'experience represents the rose as red' as if this is a neutral way of describing the experience.[47] In the context of a phenomenological method, this is an example of a questionable use of terminology as it is unclear (at least to me) whether it is meant to provide a pre-theoretical description of experience, or whether it is a statement of a theory about the experience. Whether it is theory neutral or not will depend upon what sense 'represents' or 'intentional' is being used (Siegel, 2010, chapter 2). A weak sense of intentionality is just that the redness looks to qualify the rose. This is a theoretically neutral sense of intentional. This is to be distinguished from strong intentionality in which experience is a relation to intentional content. A popular version of strong intentionality identifies the phenomenal character of an experience with intentional content (that which is represented) (Dretske, 1995; Lycan, 1996; Tye, 2000). Weak intentionality, on the other hand, is neutral on this question. For example, subjective properties (e.g., colour qualia) may be intentional by being projected onto things of experience, thereby qualifying them. Hence they can be both weakly intentional at the same at time as being subjective (Stoljar, 2004). Even sense

[47] As an example see the Peacocke quote below.

data views can be labelled as weakly intentional in that colour properties qualify mental objects.

To remain as theory neutral as possible, and to avoid confusion over the different uses of 'represents', rather than saying 'experience represents the rose as red' I will say 'the rose looks red'. I take 'looks' in the phenomenal sense to be a relatively neutral term for designating what shows up in experience (Siegel, 2007).[48] Furthermore, even though the descriptions of experience provided by a phenomenological method attempt to be neutral as to metaphysics, these descriptions will have consequences for philosophical theories of perception.

4.1.2 The Current Account Contrasted With Some Other Accounts

As seen in Table 4.1, accounts of size experience differ depending upon whether they are objectivist or subjectivist, whether they include either constancy or variance (or both) in experience and whether the size property looks to qualify things

[48] Yet another sense of 'represents' is that experience is accessible for accuracy (Siegel, 2010; Siewert, 1998, chapter 7). It is true or false about the world. This may well be so, but it is not clear that this use of 'represents' counts as theory neutral. In particular, we are then assuming that other theories such as phenomenalism are false in which things are constituted by properties of experience. As Armstrong points out in his introduction to *Berkeley's Philosophical Writings*, for Berkeley there is no question of what is immediately experienced 'corresponding or failing to correspond' to an external world (Armstrong, 1969, p. 23). Berkeley says in regards to someone experiencing an oar looking bent in the water 'He is not mistaken with regard to the ideas he actually perceives but in the inferences he makes from his present perceptions… What he immediately perceives by sight is certainly crooked; and so far he is in the right. But if he thence conclude that upon taking the oar out of the water he shall perceive the same crookedness; or that it would affect his touch as crooked things are wont to do: in that manner he is mistaken' (In the third of *The Three Dialogues Between Hylas and Philonous*: Berkeley, 1713, p. 200). Travis (2004) makes a similar point: 'In perception things are not presented, or represented, to us as being thus and so. They are just presented to us, full stop. It is in making out, or trying to, what it is that we confront that we take things, rightly or wrongly, to be thus and so' (Travis, 2004, p. 65). The truth accessible use of 'represents' imposes a theory on the experience. Note that I am not denying that there may be an argument that successfully establishes that experience represents in the weak sense of being truth accessible, but the fact that this needs an argument is a further reason for thinking that it is not theory neutral. To use represents in this way is not to describe experience, but is rather an exercise in metaphysics. On the other hand to describe my experience by saying 'the rose looks red' presumably does not require any argument and minimal theory. Perhaps there are no truly theory neutral descriptions such that even saying 'the rose looks red' depends upon some background theory. I will not argue against this thesis here, but merely claim that 'looks' is neutral between more theories than terms such as 'represents' so using this term fits better with the aim of being as neutral as possible.

or not. The view for which I will be arguing, represented by the ticks in Table 4.1, is that the visual size properties which constitute both phenomenal size variance and constancy are mind-dependent properties. In particular, the size properties of which I am directly aware are not the actual properties of macroscopic objects or the relations between an observer and objects nor uninstantiated properties. Rather, these are subjective properties.

The subjectivist view I am defending is inspired by an account of visual spatial experience developed by Gary Hatfield (2009, 2012). Philosophers do not seem to have engaged with Hatfield's account of size experience, and the empirical evidence he uses to support it (though see Hill & Bennett, 2008).[49] Hatfield's view is that the geometry of visual space[50] contracts with distance. The best way to test this is to look down a long corridor (path or road) and look to see what happens to parallel lines with distance. If visual space is constant with distance then the lines of the corridor should look to remain an equidistant width at all points. If contraction occurs then the lines should visually converge. My experience shows the latter. Conforming with this geometry, distant people also take up a smaller visual area thereby staying within the confines of the corridor. I also agree with Hatfield's phenomenological observation that the visual field is not a two dimensional array. Depth is immediately present in experience. Railway tracks do not converge on a 'flat vertical plane in front of me' (Hatfield, 2012, p. 40) like in a perspective picture, but neither do they look

[49] Hatfield (2009) labels his position as 'representation-mediated critical direct realism' (p. 264) in which 'we see the surfaces of objects by having a subject-dependent phenomenal experience that mediates our perception of the object' (*ibid*., p. 349). He does not posit sense-data, and also rejects the representative realism of Russell in which 'we see our sense-data or representations' (*ibid*., p. 349). Rather he holds that 'we see the properties of objects by having phenomenal experiences of certain sorts. These representations, these phenomenal experiences, are not *that which* we see, but *that by which* we see' (*ibid*., p. 350). Here I draw upon arguments from Hatfield, but also further empirical results, phenomenological demonstrations (Experiments 4.1-4.3), and arguments (section 4.3).

[50] 'Visual space' refers to the spatial structures visually experienced by a subject. This phenomenological notion is to be distinguished from the 'physical space' as investigated by physicists. Visual space as so defined may or may not be identical to a portion of subject-independent physical space.

parallel. Rather ‘Railway tracks … converge while running away in depth’ (*ibid*., p. 37). Visual space is three dimensional, but at the same time it contracts with distance. Hatfield also draws upon the relational theory of size constancy of Rock and Ebenholtz (1959). Here I also extend the relational theory to account for further trees looking the same size as closer trees (section 4.4).

	Objective		Subjective
Variable Properties	Tye Noë		Russell Hatfield Peacocke ✓
Constant Properties	Tye Noë Peacocke		Hatfield ✓
	Actual Properties	Non-Actual Properties	

Table 4.1. Theoretical Positions on the Types of Size Properties that Show up in Visual Experience: Objective vs Subjective, Variable Properties vs Constant Properties, Actual vs Non-Actual properties. The ticks represent the view for which I provide a defence.

The current view is also similar to the sensationalism of Christopher Peacocke (1983). One difference is that Peacocke has a mixed subjective and objective account of the experience, while the present view is a subjectivist about both size variance and size constancy. He describes the visual experience of viewing an avenue of trees:

> Taking your experience at face value you would judge that the trees are roughly the same physical size… Yet there is also some sense in which the nearer tree occupies more of your visual field than the more distant tree. This

> is as much a feature of your experience itself as its representing the trees as being the same height (Peacocke, 1983, p. 12)

According to Peacocke (1983) the trees look the same size, so objective properties show up in visual experience. However, there is also a sensation of size which accounts for the sense of different sizes between the trees. The property of largeness of the closer tree belongs to the visual field. It is a non-representational property that is intrinsic to experience. In particular, he denies that size variance is strongly intentional in the sense of being a relation to intentional content. He argues that size variance is non-representational because veridical experience cannot represent a tree as being both larger than another tree and the same size (Peacocke, 1983, p 12).[51] However, I will assume that he would allow that size variance is weakly intentional in the sense that it apparently qualifies the tree. Weak intentionality can conflict with strong intentionality without contradiction. The small size of a distant tree seems to qualify the tree, not merely the visual field (the tree looks small in some sense). This being said, size properties can be intrinsic properties of a subjective visual field at the same time as qualifying objects. The visual field can be thought of as analogous to a television screen. The pixels on a television screen belong to the screen, yet at the same time they qualify objects displayed on the screen. A statement by Peacocke which suggests that he would accept weak intentionality is when he says: ‘The impression of a hut as having a certain physical size is grounded in part in the size of the region of the visual field in which it is presented’ (Peacocke, 1983, p. 54).

[51] Tye and Noë deny that there is a conflict. See below.

There are a family of subjectivist positions which for the purposes of this chapter I will be neutral between. I will be neutral here as to whether there are sense data (mental objects) which bear these subjective properties. Other issues on which the current arguments will not have a bearing is whether mind-dependent properties are physical or non-physical and whether or not realism or irrealism is true of objective size.

The current view differs from earlier subjectivists such as Hume and Russell who did not seem to include phenomenal constancy as part of visual experience. For example Hume famously wrote:

> The table, which we see, seems to diminish, as we remove farther from it: but the real table, which exists independent of us, suffers no alteration: it was, therefore, nothing but its image, which was present to the mind (Hume, 1777, p. 151–2).

By contrast I hold that there is also a sense in which the table looks to stay the same size.

The main competitor of a subjectivist account is the objective dual aspect view. Tye holds that 'the nearer tree looks the same objective size as the tree further away while also looking larger from the given viewing position' (Tye, 2000, p. 78). He agrees with Peacocke that the trees look to have the same size, there are perspective independent properties in the experience, but there is also an objective property of how large the nearer tree looks from here in the experience. The tree looks larger from my perspective because it subtends a greater angle at the eye (*ibid*., p. 78). Thus the second visual property is also objective – it's not merely a sensational

property of the visual field. My objective spatial relation to the tree, or ‘perspectival properties’ (Noë, 2004, p. 166), are present in the visual experience. The dual objective aspect account of experience is purely objectivist and is a popular view amongst contemporary philosophers (Jagnow, 2012; Kelly, 2008; Noë, 2004; Schellenberg, 2008; Tye, 2000).

A similar theory is that ‘visual extensity’ (Rock, 1975, p. 37) is the experience of the size of one’s retinal images. This is seen in the notion that there are ‘distal’ and ‘proximal’ modes of perception (Palmer, 1999, p. 313-314), the former is the normal mode of perception in which we veridically perceive properties of the world and the latter is a special mode in which perceivers experience properties of their retinal images (Rock, 1983, p. 284 refers to these modes as ‘proximal’ and ‘world’). If these accounts succeed then visual area can be accommodated by the objectivist. Thus young Helmholtz was basing his judgement upon the perspectival properties of visual experience, but he had yet to learn to recognise the perspective-independent properties of visual experience.

A simplified form of the argument I will be making for subjectivism is:

1. In size variance experience I am directly aware of either mind-independent properties or mind-dependent properties.

2. In size variance experience I am not directly aware of mind-independent properties.

3. Therefore in experiencing size variance I am directly aware of mind-dependent properties.

This argument can be unpacked further to make explicit the objectivist alternatives (A and B):

1. In size variance experience I am directly aware of either: (A) instantiated mind-independent properties in the environment or (B) uninstantiated mind-independent properties or (C) mind-dependent properties.

2. In size variance experience I am not directly aware of (A) or (B).

3. Therefore in experiencing size variance I am directly aware of (C) mind-dependent properties.

The strategy in the current chapter is to argue for the present view by ruling out disjuncts A and B. By rendering the objectivist alternatives implausible, the most plausible remaining theory is subjectivist. The limitation of this argument is that the options may not be exhaustive. It does not rule out the possibility that there are other plausible objectivist options that I have not considered. These however can be evaluated as they arise on a case by case basis.

According to Tye, Noë and many others, in visual experience I am directly aware of actual objective size properties of the physical world (disjunct A). In section 4.2, I argue against disjunct A. I draw upon empirical findings and phenomenological demonstrations to motivate the conclusion that actual objective properties are not typically present in visual experience, and thus do not account for variance in size experience. The falsity of disjunct A would negate the objective dual aspect view as it currently stands, and force it into the less desirable position that we are aware of

uninstantiated properties in size variance experience (disjunct B). That is, size variance experience would be treated on par with illusions. This in itself would be a significant blow to perceptual direct realism. In section 4.3, I argue against disjunct B that in size variance experience I am aware of objective uninstantiated properties. The falsity of these two disjuncts would rule out most plausible versions of objectivism and hence leaves subjectivism as the most plausible theory.

An objection to subjectivism is that it cannot account for size constancy. In section 4.4, I propose that a subjectivist theory can use visual relations to account for size constancy. If this response succeeds this would remove another major motivation for preferring objectivism over subjectivism. In section 4.5, I discuss details of the proposed subjectivist view and respond to some objections.

4.2. Perspectival Properties

In this section I argue that variance in size experience is not reducible to objective relations in the environment or retinal images. In particular, I provide evidence from empirical studies and phenomenological demonstrations. The method used in the latter will be phenomenal contrast (Siegel, 2007). For example, rather than asking whether an obliquely viewed plate looks elliptical, one asks whether looks to have a different shape than a plate viewed front on. That is, one looks for a phenomenal difference, thus allowing for a more refined phenomenal judgement. I will also be using apparatus such as hands, feet, and mirrors for setting up the contrast, a ruler for measuring how things appear, and images as demonstrations of different aspects of visual experience. It is due to the use of apparatus for assisting making judgements about experience that I refer to these exercises as first-person

experiments (Ginsburg, 2005). Rather than just 'looking', one manipulates one's own experience using apparatus to produce a salient phenomenal contrast. The first experiment provides a means of measuring perspectival size properties. The second and third experiments provide evidence that variance in size experience is not the same as perspectival properties or retinal images.

Michael Tye (2000, p. 78-79) and Alva Noë (2004, 164-169) propose that the trees in the avenue look the same size, but the closer tree looks larger from here. When Tye elaborates as to what the looks from here relation amounts to he rejects the idea of visual area in the subjective sense. Rather he thinks that visual area reduces to a representation of the angle subtended at the eye. Is visual area identical with perspectival properties? Visual angle is the standard means of measuring perspectival properties. Is there a first-person means of operationalising perspectival size? Alva Noë defines the perspectival size of a thing as 'the size of patch that one must fill in a given plane perpendicular to the line of sight in order to perfectly occlude an object from view' (Noë, 2004, p. 82). My own suggestion is to use a ruler.

Experiment 4.1: Measuring Perspectival Size

Hold out a ruler at the same distance as your hand. I find that my hand measures 17 cm from the bottom of the palm to the top of the middle finger. Maintain the ruler at the same distance and align it with the appearance of your foot. I find that it measures 5 cm (figure 4.1).

If this procedure accurately measures visual area, then my hand currently takes up more than three times the visual area of my foot.[52]

[52] I will be arguing that this method does not typically measure visual area.

Figure 4.1. Measuring Perspectival Size

Why hold the ruler close to the hand rather than closer to the foot? Where you hold the ruler does not make an important difference here because whilst the units will change the ratio remains constant. Perhaps my foot will be measured as 10 cm, while my hand will then be measured as 30 cm. My foot will continue to be measured as a third the size of my hand, where ever I hold the ruler, unless of course I change the distance between my hand and my foot, or the relative position of the ruler. This method abstracts away from depth and thus provides a means of measuring perspectival size on the vertical and horizontal axes. It also presumably gives a result which is sensitive to differences in retinal image size and visual angle, but it is a first-person means of measuring this.[53] The same method can be used for measuring the shape that something takes up in the visual field. For example, upon measuring the shape of an obliquely viewed plate I found that it took up less area on the vertical axis than the horizontal axis which is consistent with an ellipse. A plate viewed straight on however was measured as the same area on both axes consistent with a circle.[54]

[53] Retinal size can also be calculated from visual angle, and two objects with an identical retinal image size also have an identical visual angle and vice versa. Hence retinal size and visual angle can be used interchangeably for our purposes.

[54] An objection is that using a ruler introduces another thing into the visual experience which may interfere with it. To test this one can take a photo and measure the size of the images on the photo. I find that the ratio of the images is the same as measured by the original ruler, and it remains the same

While perhaps a useful approximation of how things look, it turns out that in many circumstances apparent size and shape does not coincide with perspectival size and shape as measured by a ruler. The Müller-Lyer illusion shows that phenomenal size variance is not always identical with perspectival size. The lines look different in size in the context of intersecting lines, despite the fact that they take up the same perspectival size. As another example, the moon looks larger when it is close to the horizon (the 'moon illusion') than when it is at its zenith.

Experiment 4.2: The Corridor Illusion

That size variance cannot always be explained by perspectival properties is illustrated in figure 4.2. I again use phenomenal contrast as a demonstration of these different aspects of visual experience.

In A, block ii looks smaller than block i. There is a phenomenal difference in size between the blocks. However block ii does not look as small as block iii even though they are identical in visual angle. In B, block v looks larger than block iv, however they are in actual fact identical in visual angle.

The phenomenal difference between ii and iii, and iv and v demonstrates that not all size variance is identical with perspectival properties. In the context of depth information there is a phenomenal difference between experienced size of a thing and its visual angle (likewise its retinal image size). By contrast, we are relatively accurate in judging the size difference between block i and block iii, in particular in judging

---

both with and without the ruler, hence I conclude that there is no interference occurring in the experiment.

that block iii is one third the size of block i. In this case, when depth information is the same for both targets, we are sensitive to relative perspectival sizes.

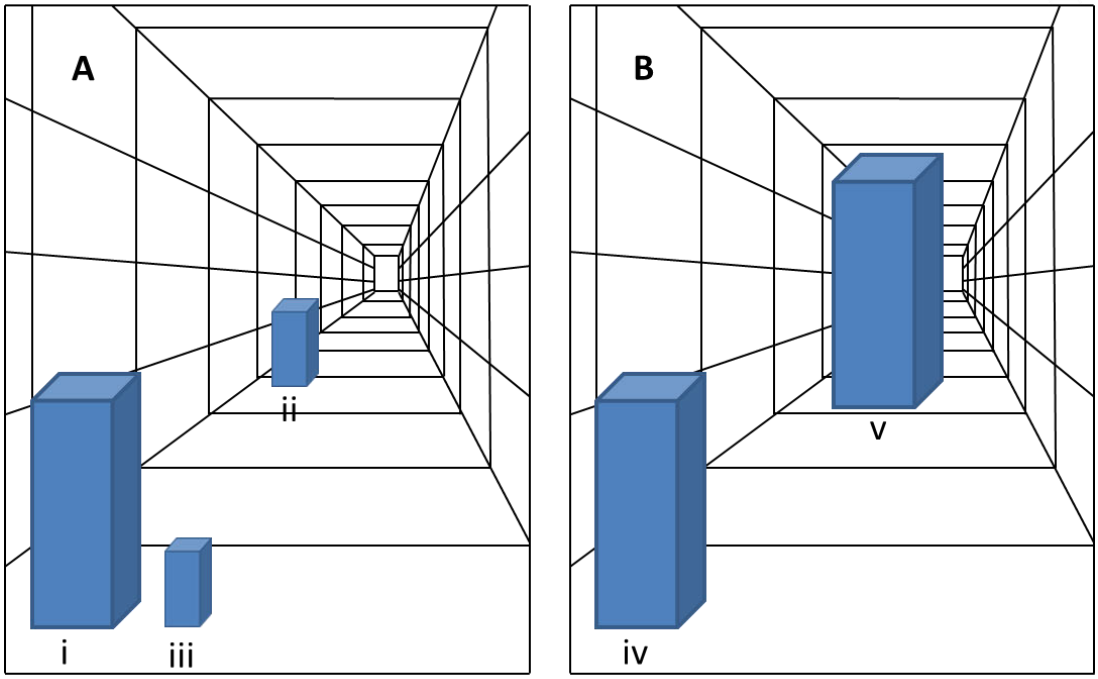

Figure 4.2. The Corridor Illusion. Adapted from Palmer (1999, p. 316).

Experiment 4.3. How large does your head look in the mirror?

Another experiment is looking at your head in the mirror and trying to judge how large it looks in comparison to the size of the image on the mirror. Gombrich, (1960, p. 5) has pointed out that people are unaware that the image is approximately half the objective size of their head as is seen by tracing its size on a steamed up mirror. Here, I extend the experiment as reported by Gombrich by adding in a phenomenal contrast to make the difference between apparent size, image size and objective size more salient, and using a ruler to keep distance fixed. Try it for yourself.

Stand 30 cm from a mirror using a ruler to measure the distance. Now trace around the outline of your head in the mirror with a whiteboard marker. For me the image traced measured only 11 cm high and 8 cm in width. This is a remarkable result going by experience alone. Now step to one side, and use the ruler so that you are again standing 30 cm from the mirror. Now compare the size your head looks with the outline. I find that my head looks significantly larger (perhaps a third larger) than the outline next to it. To be even more precise, next to this outline, you can also draw the objective size of your head on the mirror. Again stand 30 cm from the mirror. I find that the head in the mirror looks smaller than outline of its objective size, but not as small as the image outline. That is, the experienced size is intermediate between the image and its objective size.

Recall that perspectival size is the area that something would take up if it was projected upon a plane perpendicular to the line of sight. In viewing a mirror I am literally viewing a plane perpendicular to the line of sight. If size variance (of my head looking smaller with distance) was explained by its perspectival size then it should look to take up the size of the image on the mirror. The fact that it does not again demonstrates a failure of perspectival size to explain size variance.

Noë (2004, p. 165) briefly considers Gombrich's experiment as showing that we do not usually experience perspectival properties, but then dismisses it as being due to the 'puzzling character of reflections' (*ibid*., p. 166). In fact, studies suggest that much of the time we do not experience perspectival size. Thouless (1931) presented subjects with two white discs of different sizes at varying distances. The distance of the smaller (closer) disc was varied until subjects reported when it looked the same size as the larger (further) disc. It was found that subjects did not adjust the

closer disc such that it took up the same the size as the further the disc on the retina, but rather to a size intermediate between the retinal size and objective size. Thus,

> as the distance of an object changes, its phenomenal size changes, whether the object be far or near. It changes, however, less rapidly than does the size of the retinal image. The tendency to constancy is shown by the amount of change being a compromise between the changing size of the peripheral stimulus and the unchanging 'real' size of the object (Thouless, 1931, p. 353).

Thouless (1931) also found that same for shape. Subjects tended to choose an ellipse for a tilted circle, but it was an ellipse that was in between that of the shape projected on the retina and its objective shape. Furthermore, many studies have shown that when subjects are asked to estimate the projective size of an item, or the amount it takes up in the visual field (ignoring depth), the results produce underconstancy, but the size selected is larger than retinal size (Carlson, 1960; Gilinsky, 1955; Singer, 1952).

It is also noteworthy that one technique used by painters to produce a perspective picture is to hold up their brush against things. This recalls the ruler experiment, and suggests that even painters do not directly experience perspectival size - or at least not without the assistance of tools. Perdreau & Cavanagh (2013) also present evidence that artists are not better at judging the perspectival size of images in the context of depth information than non-artists.

The evidence then suggests that we typically do not have experiential access to perspectival properties.Visual experience is not the same as drawn in a perspective picture. Rather with the Gestalt psychologists I hold that much of the time

perspectival size is not part of experience at all (nor retinal size and shape). This being said it is likely that in some situations when depth cues are minimal that perspectival size and shape and apparent size and shape coincide, such as when we see the moon at its zenith. Also when the visible terrain is eliminated by viewing the moon through a tube the moon illusion is eliminated and the apparent size of the moon is the same as its retinal size (Rock & Kaufman, 1962). Also when depth cues are eliminated by viewing objects through a tube then apparent size reduces towards that of the size of the image on the retina (Holway and Boring, 1941). Thouless found the same result when visual cues were eliminated. We can then be aware of the perspectival size, but only in contexts where depth information is minimized.

One response to this evidence is to posit that perspectival properties do show up in perceptual experience however cognitive factors cause this overestimation. This explanation requires that participants systematically make false judgements about their experience. In fact something like this sometimes happens for judgements of the objective sizes of distant objects in which subjects will systematically overestimate size (Wagner, 2012). A plausible account of this is that subjects know that further things are larger than they look and they use this knowledge as a cognitive strategy in judging its size, but they overcompensate (Granrud, 2009, 2012). On the other hand subjects are good at estimating objective size at middle and close ranges. Thus it is only in situations when detailed depth information is lacking that these strategies are required.

Does the same explanation work for perspectival properties? If a subject's task is to estimate perspectival size and they know that things look smaller than they are, if anything, one would expect an underestimation of apparent size. Furthermore if the error is merely cognitive one would expect that with training one could overcome this

tendency, however as already mentioned there is evidence that even artists are poor at judging perspectival size (Perdreau & Cavanagh, 2013). Also we are not poor at estimating perspectival properties in all contexts. When depth information is minimized then subjects are accurate. This is exactly as would be predicted if depth information changes size experience. The alternative cognitive error hypothesis would need to explain why the cognitive error only occurs when depth information is present. Proposing systematic error in judgement is adhoc in that the only reason for positing this error is to preserve the hypothesis that perspectival properties are invariantly present in experience and that size variance does not depend upon context. It is also unnecessary given the phenomenal evidence that apparent size can be changed by depth information. The hallway illusion in figure 4.2, the mirror experiment, the moon illusion and many other cases demonstrate the reality of this phenomenon. This combined with the large amount of empirical evidence indicating altered size experience in the context of depth information makes the widespread reality of this phenomenon the more parsimonious hypothesis.

Hence, the angle subtended at the eye and retinal size image only approximate the experience. The experience of the tree does not directly track objective perspectival properties in the environment. If experience does represent perspective-dependent properties these are systematically misrepresented. Tye and Noë cannot reduce the experience to relations in the environment (except in restricted cases). Hence they can at best treat most size experiences as on par with illusions, awareness of uninstantiated properties, rather than in terms of actual objective properties. Perhaps the objectivist can identify a different relation in the environment other than visual angle or retinal images which could plausibly account for visual area. It is

difficult to know what this could be. The burden here is on the objectivist to supply a plausible candidate relation.

David Hilbert (2016) proposes that the inference to subjectivism can be blocked by positing other mind-independent properties other than visual angle (V). He points out that visual angle is one function from physical size and distance (θ= arctan H/D), but that there are many alternative functions used in the literature (e.g., θ= arctan $H/D^{1/2}$, θ= arctan H/D^2). These alternative functions have been used to predict constancy judgements and there will of course be some other function (V*) which will also predict size judgements about how large things look. I agree there will be such a function, but my question is does this function express a property instantiated in the environment or an uninstantiated property? V is a property instantiated in the environment. V is the angle that light strikes the eye from the extremities of a distant object. This angle is a property of the stream of light from the object to the eye, and hence a property of a system that has causal effects. If you change the angle a different size image will be projected on the retina. The property is relevant to the causal powers of this system. If you change this property then the causal powers of the system changes. Hence V qualifies as a concrete macroscopic property of the environment. Furthermore, a physical system cannot instantiate contradictory properties. V and V* cannot be instantiated by the same system simultaneously. By definition there is no object at $D^{1/2}$ which is reflecting light onto the eye. θ= arctan $H/D^{1/2}$ does not express the property of a system that has causal powers and is hence an abstraction, not a real property instantiated in the macroscopic world. This relegates alternative visual angles such as V* to the catgegory of uninstantiated

properties. The question hence becomes the plausibility that we are aware of uninstantiated properties in variant size experience.[55]

4.3. Phenomenal Size Variance as Awareness of Uninstantiated Properties?

In the previous section I argued that size variance cannot typically be accounted for by actual objective relations between these objects and the person. If successful, to maintain objectivism it must be that these experienced size properties are not instantiated in the environment. This is a common response to the problem of hallucination and illusion (Dretske, 2003; Johnston, 2004; Lycan, 2001, Tye, 2014). I argue in this section drawing upon Brad Thompson (2008) that awareness of uninstantiated properties is an implausible fall-back position.

As background, we need to clearly distinguish between content-based representationalism and vehicle-based representationalism (Thompson, 2008). According to content-based representationalism the phenomenal character of an experience is the intentional content, the represented property p. For example the story about dragons is in the book, but there are no dragons in the book. The dragon is an object of the representation (Dretske, 2003, p. 68). Likewise, phenomenal character is the property that is represented, it is not a property of the experience. This allows representationalists to take on a form of direct realism and hold that the phenomenal character of seeing the red of a rose is the property of the mind-independent object.

[55] I am not arguing that these alternative properties do not exist. David Lewis (1983a) argued for an abundant view of properties. He held that for any class at all, there is a property that everything in that class has. For example, there is the property of being a donkey which is a property possessed by all donkeys (Lewis, 1983a, p. 344). In fact, any class no matter how gerrymandered has a corresponding property. Donkey's and the number 2 both belong to the class of things of donkeys or numbers and hence both have the corresponding property of being a donkey or a number. This makes the number of properties rather large! I am not arguing against the abundance of properties, only against the view that an entity can instantiate contradictory properties.

According to vehicle-based representationalism, on the other hand, the phenomenal character of an experience is the property of representing property p. Here the experience is typically a brain state that is representing p, and the phenomenal character is a property of that brain state. This then is like the story in the book which represents dragons. The words are in the book, the representational vehicle is in the brain. Vehicle-based representationalism is hence a form of subjectivism (or internalism) as I understand it as phenomenal character is identical with or supervenes on properties of the brain. It is internalist and indirect realist, rather than externalist and direct realist. In the argument below I will focus on content-based representationalism.

The case that I will consider is that of a blue afterimage. This can be experienced for oneself as follows: Stare at the yellow square in Figure 4.3 for 20-30 seconds and then look at the white area next to it. For a few seconds you will see a persisting blue afterimage.

Figure 4.3. Demonstration of the Afterimage Effect

The afterimage has the properties of blueness, squareness and also importantly for current purposes it has a size. It apparently takes up an extended region in the

visual field. Here I will restrict myself to considering the properties of the afterimage, rather than whether the afterimage itself should be considered a mind-dependent object (sense data).

Representationalism accounts for afterimages by proposing that the visual system is mis-representing the presence of a blue square just as I can mistakenly believe that there is a dragon outside without there being any actual dragon. According to content-based representationism in particular, the phenomenal character is the content of the experience, that which is represented. This account works well for beliefs and desires because the intentional object, such as a dragon, not need not exist for me to believe in it or desire it. However, there is an important disanalogy when it comes to illusions and hallucinations. Beliefs and desires do not necessarily have any phenomenal character whilst illusions and hallucinations do. Unlike the properties of the dragon, the properties of the afterimage exist. I am sensorily aware of them.

For me to seem to see blue is just for there to be a phenomenal property of blue. To seem to be in pain just is for there to be pain. For phenomenal character there is no appearance-reality distinction. It is therefore incoherent to say that in illusory and hallucinatory experience that the sensory properties I am aware of literally do not exist. Thompson (2008) points out that it would not work to say that the blue afterimage exists in the sense that the brain state (the representation) exists. If the phenomenal character just is a property of the representation then this would be to change the subject from a content-based representationalism (objectivist) to a vehicle-based representationalism (subjectivist).

The phenomenal character of illusions cannot be accounted for by non-existent properties. This provides the main motivation for representationalists to hold that we

are aware of properties which do exist, but which are uninstantiated. Dretske acknowledges as much when he says:

> In hallucinating pink rats we are aware of something—the properties, pink and rat shaped that something is represented as having—but we are not aware of any object that has these properties—a pink, rat-shaped, object. We are aware of pure universals, uninstantiated properties (Dretske, 2003, p. 73).

On this view the phenomenal character of illusory and hallucinatory experience is constituted by universals. This is a common account of uninstantiated properties (Dretske, 2003; Forrest, 2005; Johnston, 2004; Tye, 2000). There are also independent reasons for thinking that universals do in fact exist (Armstrong, 1989), so if they can be put to work in explaining illusions and hallucinations this is an advantage. As these uninstantiated properties exist independently of my awareness of them they are objective properties.

This provides an alternative to subjectivism but how plausible is this proposal? There is something counter intuitive about saying that the properties of the afterimage are uninstantiated as they clearly seem to be instantiated in the visual field. However, the opponent will say that these properties only *seem* to be instantiated in the visual field.

The problem for this view is that it is difficult to see how these abstract properties which are not in space and time could constitute experiential properties (Pautz, 2007, p. 516-519). My experience of the blue afterimage has duration. There are no phenomenal properties of blueness and shape at an instant. A universal however is outside of time – it is timeless. How then can the phenomenal characters

of blueness and shape which do have duration be identical with timeless properties? Similarly the blue afterimage looks extended in space, it apparently has a size in the visual field. Universals by contrast are unextended. Since the blue afterimage is extended in time and space it is actual and cannot be identical with universals. As Pautz puts it: ‘Mabel cannot be aware of (universals). They are not potential objects of awareness. Maybe she can *think of* them; but they are not the type of thing she can *see* (just as she cannot see unextended spacetime points)’ (Pautz, p. 517). The same reasoning applies to numbers. I can think about them, but I cannot sensorily experience them. I can be aware of the symbols which represent numbers, but I cannot be sensorily aware of the abstract objects themselves.

The problem can be further understood by considering how objectivism deals with phenomenal character in veridical cases. When I look at a square blue calculator the phenomenal character of squareness is the calculator’s squareness and the phenomenal character of blueness is the calculator’s blueness. Objectivism’s brilliant move in veridical cases is in promising to close the phenomenal-non-phenomenal gap by ‘kicking the phenomenal character downstairs, into the external world’ (Shoemaker, 2003, p. 256). My phenomenal character is blue, and spatially and temporally extended and so is the calculator. It reductively explains the phenomenal character by reducing it to properties of objects. However, in the case of illusions the properties are not just kicked downstairs, but out of the actual world entirely. But then the problem is how properties existing outside of the world could explain phenomenal character?

An opponent might respond that the blue afterimage only *seems* to be temporally and spatially extended. But how it seems *just is* its phenomenal character, and this is that which needs explaining. If phenomenal character is identical to

universals then a new explanatory gap opens up of explaining how these apparently actual properties are really non-actual properties.[56]

In the case of illusion and hallucination, subjectivism has the advantage of over objectivism in holding that phenomenal properties are as they seem - not something quite different like universals. It hence has a more adequate account of their phenomenal character. Furthermore, according to subjectivism, variant size properties (and all sizes, shapes and colours) are currently instantiated in my visual field (which is a mind-dependent field of visible properties). This respects the experience, in that these size properties are actually instantiated where they seem to be located, so subjectivism also has the advantage of being more prima facie plausible than objectivism. This provides two reasons why subjectivism has an advantage over objectivism in accounting for variance in size experience.

To summarise, as it is incoherent to hold that one can experience literally non-existent properties. This provides the motivation for objectivism to posit that illusory properties exist, but that they are not instantiated in the actual world. They exist outside of space and time. This however raises difficult metaphysical questions such as how these properties can constitute phenomenal character.

4.4. The Relational Determination of Size Constancy

In sections 2 and 3 I provided support for the following argument for subjectivism:

[56] A modal realist could avoid the problem of the actual-non-actual gap in that when I see a blue afterimage I am seeing something that is actualised in another concrete world! A second problem for objectivism not discussed here is how universals could have a causal influence on my behaviour given that they are outside of space and time (Thompson, 2008, p. 404)?

1. In size variance experience I am directly aware of either: (A) instantiated objective properties in the environment, (B) uninstantiated objective properties or (C) subjective properties.

2. In size variance experience I am not directly aware of (A) or (B).

3. Therefore in experiencing size variance I am directly aware of (C) subjective properties.

I argued against disjunct A in section 2 and disjunct B in section 3. As variant size experience could not be adequately accounted for by instantiated objective properties in the environment (A) nor uninstantiated properties (B), I conclude that the most plausible account is subjectivist. Having motivated this theory of size variance experience I now consider the objection that it cannot account for size constancy.

One may suspect that all this talk about visual area must be getting the phenomenology wrong as it is just manifest in experience that things do not usually appear to grow as they approach me or shrink as they recede from me. As the distance between the observer and the object changes, the size of the objects looks to remain constant. This observation has been made by a number of contemporary philosophers:

> What must a sense-datum theorist say of the typical situation in which an object is seen to approach me? He must say that the sense-datum, that which is "given in sense," that of which I am most fundamentally and immediately aware, gets bigger. But… what is given to me, does not appear to change at all in such a situation. This is a plain phenomenological fact (Smith, 2002, p. 178).

> A departing train does not appear to shrink as it moves away from you; but there is something like size (even if it is not the size of the train) that does appear to lessen (Siegel, 2014, section 3.3).

> As I walk towards the tree in the quad it takes up more of my visual field but does not appear to change in size (Quassim Cassam in Campbell & Cassam, 2014, p. 163).

These quotations are in direct contrast to Hume who seemed to deny that constancy showed up in visual experience at all. This observation can be turned into the following argument:

1. If size experience was determined by visual area, as this is continually changing, then things would be experienced as continually changing in size.
2. We do not experience things as continually changing in size.
3. So size experience is not determined by their visual area[57].

Try viewing a street and watching as cars approach and recede. Do they look to be growing and shrinking in size? My experience is that they look to be changing size in terms of their visual area. However, the above authors are also correct that an approaching car does not seem to be growing in size like an inflating balloon and shrinking in size as it recedes into the distance. There is a sense of constancy of size. This is so, even though both the car and the balloon take up more visual area in the

[57] For a version of this argument against shape variability see Siewert (2006).

former case, and less visual area in the latter case. There is a phenomenal difference between an approaching car and an inflating balloon which the account in terms of visual area is not capturing. I think that this argument undermines an account of size experience based solely upon visual area and which denies constancy such as given by Hume and Russell. However, the premises only in fact entail the conclusion:

3* Size experience is not *solely* determined by visual area.

It does not follow from the argument that visual area does not partly determine size experience, in particular size variance. Hence, subjectivism is still on the table, but its proponents need to give a story for why there is also phenomenal constancy.

A subjectivist theory can be rendered consistent with size constancy by taking a relational view in which size constancy is based upon the relations between the visual areas of things. The theory, which draws upon the relational theory of Rock and Ebenholtz (1959),[58] is that the judgement of phenomenal size constancy of a car as it approaches is based upon relations between the visual area of items, in particular the constant relative visual area of the car and objects at the same or similar depths. The car takes up more visual area as it approaches, but so do the objects at each depth such as parked cars, people, light poles and the road. The ratio of the visual areas of the objects remains approximately constant (exactly constant for the car, the light poles and the road), and so we judge that the car *looks* to stay the same size. Relative to these objects the car is *visually* staying the same size. The same cannot be said for the inflating balloon, which takes up more visual area as it inflates while surrounding objects retain the same visual area. The relative visual areas change.

[58] See also, Hatfield (2012, p. 56-57; 2009, p. 196-197) and Palmer (1999, chapter 7). This is also consistent with the Direct Theory of Perception of Gibson (1950; 1966; See Mack 2010).

As another example, compare the case of a balloon that floats towards me down a corridor and a balloon that is inflating in front of me. The walls of the corridor expand visually as they approach me and visually contract into the distance away from me. The approaching balloon expands in visual area, however its ratio of visual area in contrast to the walls remains constant. The expanding balloon however remains fixed in depth and takes up more of the area in the visual space. Anything that does not maintain these relative visual ratios will seem to be altering its objective size. Surrounding objects provide a frame of reference for judging objective size.

Since size constancy can be explained in terms of the relations between visual areas, we are not on account of constancy pushed towards denying that visual area contributes to the visual experience of size. On the contrary, it is a higher order property is grounded in visual area. The size of a car as it approaches seems to grow in terms of its extension in the visual field, but to stay constant in terms of visual ratio with its surrounding context. Since the phenomenal difference between an approaching object and an expanding balloon (e.g., the size constancy of the former, but not the latter) can be explained in terms of visual relations and depth, the objection that if visual area determined how things look it would be inconsistent with size constancy during relative movement does not succeed. Visual area determines how things look, but it is not the only determiner. Visual relations also play an essential role.

The relational view may also be extended to provide a visual basis for the observations of Peacocke, Tye and Noë that the trees along an avenue look the same size. The thesis is that we experience the relations between the visual area of things across depth as well as at the same depth. From my own experience, looking down a flat road I could immediately see that the light posts were all the same size, yet at the

same time they reduced in visual area into the distance. Analysing the experience, the reason for this seemed to be that the light posts reduced in visual area and height in a systematic ratio as distance increased. Recall here that according to the current view parallel lines converge in visual space towards the horizon, not just on the horizontal axis (e.g., train lines) but also on the vertical axis (e.g., the heights of light posts). Though I did not explicitly make the judgement, I could immediately see that the tops of the light poles followed a straight line which converged in depth towards the horizon, and thus judge that they were objectively the same size. That is, in some cases we can be aware of objective size in virtue of 'linear perspective'. Furthermore, if any of the light posts had a vertical visual area that was above this converging line, I would have been immediately able to see that it is objectively higher than the others. Hence, it is not merely a cognitive response, rather a relational account provides a visual basis for why the light poles, and trees in an avenue, *look* the same size. This account thus provides an experiential basis, in limited cases, for the description that size constant properties show up in experience at the same time as variant size properties.[59]

4.5. Subjectivism about Size Experience

I argued for a subjectivist theory of size experience by presenting phenomenological and empirical evidence that size variance experience cannot be accounted for by actual properties in the environment (perspectival properties or retinal images). I then presented reasons against an objectivist alternative which explains variance in size experience in terms of non-actual properties. In particular,

[59] This account also avoids positing contradictory experiences which is a charge that has been levelled at the objective dual aspect account (Overgaard, 2010; Siewert, 2006).

this alternative position cannot explain how phenomenal character could be constituted by uninstantiated properties. Finally, I presented a relational account of size constancy which provides an account of visual constancy compatible with a subjectivist framework. In this section, I will make some remarks about the positive features of the proposed view and respond to some objections.

The current proposal is that in typical size experience I am directly aware of mind-dependent properties and relations. On this view size variability is posited as a direct awareness of visual area which is an intrinsic property of the visual field.[60] Peacocke (1983) also has a view like this. Here the visual field should be understood as being constituted by mind-dependent visible properties. The present account reverses the explanation of size experience of some objective dual aspect theories in which size variance is accounted for by objective relations, while objective size is an intrinsic property of perceived objects (e.g., Schellenberg, 2008). While visual area is an intrinsic property of the visual field on the present account, at the same time it qualifies objects of experience. There is weak intentionality.

The present theory also posited a subjective relational account of size constancy. This account of size constancy uses relations in visual space to account for things looking to maintain the same size despite continual variations in visual area. The relations between the visual areas of things provide a visual basis for size constancy, but they are relations between subjective properties. Subjective properties ground size constancy. It is important to point out that an objectivist could also use such a relational account of size constancy. However, I argued that visual area is typically a subjective property in sections 4.2, hence making size constancy depend

[60] I follow David Lewis's (1983b, p. 197) understanding that an intrinsic property of a thing is had 'in virtue of the way that thing itself, and nothing else, is… The intrinsic properties of something depend only on that thing; whereas the extrinsic properties of something may depend, wholly or partly, on something else'. For an overview of different definitions of intrinsic properties, see Weatherson and Marshall (2014).

upon subjective properties. If realism about objective size is true, then experience represents size constancy via subjective relations, and hence it is an indirect realism.

I conclude this section by considering some objections to the present view. A popular objection to subjectivist theories is the argument from transparency that in perceptual experience we are apparently aware of mind-independent objects and their properties, not subjective objects or properties internal to the mind (Campbell & Cassim, 2014, chapter 1-4; Dretske, 1995; Harman, 1990; Kennedy, 2008; Lycan, 1996, 2001; Martin, 2002; Tye, 1995, 2000). One response is to grant the phenomenological data but to deny that this has any metaphysical implications (Hatfield, 2009, p. 328-329, 348-349). From the fact that I *seem* to experience mind-independent properties it does not follow that these properties *are* in fact mind-independent. Further argument is required to link the phenomenology with the metaphysics of experience. As the transparency observation is a phenomenological description it is compatible with a number of metaphysical theses including subjectivism. In fact, however, I am sympathetic with the intuition behind the transparency argument which involves taking experience seriously and moving from there to metaphysics. If there is a link between the phenomenology of experience and metaphysics it is that there is prima facie evidence for the experienced properties being mind-independent. That is, if the phenomenological data is correct, the burden of proof is on the subjectivist.

My response to transparency is to deny the phenomenological data on which the argument rests. I visually experience colour, shape, depth, movement, but where in the visual experience is the property of *being mind-independent*? Do these properties come and go or are they always present? Are they like an aura that floats around the objects of experience? Where are the little flashing lights which pronounce

‘x is mind-independent’? One candidate for the property of being mind-independent is phenomenal constancy (Campbell & Cassim, 2014, p. 162-163; Smith, 2002; Tye, 2000). However, phenomenal constancy, like shape and colour, is in itself metaphysically neutral. Perceptual experience is, as far as I can tell, silent about the metaphysical status of the objects and properties of experience. Constancies may strongly incline me to judge that what I experience is mind-independent, however it is not itself an experience of the property of *being mind-independent* (for more on this response to the transparency argument, see Spener, 2012).

A second way in which the transparency argument fails is specifically in regards to size experience. I agree with the principle of taking experience seriously which I why first-person experiments play a crucial role in the current arguments. These experiments and empirical findings suggest that variance in size experience is not identical with objective properties such as perspectival properties and retinal image size. Although a common naive phenomenological description is that size variance is as if the thing was projected onto a plane perpendicular to the line of vision (like a perspective drawing), more sophisticated methods suggest that phenomenal size variance is not the same as size as represented in a perspective drawing. Thus even if there was a prima facie phenomenological case for objectivism (which I do not think there is), further investigation suggests that typical size experience is incompatible with typical candidate objective properties and relations. Prima facie evidence is defeasible, and the present arguments suggest that there is indeed a defeater for the naïve phenomenological description that we are apparently aware of objective size properties in typical size experience (in both cases of variance and constancy).

Another objection to a subjectivist view is that variant properties do not seem to be phenomenally basic. Armstrong asserts that ‘surely it is an exception, not the rule, for something to look larger as we get nearer to it, or for something round to look elliptical when viewed obliquely’ (Armstrong, 1961, p. 12). My response is that the fact that we tend to more frequently notice the relational properties of size experience rather than variant properties is merely a matter of our attentional habits. This does not reflect on what is more basic in experience. On the present account, the phenomenal size constancy of a thing with changing distance is not phenomenally basic, rather phenomenal size constancy supervenes on visual area. There is no difference in phenomenal size constancy without a phenomenal difference in visual area. This being said, constancy is also immediately present in experience along with phenomenal size variance, just as perceptual grouping (another arguably subjective relation) is immediately present in perceptual experience. Given its phenomenal immediacy, size constancy (when present) is easily recognisable, often more so, depending upon what properties or relations one is attending to.

In this chapter I provided reasons for why size variance supports subjectivism about size experience. This leaves open a disjunction of subjectivist views about size experience such as physicalist and non-physicalist, indirect realist and phenomenalist. Whichever of these theories turn out to be the most plausible, the present account is at the very least inconsistent with perceptual objectivism about size experience.

Chapter 5

5. The Sense of Self

5.1. Introduction

Following Thomas Nagel (1974), philosophers typically characterise phenomenal experience as what it is like for a subject.[61] There is something it is like for me to smell the sea breeze, feel the sand between my toes, and feel the sun on my face. Although this description is usually shortened to 'what it is like' this according some philosophers is to miss out on an essential element of phenomenal experience, namely that it is *for me* (Levine, 2001; Kriegel, 2003, 2009; Zahavi, 2005, 2011; Zahavi & Kriegel, 2015). There is a subjective character of experience which is to be distinguished from the qualitative character of experience (Kriegel, 2005, 2009; Levine, 2001, p. 105-111, 167-174). As David Chalmers describes it:

> One sometimes feels that there is something to conscious experience that transcends all these specific (qualitative) elements: a kind of background hum, for instance, that is somehow fundamental to consciousness and that is there even when the other components are not. This phenomenology of self is so deep and intangible that it sometimes seems illusory, consisting in nothing over and above specific elements such as those listed above. Still, there seems

[61] Nagel (1974) uses the term 'organism' (p. 436) and 'subject' (p. 440, 443) interchangeably. He does though say that 'every subjective phenomenon is essentially connected with a single point of view, and it seems inevitable that an objective, physical theory will abandon that point of view' (p. 437). He further asks 'what would be left of what it was like to be a bat if one removed the viewpoint of the bat?' (p. 443). 'Point of view' suggests the first-person use of 'subject' that we will be interested in here.

> to be *something* to the phenomenology of self, even it is very hard to pindown (Chalmers, 1996, p. 10).

This sense of self is different from the sense of personhood. One often experiences what could be referred to as a self-feeling. In my own case, there is frequently what could be described as the feeling of BR, often accompanied by a vague visual image of BR's face. This feeling of personhood comes and goes. Daniel Dennett further holds that the sense of being a continuing self is maintained by the narratives that are spun about it which form a fictional 'center of narrative gravity' (Dennett, 1991, p. 418). However, we should distinguish between this sense of personhood and the sense of self. The sense of self, unlike the sense of being a continuing person, is purportedly an invariant character of experience which accompanies every experience.

There are two main conceptions of the sense of self - a weak conception and a strong conception. 'For-me-ness' as it has come to be used is a weak sense of self (Kriegel, 2003, 2009; Zahavi, 2005, 2011, 2014; Zahavi & Kriegel, 2015). Gallagher and Zahavi (2010) attribute this view to the phenomenologists Husserl, Merleau-Ponty, Heidegger and Sartre. For-me-ness is proposed to be an invariant dimension of consciousness in which every experience is 'marked as my experience' (Gallagher & Zahavi, 2010, p. 1). It is a pre-reflective self-awareness. It is contrasted with a reflective self-awareness such as when I think 'I am confused', feel that I've forgotten something, or recognise myself in the mirror. This self-awareness of experience is built into all experiences. This dimension of experience is non-intentional. It is not experienced as an object of awareness. It is also non-attentional. I cannot attend to for-me-ness. Rather 'it is permanently humming in the background of our stream of

consciousness, but never shows up at the focal center of our overall awareness' (Kriegel, 2003, p. 14).

Although for-me-ness is often described as 'self-consciousness' (Gallagher & Zahavi, 2010) it is better thought of as an awareness of having experiences. It is a dimension of conscious experience, in the stream of consciousness itself, 'a built-in self-reference, a primitive experiential self-referentiality' (Zahavi, 2005, p. 122). Zahavi suggests that his view may be better understood by the phrase 'the subjectivity of experience' rather than by 'subject of experience' (Zahavi, 2005, p. 126, 2011, p. 64; see also Williford, 2006, p. 121). For-me-ness refers to a subject which may or may not exist. Hence the proponent of for-me-ness could hold that there is in fact no self, the sense of self is illusory because it mistakenly refers to a subject that does not exist (Dreyfus, 2011; Krueger, 2011). Zahavi holds that there is no distinct subject to which for-me-ness refers, but also prefers to revise the term 'self' such that for-me-ness just is the minimal self (2005, p. 125, 2011, p. 60).[62]

A strong sense of self is a sense of being a single, unchanging subject of experience (Me). This latter sense of self could be illusionary or taken as a full blown self-awareness (if this apparent subject in fact exists). A strong sense of self is subject-presenting. One motivation for holding that there is a continuous, invariant strong sense of self comes from the phenomenology of meditation. A common experience is that of being the observer of thoughts, feelings and sounds as they arise and disappear. These phenomena keep changing but 'I' seem to remain unchanged. There is a phenomenal polarity between the objects of consciousness and the observer

[62] Krueger (2011) argues that given that subjectivity is in the stream of consciousness which is always changing moment by moment, Zahavi can at best talk of 'a plurality of numerically distinct, minimal phenomenal selves' (Krueger, 2011, p. 51). Albahari makes a similar point ' how can we phenomenally tell whether the situation is that of numerically discrete and contiguous (qualitatively invariant) for-me-nesses, or just one unbroken for-me-ness, which may well point to an invariant observer?' (Albahari, 2011, p. 99-100).

of them (Albahari, 2009; Deikman, 1996). Strawson refers to self-experience as 'the experience that people have of themselves of being, specifically, a mental presence; a mental someone; a single mental something or other' (Strawson, 1997, p. 407). As Damasio expresses it: 'like it or not we cannot escape the fact that the mind seems split, like a house divided, between the knower and the known' (Damasio, 1999, p. 191). This knowing aspect seems to go beyond the mere 'mineness' of experience, but suggests that there (at least) *seems to be* a full-blooded subject of experience. To hold that the sense of self is merely for-me-ness is to deny that there seems to be an observational or knowing aspect. Albahari states that

> while I agree that for-me-ness characterizes our experience, I contend that it structures our conscious life far more dramatically than as just a reflexive sheen on the bead of each experience. It necessarily bifurcates our experience into subject and object. For so long as our diverse experiences seem to be *for* me – and for the very same me over time, no less – there is no escaping that there will seem to be a perspectival 'me' that the experiences are for. Or to put it more simply: so long as objects are experienced as being given to a subject there must seem to be *a subject* to which they are given' (Albahari, 2011, p. 100-101: original emphasis).

Proponents of the strong sense of self will hence hold that the 'mineness' of experience derives from the observational aspect of experience.[63] Like the notion of

[63] Some philosophers influenced by Eastern traditions label the observational aspect 'awareness' (Albahari, 2009; Deikman, 1996; Forman, 1998; Gupta, 1998; Shear 1998). They further hold that awareness is the subject. I am sympathetic with the first usage of the term, though I am less sure about the second. A number of other philosophers have assured me that awareness is a relation between a subject and an object. It certainly cannot be the subject. This is just the way that we use the concept. In the end, I am not sure which side is correct and do not have the space here to explore the issue in detail.

for-me-ness both Albahari (2009) and Deikman (1996) also hold that the subject is known implicitly and not as an object of experience.

The existence of both senses of self is controversial. Many philosophers do not recognize it. Some deny that there is an invariant for-me-ness in experience (Dainton, 2008, p. 242-243; Prinz, 2012, p. 127). Dainton (2008) agrees that there is often subject-object split in experience, but that it is not invariant. Rather there are times, such as 'when we drift in reverie' (Dainton, 2008, p. 147) when there is no sense of self. Others hold that there is a seeming invariant subject-object polarity, but then explain it in terms of something else. For example, Evans (1970) explains the apparent duality by means of the duality between attended and unattended experiences. There are always aspects of experience in the background of awareness such as bodily sensations and bird whistles. According to Evans (1970) the subject is just the sum of whatever is in the background of awareness. Albahari points out that this account has counter-intuitive consequences:[64]

> Imagine… that one is attending to an orchestra while enduring an unattended pain in the back. Does it seem to the person as if her back pain – along with all the other manifold of unattended items – is attending to the orchestra? That is how it would have to seem, if Evans was right in supposing that 'the subject' of experience *seems* to be nothing more than the cacophony of background experiences (Albahari, 2009, p. 73-74).

In contrast to previous authors, I provide methods for explicitly recognising a strong sense of self. It is explicit because this strong sense of self relies upon orienting

---

Here I use the terms 'sense of self', 'me', 'observational aspect' and 'knowing aspect' as these are the least controversial. I remain neutral here as to whether or not to call it 'awareness'.

[64] See Dainton (2008, p. 140-141) for further criticisms of Evan's view.

attention to where I seem to be looking from – to the apparent location of the looker. The location to which I refer is 180 degrees from the text that you are currently reading. I further claim that once one has recognised this sense of self presence explicitly it is also possible to recognise that the awareness that I am here/looking from here is also present when I am not specifically attending to this location.

The plan of this chapter is as follows: In section 2, I use first-person experiments from Douglas Harding for explicitly recognising: (1) a strong sense of self, and (2) a visual gap. In section 3, I argue this sense of self cannot be reduced to inference, thinking or feeling, or the viewpoint. Finally in section 4, I provide some preliminary reasons for thinking that the gap is a prima facie subject.

5.2. First-person Experiments

In this section, I use first-person methods developed by Douglas Harding as a means for distinguishing the sense of sense and a candidate for the subject.[65]
The first-person method used here consists of three essential components: The first component, setting aside assumptions, is an essential initial step in many first-person methodologies (Lutz & Thompson, 2003; Varela, 1996, p. 335-338). This involves setting aside theories, common sense, and any other metaphysical assumptions, and to simply take your experience exactly as it is given. To look as if for the first time. In particular, we will be screening off the third-person perspective, and going solely by present first-person experience. The second component is distinguishing by phenomenal contrast (Siegel, 2007). Here two phenomena are compared so as to make salient the phenomenal difference between them. Thirdly, unlike standard forms of

[65] Experiment 5.2 is from Harding. Experiments 5.1, 5.3 and 5.4 are my own variants on his experimental method.

‘introspection’ these methods use apparatus such as one’s own body to both make the phenomenal contrast and to assist in orienting attention to the target phenomena. In particular, the aim of the following first-person experiments is to provide systematic methods, via the manipulation of attention, of isolating the sense of self and a gap-like aspect. I focus here on visual experience.

5.2.1 Experiment 5.1: The Pointing Experiment – Part 1

Where are you looking from? Hold up your hand in front of you. Are you looking from the left of the hand? The right of the hand? Or is the place you are looking from located at 180 degrees from the hand? I find the latter. I am looking from here. To further test this try pointing outwards at various objects. I find that I point at objects such as a table, a chair, and a wall. I see things and surfaces that are composed of shapes and colours, but I do not seem to point at myself. Now point to where others see your face. I now seem to be pointing at the looker. There is a sense of me-being-here.

I am certainly aware that the finger is presented to me, just as I am aware that the wall is presented to me. This so far is consistent with for-me-ness. However there is an additional character to the experience that is not there when I point at the wall. The finger is not just experienced as ‘for me’ or as being *my* experience of the finger. Rather the finger seems to be pointing directly *at me*. It is not just that the experience of the finger is *mine*, the finger non-linguistically and explicitly indicates *me*. The sense that I am here is the sense that *I the subject of experience* am located here. This is a strong sense of self, not merely for-me-ness or mineness.

What about when I point at my leg? Is not that also experienced as 'me'? This seems to be 'my' leg, but it is also visually given as an object in the world over there. It does not seem to be the observing subject. I take a perspective upon it.[66] By contrast when I point here I seem to be pointing at the looker or the observer, *that* which is viewing the finger (and the leg etc.). *I* seem to be the target of the pointing finger. Hence this is an explicit, strong sense of self rather than weaker senses of self such as for-me-ness or the sense of ownership of my body. I seem to be pointing at the observer.

5.2.2 Experiment 5.2: The Pointing Experiment – Part 2

I seem to point at myself when I point here. This seems to be me, but what is it like to be me in my current experience? We will now investigate a second aspect of the experience.

Please do the following. Use your finger to point at a wall. Notice that you are pointing at a thing with colour, shape and texture. Point at the floor and notice its various colours and textures. Now point at your foot and then slowly trace your pointing finger up your body noticing its three-dimensional volume, and various colours and textures of your limbs and clothes. Finally turn your finger around so that it is pointing where others see your face. On present experience do you seem to be pointing at a face? Are there apparently any colours here? Shapes? Textures?

[66] There is an interesting question here as to whether my hand is experienced as both an object and the 'feeler' particularly when bringing in the sense of touch. This idea is prominently found in Merleau-Ponty (1968. p. 130-155). See Sartre (1956, p. 303-305) for arguments for the opposing view that the feeler cannot be experienced as an object. I set aside the sense of touch here and focus on vision.

Movement? None of these are experienced at this location. Rather I experience a gap.[67]

5.2.3 Experiment 5.3: The Aware Spot

I experience this location like a gap, but is it merely a gap? The question of this experiment is where seems to be the location of the looker?

(1) *Gaps*: Point to the gap formed by an open doorway. In a sense you are pointing at nothing. I seem to be pointing at no shapes or colours and not at the looker. (2) *Aware Spot*: Now point here. There is a phenomenal difference between the gap of the door way and here. Again there are apparently no shapes and colours, but I also seem to be pointing at the looker. It does not merely seem to be a gap. I am seemingly pointing at where I am looking from, the locus of awareness. A gap in a doorway has a spacious emptiness to it simpliciter. By contrast, when I attend here there is both (1) a spacious emptiness and (2) a sense that I am here/looking from here. Harding refers to this as an 'Aware-Space' (Harding, 1996, p. 83; 2001, p. 135).

5.3. The Strong Sense of Self

I seem to be located here. When I attend to the place I seem to be looking from, there is an explicit and strong sense that I am here. The experience is explicit because it involves directing attention. It is not the for-me-ness or mine-ness of experience firstly because it can be recognised explicitly, and secondly because this seems to be me - the subject to which things are visually presented to. Zahavi (2005,

[67] For examples of the pointing experiment see: Harding (1990, p. 8-9, 41-42; 2000, p. 8-9), Lang (2003, p. 7-8).

p. 119) also refers to for-me-ness as the ‘first-person givenness’ of experience. This locus of awareness by contrast seems to be the first-person to which things are given. The first-person itself seems to be given. For-me-ness refers to a subject that may or may not be present, whereas my pointing finger seems to be directed at the observer itself, not just a reference to the first-person. This is hence a strong sense of self.

However, I do not need to attend to this location to have the sense that I am looking from here. Even if I attend straight ahead there is still the awareness of looking from here. This implicit sense of self is an invariant aspect of experience. Once one recognises this sense of self explicitly, the implicit sense of self is also evident. It is natural to hold that for-me-ness in the weak sense is derivative upon the strong sense of self.

How can we account for this sense of self? I discuss a number of possible options including: inference, thought, and the view point. These proceed from less plausible to more plausible.

5.3.1 Inference

Perhaps this seems to be me because I also have various facial and eye sensations. Is that why this seems to be the looker? However, when I point at my arm there are also various sensations felt in that location, without the unique sense of pointing at the observer.

Perhaps when I point here I am inferring that this is myself. I have learnt that ‘I’ am here. However I am not aware of making an inference that I am here. There are two problems with this suggestion. Firstly, it seems odd to think that there could be a subject that could for instance mistakenly believe that it was looking from the side of

the visual field. Surely it would not need to learn that it is looking from here. I do not seem to look from any old direction, but precisely from here. This is built into the experience (or so I claim).

The second problem with this suggestion is that by itself it does not account for the phenomenal difference between pointing here and pointing elsewhere. To make a phenomenal difference there must be some phenomenology, and a mere belief or disposition to think makes no phenomenal difference. It must then be a disposition to think or feel that this is me which make the phenomenal difference. The suggestion then collapses into the next account that there is some sort of thought, feeling or imagining that I am here which accounts for the sense of self.

5.3.2 Thought, Imagination and Sense of Self

Perhaps the phenomenal difference identified in the previous experiments is due to thinking about myself whenever I point here. I simply think ‘me’, or have some vague sense of ‘me’ when I point here. Are thoughts necessary for me to seem to be aware from here? Test this by trying the following:

Experiment 5.4: Thinking and Imagining

Point here and at the same time think ‘me, me, me’. As you do so imagine yourself in as much detail as possible, including the vague sense of self you have when you wordlessly think of yourself. Is there a stronger experience of pointing at yourself? Now try thinking ‘Elvis, Elvis, Elvis’ and imagine Elvis in as much detail as possible. Elvis in a white jump suit, crooning and hip swivelling. I find that the difference in

thoughts doesn't change the experience of pointing at the looker. Neither does thinking 'Elvis' make it feel like I am pointing at Elvis. None of these thoughts or images make a difference to this essentially perception-like experience.

Perhaps I am somehow still thinking about myself even while thinking 'Elvis'? This seems highly unlikely as I cannot typically think two thoughts at once. I cannot have two simultaneous streams of 'inner speech' about myself and Elvis at the same time. I could think the conjunction 'Elvis and me' but I was not doing that just now, at least not consciously so. If I was thinking it unconsciously then this cannot account for the phenomenal difference. I can though think and imagine, and feel different things at once, but then all I need to do is load my mind's eye with more conflicting imaginations, feelings etc. so as to crowd out any thoughts, feelings or imaginings about myself. Whether I am thinking of myself, or someone else, or nothing at all, the experience of looking from here does not change.

Perhaps the problem with the above exercise is that I am not really immersing myself in the act of imagination. I need to imaginatively take on the point of view of someone else. One possible counter-example is provided by Bernard Williams (1973). He intriguingly supposes that I imagine that I am Napoleon such that I entertain 'images of, for instance, the desolation at Austerlitz as viewed by me vaguely aware of my short stature and my cockaded hat, my hand in my tunic' (Williams, 1973, p. 43). Now suppose that I point at the viewer. Is it not the case that I seem to not be pointing at myself, but at Napoleon? Afterall, I am imagining that I am not myself but that I am Napoleon. It is seemingly Napoleon's point of view.

As a response we need to distinguish between the personal self and the viewer. I am imagining that I am not BR, but rather I am Napoleon, so I will not seem to be

pointing at BR. However, I think that I will still seem to be pointing at myself (as the viewer). This is a pre-personal sense of self. ‘I’ will still seem to be looking from here even if that ‘I’ is not the personal I. Should we believe in this pre-personal sense of ‘I’? It seems plausible that even if I lost all of my memories and hence did not know who I was as a person I would still seem to be looking from here. I would still be seemingly located here. We should also distinguish between different modes of seeming. There is a seeming of seeing, a seeming of hearing and a seeming of imagining. When I point here whilst imagining that I am Napoleon I imaginatively-seem to be pointing at Napoleon and not BR. But nevertheless I non-imaginatively seem to be pointing at myself as viewer.

Or to put it another way, how do I know that I imaginatively-seem to be pointing at Napoleon? The answer is because I seem to be pointing at myself (in a pre-imaginative way), who imaginatively seems to be Napoleon. Suppose that I somehow lost the sense that I was here, such that I had no awareness that I was looking from here at all. It seems then that I could not imaginatively-seem to be anyone let alone Napoleon because this minimal sense of self grounds the possibility of seeming to be a subject at all. I only know that I imaginatively seem to be pointing at Napoleon because I am aware of pointing at myself, who is imagining being Napoleon. Suppose that I took the imagining too far and started to genuinely believe that I am Napoleon. This would not be a problem either because then when I point here I will seem to be pointing at myself, who believes that he is in fact Napoleon. I am mistaken that I am Napoleon, but nevertheless I cannot be mistakenly that I seem to be pointing at the subject. Hence I do not think that William’s mind-bending case is a counter-example.

Explicit thoughts, imaginings and feelings are variant. They come and go.

The sense that I am looking from here does not change. This is an invariant aspect of the structure of experience. I am not constantly having thoughts, feelings or imaginings that I am here.

5.3.3 Spatial Visual Structure and the Viewpoint

A more plausible proposal is that this strong sense of self is reducible to the viewpoint. Some may think that this is obviously so, though I will argue that the viewpoint is not sufficient to explain this sense of self. The viewpoint is a central point in the spatial structure of vision or egocentric space, that is, space as experienced from a first-person point of view. Examples include left, right, in front.[68] Non-Egocentric space on the other hand has coordinates that are not relative to a point of view such as north, west and south. Campbell (1994, p. 119) distinguishes between monadic and relational egocentric information. 'X is to the left' is an example of a monadic egocentric property.[69] 'X is to the left of me' is an example of an egocentric relation. He holds that the visual information does not have an inbuilt reference to the subject but rather is monadic. However, a relational description can also exclude a specific reference to a subject.[70] Things are seen as located to the left of centre and right of centre, and at a distance from here.

The central point in vision is the viewpoint. The visible side of things apparently face this centre in egocentric space. Perhaps then it is just built into visual experience that things are at a distance from here, but there is no sense of *me* being here. For example, Blanke and Metzinger describe a weak first-person perspective as:

---

[68] For further discussion on egocentric information see Peacocke (1992, chapter 3) on scenarios and Bermudez (1998, chapter 5) on self-specifying information in vision.
[69] Colours are another example of monadic visual properties.
[70] Casullo (1986, 1989) argues that objects have their positions in perceptual space in virtue of monadic position properties, while Falkenstein (1989) argues in favour of relations.

> A purely geometrical feature of a perceptual or imagined model of reality possessing a point of projection functioning as its origin in sensory and mental processing, but is not linked with theoretically more charged notions such as 'subject of experience' (Blanke and Metzinger, 2009, p. 8).

The advantage of this proposal over thoughts, feelings and images is that it would provide an invariant structure to visual experience to account for the phenomenology. Do I seem to be pointing at myself because I am pointing at the viewpoint? The best way to test the adequacy of this alternative description is to close your eyes. If the experience is reducible to the spatial aspects of the visual field such as the viewpoint then closing your eyes should eliminate this sense of self. This experiment is a variant of an experiment by Arthur Deikman (1996, p. 351) who uses a method of contrast for distinguishing the subject (he uses the term 'awareness').

Experiment 5.5: Eyes Closed Experiment

Close your eyes. The visual scene and it objects have been suddenly replaced by a dark grey field. You may experience dynamic points of light somewhat like television static but no objects. Notice that while visual experience has changed the sense of observing has not. The phenomena presented to me have changed, but my presence as experiencer of the phenomena remains constant.

When I close my eyes even though there is no three-dimensional spatial information and nothing to project, my sense of observing things does not change. I

now observe blackness. However, other relations are always present. For example, when the visual field is entirely black I can still attend to different positions in the field such as to the left, centre and right. Should this central point be treated as the viewpoint or does the viewpoint disappear when I close my eyes? It seems likely that there is a viewpoint only when there is three-dimensional spatial information. For example, a photo of a street scene has a viewpoint which things face and recede into the distance from. However, a photo of a totally dark room represents nothing but blackness – it does not represent a viewpoint. If it does depict a viewpoint it is only in a very abstract sense of the term, like a centre of gravity. When I close my eyes my sense of self-presence does not disappear, even though there is no three-dimensional spatial information and arguably no viewpoint. When the lights go out, if anything the phenomenal polarity between the observer and the observed (the blackness) and is even more salient. If correct, this shows that the sense of self we have been investigating is not reducible to visual geometric information.

Perhaps there is other spatial information that can explain the continued sense of self. There is for instance proprioception. Is the sense of self a central point in the proprioceptive field? There is also auditory spatial information. Is the sense of 'me' the central point in auditory space? There are a number of problems with these proposals. Firstly, the central points in vision, proprioception and audition are all different. At which centre do I seem to be located? It is not even clear that there is a central point in proprioceptive experience. Neither do I suddenly seem to shift centre when I close my eyes. These sources of information are also erratic. I do not always hear sounds or have a sense of the position of my limbs. These sources of information are too variable to explain the invariance of my self-presence. I do not drop in and out of self-awareness (at least whilst I am conscious).

There is also the sense that I observe my thoughts and feelings, however these do not seem to have any particular location. Even if they do where is the central point in cognitive and/or emotional space? These questions do not seem to make sense. Given the variability in sensory experiences, their different central points and given that many aspects of experience arguably do not have spatial experience at all times it seems that we are forced to posit an unchanging multi-modal centre. This would account for the invariance of the sense of self. But now it is not clear what we are talking about. The viewpoint in vision is locatable and definable, but now it turns out that this cannot account for the continuing sense of self. Blanke and Metzinger refer to 'a point of projection functioning as (the) origin in sensory and mental processing' (Blanke and Metzinger, 2009, p. 8). What would it be like to experience this 'origin'? This is not particularly mysterious when it comes to spatial experience, but what would it be like when it comes to non-spatial experience? In non-spatial experience an origin suggests a temporal or causal origin, but it is doubtful that either of these could account for the phenomenology. What would it even be like to experience the causal origin of thoughts? A multi-sensory central point or origin is so abstract that it is not clear that it could have any specific phenomenology. It seems more like a theoretical point like a centre of gravity than a point that could make a phenomenal difference to overall experience.

A response to this the might be that 'the sense of self is just as mysterious!' This is true, but no supporter of a unique, irreducible sense of self is denying this. Here the question is not about metaphysical reduction but about phenomenal reduction.[71] It is a question of whether there is a plausible aspect of ordinary

[71] Not to be confused with the Husserlian phenomenological reduction.

phenomenology which could account for the sense of self. Zahavi and Kriegel (2015, p. 50) entirely concede the mysteriousness of the phenomenology:

Many philosophers will still feel that there is something elusive and slightly mysterious about for-me-ness. In fact we do not wish to deny this: we think that for-me-ness is just as mysterious as phenomenal consciousness.

A reductive account on the other hand should reduce the mysterious experiential phenomenon to a less mysterious experiential phenomenon. For example, Evans (1970) tried to reduce the apparent subject-object polarity to the polarity between attended and unattended experience. A similar reduction seems relatively straightforward in the case of the visual viewpoint. Once we move to other modalities this central point or origin arguably becomes just as mysterious as the sense of self.

Finally, why should I seem to be at this central point rather than at a peripheral point? Let us return to the case of vision. With eyes open, when I point here I seem to be pointing at myself. I am also pointing at the viewpoint. But why should I seem to be located here rather than somewhere else? I honestly do not know! Locating a central point is not the same as me seeming to be located at that central point. It seems that we again need some sort of sense of me - a phenomenally irreducible self-awareness. Without the sense of me it is just a central point. If this is correct then there is more to the phenomenology than just a central point, there is also the 'me-ness' aspect which is arguably the essential feature of the sense of self. This suggests that a central point or origin is not sufficient to account for the phenomenology. Something further is required to fix 'me' at that point. There needs to be an apparent awareness of me. Suppose this invariant abstract centre in sensory-space is

constructed and it is also stipulated in experience (also invariantly) that 'this is me'. We are then back to the invariant sense of self that we set out to explain in the first place.

5.4. The Self as a Gap

I have argued that there is a strong sense of self, a sense of me looking from here. Pointing here is a way of noticing it, but it is always implicitly present. My self-presence is continuous. The explicit sense that 'I' am here is stronger than a sense of 'mineness' of experiences. It is not explained by for-me-ness. Rather it is plausible that the strong sense of sense explains for-me-ness. I also argued that this sense of self does not reduce to inference, thoughts, feelings, imagination or the viewpoint.

The second aspect to the experience of this location is its gap-like or space-like character. This is different from both for-me-ness and the strong sense of self, as there is a character of spacious emptiness to it. This also distinguishes it from the view point. In fact, this apparently empty region is not experienced as a mere point, but as an extended region. It would be better not to say that I find a view-point here, but an open region or a view-space. Unlike a mere point which cannot contain anything, this openness allows this space to encompass the visual scene.

It is this last aspect which is a reason for positing that this is the subject – that this is me. By encompassing the visual scene it can function as a bearer for it. To account for the unity of consciousness, Bayne and Chalmers (2003) posit a total state of consciousness which subsumes all conscious states. They refer to it as a 'singularity behind the multiplicity' (*ibid*., p. 27). Albahari (2009) also underlines this statement from Bayne and Chalmers. She calls it 'mode-neutral awareness' and

identifies it with the subject. This gap certainly seems to be me, or more neutrally, I seem to be looking from it. It is also aptly described as a ‘singularity behind the multiplicity’. Visually speaking this space is that to which things are visually presented. It is not a point, but a transparent opening which encompasses those very things.

This gap-like aspect is distinct from the background hum for which we were looking. It is not the sense of self - the sense of knowing or observing, but they seem to be intimately connected. Harding calls it an ‘aware-space’. A further question then arises as to the relationship between the observational aspect and the emptiness aspect. Are they identical, or is the knowingness aspect (awareness?) a property of this apparent space? These are intriguing metaphysical questions which go beyond the scope of the dissertation. Furthermore, I have not argued here that this actually is the subject, I am still talking about how things seem. However, if this is indeed me, then the explicit sense that this is me counts as self-awareness in the full sense of the term. In the next chapter, I argue that experiencing this gap or space meets the criterion for a self-experience, and that this provides prima facie evidence for this being me.

Chapter 6

6. Self-Experience

6.1. Introduction

The previous chapter investigated the sense of self. The sense of self is conceptually distinct from the self. The sense of self is the sense that I am present. There may be a sense of the self but no actual self, or there may be a self while there is no sense of self. The sense of self and the self come apart when it comes to recognising myself as a person. For example, I may identify the person wearing a blue shirt in a crowd reflected in a large mirror, but nevertheless fail to recognise that the person is in fact me. I identify the person wearing the blue shirt (myself), but there is no associated sense of self. There is also the sense of self from the first-person point of view of being the viewer of the scene. There may be a sense of being the viewer, but nevertheless there may be no viewer.[72] I argue the sense of self is also phenomenally distinct from a direct experience of the self. On the other hand, in seeming to explicitly experience the viewer it is plausible that the sense of self would be an essential aspect of the experience. The goal of the present chapter is to argue that the visual gap identified in the previous chapter is a prima facie candidate for the self. That is, the self has a prima facie reality.

What Am I? Methods for answering this question divide roughly into those which take a third-person approach, and those which take a first-person approach. The

[72] Though Zahavi (2005, p. 125, 2011, p. 60) insists that the sense of self just is the self.

third-person approach has been used to provide answers such as I am the human, the organism (Olson, 1997, 2003), the brain or functions/processes of the brain (Dennett, 1991; Metzinger, 2004) etc. These selves are objects or processes in the world. There is also the first-person approach to the self which takes first-person experience as the methodological beginning point (Albahari, 2009; Edey, 1997; Evans, 1970; Dainton, 2004; Dainton and Bayne, 2005; Deikman, 1996; Harding, 1986a; Strawson, 1997; Zahavi, 2005).[73] I will be taking the latter approach here, in particular, I will be using a first-person experimental approach developed by Douglas Harding.

One may recognise the puzzle of what I am by asking: who or what is currently aware of the objects before me? I am aware of this computer screen, I am aware of my hands, I am aware of my body, I am aware of my thoughts and emotions. These are all objects of awareness (objects in a broad sense), and hence (phenomenally speaking) are not the 'I' that is presently aware of them (Albahari, 2006, p. 7-12; Bond, 2005; Deikman, 1996; Edey, 1997). What is this experiencer?

This was the project that engaged Descartes in the first two meditations. Suppose that there is an evil demon feeding me all of my experiences and deceiving me into thinking that the world exists. My body does not exist. I am not even a human. Even so it cannot deceive me that I am currently experiencing. He concludes in the second meditation that 'this alone cannot be detached from me' and that at minimum I am a 'thinking thing'[74] (Descartes, 1641, p. 25). I know that I, the experiencer exists (whatever I turn out to be) even if I am deceived about everything else. It is not necessary to engage in Cartesian scepticism to ask about the nature of the experiencer. Doing so is just a vivid way of recognising that there is indeed a question to ask. It is a way of withdrawing from what I think I know of myself as

[73] For an overview of theories see Olson (2007).
[74] Descartes (1641, p. 26) uses 'thinking' in a broad sense to include doubting, understanding, willing, imagining and sensing.

learned from others, to focusing upon what I know of myself in my own first-person experience. Husserl (1960) takes this as the entry into phenomenology as a scientific practice.

One can take the rational (apriori) route or the phenomenological route to uncovering the nature of the experiencer. Here I combine both approaches. The phenomenological route reached a road block with Hume, when he proclaimed that he could find nothing in experience that corresponded to a self. Hume's negative finding has been re-confirmed by most philosophers since. As an example Bertrand Russell (1914) concurred with Hume that 'we can easily become aware of our own experiences, but we seem to never become aware of the subject itself' (Russell, 1914, p. 439). Contrary to Hume, I will argue that there can be an experience as of a subject (a self-experience) with the assistance of appropriate methods.

Many will deny that phenomenology gives you metaphysics. However, there are reasons for holding that phenomenology does provide a guide to metaphysics when it comes to the subject. In fact, it is indispensable. As Strawson (1997) points out, first-person experience is the source of the problem of the self, so first-person experience is also the place to start in an investigation of the nature of the subject. Metaphysics is subordinate to phenomenology in this realm. Metaphysics is downstream of phenomenology. To ignore phenomenal experience in investigating the nature of the subject is like doing physics by analysing common sense concepts of the physical - an entirely fruitless endeavour if you are interested in the way things actually are. The same reasoning applies to the subject of experience. How can I decide what I am if I am not even sure what it is like to be me?

Here I will argue for the prima facie reality of the subject. In particular, that there seems to be a subject. A phenomenological approach to the self like any

empirical approach does not need to establish a necessary connection between experience and metaphysics, rather all that is needed is that it provides prima facie justification for the metaphysical thesis. For example, suppose that I seem to see a duck. That which I seem to see meets the criterion for being a duck. It seems to have feathers, seems to waddle and seems to quack. It could of course be a hallucination or a robot duck and hence not actually a duck. It is defeasible evidence. However, in the absence of reasons against the experiential evidence, I am prima facie justified in believing that it is a duck. Analogously in this chapter, I provide criterion for characteristics of the subject and provide phenomenological evidence that there is a target of experience that meets this criterion. It may still turn out that there is no self, it may be undermined by further evidence, but there will at least be prima facie justification for holding that it is me (for discussions of prima facie justification see: Goldman, 2004; Pryor, 2000).

On the other hand, I do not think that a sense of self reaches the threshold for providing prima facie evidence for the reality of the self. To continue the analogy, suppose that I have a vague sense of duckyness – a feeling that there is a duck. In this case, I would probably not be justified in believing that a duck is present. Even a strong intuition would not suffice. Someone would want to know what reason I have for the feeling or intuition that there is a duck. A perceptual experience of a duck on the other hand presents one with specific ducky properties which directly meet the criterion of duckhood and hence provides a case for the prima facie reality of the duck. Analogously, I use first-person experiments within the visual modality to identify a target with properties that could answer to being the self. Additionally it may be expected that experiencing the self would be necessarily accompanied by a sense of self (a sense that this is me). If a candidate for the subject can be identified,

and awareness of it is accompanied by the sense that this is me, then there would be a strong prima facie case for this being me.[75]

Here I draw upon methods developed by Douglas Harding which provide step by step instructions for experiencing what it is like to be me. The main focus will be on the visual modality. Hume's claim that I cannot experience myself applies to all modalities, so finding a candidate self-experience using vision would be sufficient to negate this finding. Instead of asking whether the experiencer can be experienced, I begin with the simpler question of whether the looker can be visually experienced and set aside a detailed investigation of other sensory modalities for another occasion. I do however provide a brief discussion of other modalities in section 8.3.

I will be focusing on the synchronic properties of the subject (that is, its unity at a single moment), rather than its diachronic properties (that is, its continuity over time). The main aim of the chapter is identifying a candidate for self-experience, particularly a non-objectifying self-experience in which I experience myself but not as an object of experience. From there seeming to be a subject it does not necessarily follow that there is a subject. The main aim is not to argue for the further claim that the experience is veridical here. Rather the aim of the chapter is to provide support for the prima facie reality of the subject.

The plan for the chapter is as follows: In section 6.2, I investigate the problem of experiencing the subject through Hume's phenomenological description. I will be using Hume as an inspiration, not engaging in Hume scholarship. One outcome of Hume's challenge is that the subject cannot be an object of awareness. In section 6.3, I provide criteria for what could count as a non-objectifying experience. In section

[75] An objection is that the analogy allows too much to be prima facie justified. It seems to allow that revelation can count as evidence. However, revelation is not intersubjectively reliable. A non-biased subject will not obtain the same results. By contrast the first-person experiments provide phenomenological evidence that I claim is intersubjectively reliable (the reader can test this for themselves).

6.4, I use apriori reasoning to derive the characteristics required for a minimal subject of experience, and hence provide criteria for a self-experience. In sections 6.5 and 6.6, I employ awareness exercises from Douglas Harding to show that there is an experience which fits these phenomenal criteria. In section 6.7, I discuss these findings. In section 6.8, I respond to alternative descriptions of the phenomenological data. I make some concluding comments in section 6.9.

6.2. Hume's Search for the Self

Introspecting his experience, David Hume (1777/1975) famously reported:

> For my part, when I enter most intimately into what I call myself, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch myself at any time without a perception, and never can observe anything but the perception. When my perceptions are removed for any time, as by sound sleep; so long am I insensible of myself, and may truly be said to not exist. And were all my perceptions removed by death, and could I neither think, nor feel, nor see, nor love, nor hate after the dissolution of my body, I should be entirely annihilated, nor do I conceive what is farther requisite to make me a perfect non-entity. If anyone upon serious and unprejudiced reflection, thinks he has a different notion of himself, I must confess I can reason no longer with him… He may, perhaps, perceive something simple and continued, which he calls himself; though I am certain there is no such principle in me.

An objection to Hume's elusiveness thesis is that he can be aware of himself by looking in the mirror or at his hand. This would be a third-person awareness of himself, whereas Hume is searching for a first-person awareness of himself (Howell, 2010). A third-person way of experiencing is the perspective available for others to take upon me, and I take upon myself when I look at my hand or my face in the mirror. Feeling pain is an example of a first-person way of experiencing. The difference for instance is between knowing that I am in pain by seeing the grimace of my face in the mirror (third-person way) and feeling the pain (first-person way).

Peacocke (2014) makes a similar point in terms of attention. He distinguishes between derivative and original attention. Derivative attention is attending to something by attending to something else. An example is attending to another's pain by attending to the grimaces of their face. I am derivatively attending to their pain by originally (or directly) attending to their grimacing face. On the other hand, I attend to my own pain, 'given as the pain' (p. 46) by original attention.[76] I can also derivatively attend to myself by attending to the face in the mirror. I am originally attending to the face in the mirror (it is visually given as that face over there), and at the same time derivatively attending to myself. The elusiveness claim then is that, while I can attend to myself by derivative attention such as by looking in the mirror, I cannot directly attend to myself by original attention in a first-person way.

A second objection to the elusiveness thesis is that I can attend to myself by attending to properties of my experience. This is analogous to attending to an apple by attending to it properties such as shape and colour. Thus the subject, if it is elusive, is elusive in the same manner that objects are elusive. Howell (2010, p. 474-475) replies to this objection by pointing out a disanalogy between the two cases. The properties

[76] I could of course derivatively attend to my pain by attending to the grimaces of my own face in the mirror.

of objects are ‘object-presenting’ whereas the properties of myself as subject are not. For example, when I see the redness of the apple, it is seen as qualifying the apple. It is not presented as qualifying my mind. When I feel pain, it is not presented as qualifying me as subject. It is pain for me, but it qualifies my stubbed toe, an object of experience. Even if the character of redness and painfulness are intrinsic properties of me, they are not presented as such. This is a point similar to Peacocke. I apparently attend directly to the apple, however, I do not typically apparently attend directly to myself as experiencer. This observation is related to the transparency (diaphanousness) of experience which is the observation that I can attend to (or am aware of) objects and their properties but apparently not properties of experience (Harman, 1990; Tye, 1995, 2000). Even love and hatred are just the properties of lovability or despicability of some person or object. The subject of experience is elusive in a way that objects and their properties are not.

Having elucidated the way in which the subject is elusive, another important point is that Hume was not searching for just any phenomena in experience. He was looking for one that could play a very specific function of unifying all of my experiences both synchronically (at one moment) and diachronically (over time). This is presumably why he asks whether there is a property of simplicity - as it could unify disparate experiences into a single whole, and a property of continuity - as it could unify experiences over time. Hume was searching for a substance.

The bundle theory of the self is thesis that the self just is a collection of experiences and the relations between them. There is no experiencer behind the individual experiences. There is no bearer of experience. This is a reductionist view of the self. This metaphysical thesis is distinct from the denial that there is a further

experiencible invariant factor present with all experiencing which could function as a subject. As Jesse Prinz puts it:

> Among the various phenomenal qualities that make up an experience, there is none that can be characterized as an experience of the self or subject in addition to the qualities found in perceived features of the world, sensations, and emotions (Prinz, 2012, p. 124).

Although I argued in the previous chapter that there is a sense of self (a seeming of self-presence), I do not think that this is sufficient to provide a prima facie case for there being a self. In contrast to Prinz I argue for a more specific version of the phenomenal thesis:

> Self-Experience Thesis: There can be an experience that is distinct from qualitative and emotional experience which could be characterized as being as of the bearer of experience.

The truth of the phenomenal thesis is not the same as establishing the metaphysical thesis that there is a self, but it would provide strong prima facie justification for the metaphysical thesis.

When Hume and other philosophers say that they cannot find the self, I would like to know what method they used. It may be that the phenomenological method used by Hume and others was not sensitive enough for uncovering/locating the self. Unlike Hume and most philosophers since, I will argue that self-experience is possible if you know which direction to attend. Hence I will be arguing that it is false

that no original attention to myself as experiencer is possible. If successful, given the long history of philosophers who agree with Hume's phenomenological findings this would be a significant result. Finding a candidate for self-experience, in the sense of experiencing the bearer of experience (rather than merely a sense of self) would also provide evidence in support of there being such a subject. I elaborate upon what I mean by a self-experience in the next two sections.

6.3. Non-Objectifying Self-Experience

As a first pass a self-experience is an experience of the self. This understanding works if we for example count the body as the self. What however about a direct subject-presenting self-experience? Here we encounter a problem. There is (purportedly) a logical point against the possibility of such a self-experience, implicit in Hume: an object is presented to the subject and so cannot be presented as that very subject that is currently aware of it. For example, suppose that there was a yellow spot that was invariantly present in the visual field (Searle, 2004, p. 292). This would not be presented as the subject, but just as another object of visual experience. To many this point blows the possibility of a direct self-experience out of the water. I do not think this follows however. Even if there cannot be an experience *of* self, this does not rule out the possibility of a non-objectifying form of self-experience (Strawson, 2009, p. 177-179, Zahavi, 2005, p. 126). Evans points out that 'from the fact that the self is not an object of experience it does not follow that it is non-experiential' (Evans, 1970, p. 145).

It is difficult to characterise what a non-objectifying self-experience is in ordinary English as our very language has a subject-object structure built into it. The

term ‘self-experience’ is an exception that does not include an *of* relation which is one of the main reasons following Strawson (2009) that I use this term. It can be characterised as: an experience (of) myself but not as object of experience. Here the first ‘of’ in brackets is to be understood as merely playing a grammatical role like the ‘it’ in ‘it is raining’. [77] In this type of self-experience, there is no subject-object division. From here on I will tend to shorten ‘non-objectifying self-experience’ to simply ‘self-experience’.

The above characterisation raises the question of what is an object of experience. One way of cashing this out is to define an object of experience as anything that can be attended to. This would include my body as visually experienced, thoughts, emotions, and bodily sensations. The subject (or subjectivity) would then be that which can never be attended to (Albahari, 2006, p. 10-12; Edey, 1997; Evans, 1970; Zahavi, 2008). For example, Evans (1970) identifies the subject of experience with any presently unattended experience such as the background hum of a fridge. Albahari (2009, p. 64) proposes the stronger constraint that the subject is a sort of unique background hum, but one to which I can never attend. Self-experience on these accounts is pre-attentive (or non-attentive). To anticipate, the results of Harding’s experiments suggest that I can directly attend to myself as experiencer, albeit via a unique inward directed attention. Hence I need another set of criteria to distinguish a genuine self-experience from objects of experience.

I suggest that a non-objectifying experience can be defined by its not possessing the properties of standard objects of experience. Hence by identifying criteria of what is an object of experience, this establishes negative criteria for a non-objectifying experience. That is, I use a via negativa definition. This is a common

[77] Sartre (1956, p. liv) also brackets the ‘of’ in ‘consciousness (of) consciousness’ to denote that consciousness is not conscious of itself as an object.

strategy in Eastern traditions for example, in the Upanishads the Self is often defined by long lists of what it is not.

What are the characteristics of objects of experience? Visually speaking, experienced objects standout against a background (e.g., they are given in the visual field), have sensory properties such as shape and colour, are discrete in that they occlude each other, and tend to appear some distance from myself. Even thoughts are heard (and so have some sensory qualities) and stand apart from each other and from myself. I am aware *of* them. I take a perspective upon them.

In principle then, a non-objectifying experience involving attention[78] is one in which the target of attention lacks: a background, sensory properties, discreteness from other experiential phenomena, and is apparently at no distance from myself. This list of criteria allows that there can be degrees of object-of-experience-hood. For example, the darkness I experience with my eyes closed fills the entire visual field and hence has no background (there is nothing visually outside of the visual field). It is also not experienced as being at a distance from me. However, it has visual properties of black and grey and dynamically appearing points of brightness. Thus it partially fits the criteria for being an object of experience. A hole is another example of a phenomenon that partially satisfies the criteria for object of experience. A hole unlike darkness has no sensory properties. It however has boundaries (its edges). It is also typically experienced as being located at a distance from me.

On these criteria almost every experience falls into the category of an objectifying experience. However, there does not seem to be any contradiction involved in the notion of a pure non-objectifying experience. Hence there does not seem to be an apriori argument against it. Perhaps there are no actual pure non-

[78] Strawson (2011) argues that a self-experience in which the subject is 'in attention' (p. 294) is possible. We could call this reflexive attention to the subject. This would contrast with reflective attention in which there is a subject-object duality.

objectifying experiences, however, this is an empirical question as to whether we can find a candidate or not. So far this only provides criteria for what a non-objectifying experience would be like (or not like), not what a specifically non-objectifying self-experience would be like. This is the question of the next section.

6.4. Characteristics of the Subject

To know what could count as a self-experience it is helpful to know what to look for. What properties must the subject of experience have in itself? If a subject is to be present with all experiences, that which takes them on (or bears them), then it must be compatible with them. Harding proposes that ‘to take on the shape of the hand that’s holding this book, you have to be free of shape; to take on its colour you have to be colourless; and to take on its opacity you have to be transparent; and to take on its complexity you have to be perfectly plain and clear’ (Harding, 1990, p. 51-52). As Shear and Jevning (1999) point out, only an awareness that is devoid of sensory qualities in itself could be ‘omni-compatible’ with all sensory qualities. For example, if the phenomenal subject was coloured or shaped this would be incompatible with it taking on colours and shapes. If the subject was a red screen on which sensory experience was projected then everything would be tinted red (Shear, 1998). The subject must, in itself, be colourless, silent, tasteless, feelingless and so forth. The subject needs to be neutral between all colours, and all sensory qualities. This way of stating it draws upon Albahari (2009) who defines the subject as a mode-neutral awareness with intrinsic phenomenal character. I am extending the description here to include intra-modality neutrality. This neutrality would also allow that it could function as the unifying principle behind all experience.

Another essential property of the subject, if it exists, is that it is single. A trivial sense of singularity of the subject comes from the way we use the term 'subject'. It refers to a single being that has experiences. A more substantial sense of subject singularity comes from the close connection between being a single subject and the unity of consciousness. I see the blueness of the sky, hear the birds chirp and feel the warmth of the sun simultaneously. This phenomenal unity is characterised by Bayne and Chalmers (2003) as the joint experience of multiple conscious states, that is when 'there is something it is like for the subject to have all these states at once' (p. 32).[79]

This being said subject unity and phenomenal unity are conceptually distinct (Bayne and Chalmers, 2003; Tye, 2003), and hence one could potentially account for one without accounting for the other. However, this fails to explain why they intuitively go together so strongly - why it is difficult to conceive of a single subject having disunified experiences at a single time. A collection of disunified phenomenal fields in a brain would intuitively not be a subject, but would be multiple subjects. A plausible reason for this is that the belief that I am a single experiencer derives from the unity of consciousness. Hence, it is plausible that an explanation for the unity of consciousness will also explain the singularity of the experiencer and vice versa. This makes sense particularly if we understand the subject as being the bearer of experience. I would go further and say that I am seemingly a single experiencer to which things are presented. There are then apriori grounds for considering the subject single merely by the way the concept is used. There are also phenomenological grounds based upon the unity of consciousness, which also strongly suggest that the subject is necessarily single.

[79] For definitions of the unity of consciousness, see Bayne (2010), Bayne and Chalmers (2003), Brook and Raymont (2014), Cleeremans (2003), Dainton (2000) and Tye (2003).

The above reasoning provides apriori criteria for deciding whether an experience counts as a self-experience. In particular, to count as a minimal self-experience the target should *seemingly* (1) have no sensory qualities and (2) be singular. The goal of the experiments will be to show that is there is an experience conforming to the above characteristics.

6.5. The Headless Observation

I begin with some preliminary phenomenological observations that we will be exploring through the experiments. Can the subject be visually experienced? Not so according to Wittgenstein in the Tractatus (1922, p. 74-75):

> 5.632 The subject does not belong to the world but it is a limit of the world.
>
> 5.633 Where in the world is a metaphysical subject to be found? You will say that this is exactly like the case of the eye and the visual field. But really you do not see the eye. And nothing in the visual field allows you to infer that it is seen by an eye.

The subject cannot be found in the visual field. It cannot be experienced as an object of vision, but he proposes that it is like its limits. This is suggestive as to where we might begin to look. Douglas Harding proposes that instead of attending off to one side of the visual field, that I should attend to the point I am apparently looking from.

The breakthrough for Harding in terms of self-experience occurred when he came across a picture drawn by Ernst Mach (figure 6.1). The image depicts Mach's first-

person self-portrait with one eye closed. In the background it shows a wall and a window, wooden floorboards and shelves of books along the wall. In the middle ground can be seen Ernst Mach's body, in particular, his shoes, wrinkled pants, waist-coat, and arms, and right hand holding a pencil. In the foreground, on the right can be seen a large nose blur and handle bar moustache, and at the top an eyebrow. At the edges the image fades out.

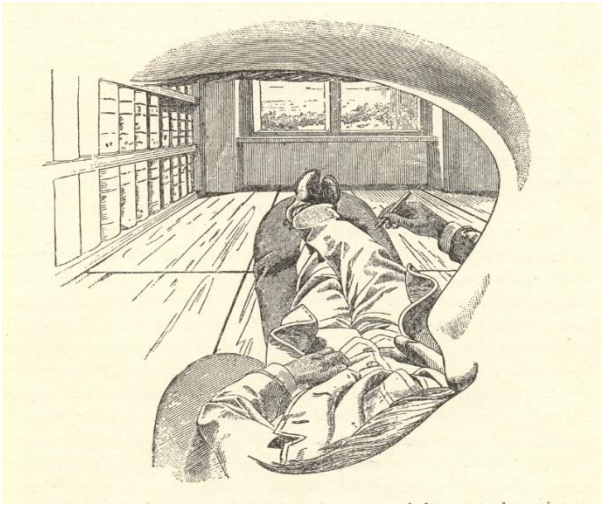

Figure 6.1. Ernst Mach's First-Person Self-Portrait (Mach, 1890, p. 59).

This first-person portrait is so striking because it provides a depiction of what it is like to be me for myself that is very different from how I appear to others. Most salient is the lack of a head in the picture. Merleau-Ponty (1945, p. 108) has also pointed out this obvious fact: 'In the matter of living appearance, my visual body includes a large gap at the level of the head'. That I cannot see my head is what I'll refer to as the 'headless observation'. This gap is usually explained away by common sense as merely a blind spot, however, I will be arguing that it in fact fits the criteria for characteristics the experiencer needs to possess.

Take some time to investigate it for yourself. Look down at your body. I find that my legs, torso and arms are given visually, but that my head is not. There is nothing visually above my shoulders. I usually think of myself as talking face-to-face with people, but this is to take a third-person perspective of my relation to others. Phenomenologically, only their face is given. Visually speaking, it is face-to-no-face. Actually my back is also visually absent and the rest of my body often disappears from the scene, also a wall is visually missing whenever I am 'in' a room. But as the visually missing head is such a notable absence I will continue to refer to the 'headless observation'.

Harding describes his vivid version of this experience in the setting of the Himalayas:

> What actually happened was something absurdly simple and unspectacular: just for the moment I stopped thinking. Reason and imagination and all mental chatter died down. For once words really failed me. I forgot my name, my humanness, my thingness, all that could be called me or mine. Past and future dropped away. It was as if I had been born that instant, brand new, mindless, innocent of all memories. There existed only the Now, that present moment and what was clearly given in it. To look was enough. And what I found was khaki trouser legs terminating downwards in a pair of brown shoes, khaki sleeves terminating sideways in a pair of pink hands, and a khaki shirtfront terminating upwards in – absolutely nothing whatever! Certainly not in a head. It took me no time at all to realise that this nothing, this hole where a head should have been, was no

> ordinary vacancy, no mere nothing.[80] On the contrary, it was very much occupied. It was a vast emptiness vastly filled, a nothing that found room for everything – room for grass, trees, shadowy distant hills, and far above them snow peaks like a row of angular clouds riding the blue sky. I had lost a head and gained a world (Harding, 1986a, p. 1-2).

It is important to point out here that this is an exercise in phenomenological description. The headless observation is not a claim about myself as a human being. Of course, 'I' (in the human personal sense) have a head. I also see my face in a mirror. Knowing what I look like that to others is central to my identity as a person. However, I am inquiring here into my apparent identity as experiencer. What I find when I look in the mirror is that the face is over there in the glass about a metre away, not here on my shoulders (of my experienced body). It is also facing the wrong direction.

Some will object that they can see their nose. But what kind of nose does it seem to be? I find that it seems to be a large pink translucent blur that stretches from the top to the bottom of the scene. It is continually appearing and disappearing. In fact there seem to be two of them. They tend to appear one at a time on opposite sides of the scene. What are these blurs apparently attached to on present evidence? Again I seemingly find nothing, or a gap. There are also various aches, tickles, and other such facial sensations and proprioception of 'head' position. Where are these occurring in present experience? Do they seem to be occurring on the surface of, or qualifying, an opaque spherical object with eyes, mouth, hair and ears?

---

[80] Harding distinguishes here between merely nothing or merely void and a nothing or void that is filled. He later clarifies what he means by 'nothing' and 'void' as 'nothing here in itself' (Harding, 1986a, p. 18).

6.6. First-person Experiments

The following are a series of first-person awareness exercises. They are not thought experiments, but an investigation of your first-person experience as it is given. If they are not carried out then this chapter will not make any sense. It is integral that during the following awareness exercises that you attempt to temporarily suspend common sense and metaphysical assumptions. Such a scientific attitude entails that one looks disinterestedly 'to see and to describe adequately what they see, purely as seen' (Husserl, 1960, p. 35). That is, at least for the moment, you attempt to describe your experience exactly as it is given. Harding's procedure uses a method of phenomenal contrast. Here two phenomena are compared so as to make salient the phenomenal difference between them. Such a phenomenological method is also advocated by Susanna Siegel (2007).

The goal of the experiments is to use apparatus (such as hands) as an aid for making a contrast between viewed objects and the apparent viewer of those objects, in particular for setting up the phenomena that are to be contrasted, and for orienting attention to the target phenomenon. The location of the target of interest is also precise: one should attend backwards, 180 degrees from the thing in front of you such as a computer screen, to who or what is seems to be seeing the computer screen. [81]

[81] The experiments used here all come from Douglas Harding (or workshops by Richard Lang), with the exception of experiment 6.5 which is my own development on Harding's experimental method.

Experiment 6.1: Exploring the Gap

Hold up your hands in front of you as if you were holding a basketball. Now slowly bring them towards yourself, past your ears. Notice how your hands seem to grow larger (in the sense of taking up more of the visual field), and the gap between then also grows. They begin to blur and finally disappear altogether into an apparent void here. Bringing them forwards again watch as they reappear from the gap. Repeat this a few times to get a sense of what this seemingly empty region is like.[82]

Experiment 6.2: Tracing Out the Gap

How many eyes do you seem to be looking out of on present experience? Do you seem to be looking out of two small windows in a head or a single large opening? How large does the gap seem? Does it seem to be head sized? Put your arms out and trace out the apparent edges of the gap. I find that it is seemingly as large as the scene. This space[83] seemingly encompasses the room from wall to wall. Also notice that it has nothing discernible outside of it. Use your finger to trace out the boundary of a chair or some other object. Notice that it is in a surrounding environment such as a room. Again trace out the boundaries of this opening. Does this gap have any boundaries? Does it have a visibly discernible surrounding environment? Or does it visually have nothing outside of it?[84] Finally, is there one gap or multiple gaps? I only find one. That is, it is phenomenally singular.

---

[82] See Harding (1996, p. 5) for a version of this experiment.
[83] By 'space' I do not mean the space of physics, but rather I use it as a descriptive term in the sense of a gap or opening, and also in terms of it seemingly functioning as room or capacity (in a container sense) for the scene.
[84] Thank you to Richard Lang for introducing this experiment to me.

Experiment 6.3: The Frame Experiment

Use your fingers to form a frame through which you can look. Compare your fingers to what is in the finger-frame. Notice that your fingers are coloured and opaque. You cannot see through your fingers, but the interior of the frame is transparent. Your fingers frame a gap. Also notice how when you move the frame around that it contains anything in the room: doors, books, parts of walls. It is because the frame is empty that is able to act as capacity for things. In fact, as empty and completely lacking in qualities there does not seem to be a dividing line between it and the things on show. Does this also apply to what you seem to be looking out of? To test this, slowly bring the frame back (towards where others see your face) and see if this absence seems to fit here. Notice how your fingers seem to grow larger as they come closer (take up more of the visual field), and how the gap in the frame also gets larger, and thus encompasses more of the room. Keep attending to the gap, bring the frame all the way back, and let your fingers drop. Notice that the gap seemingly fits here perfectly, but unlike the finger frame it has no discernible boundaries.[85]

Experiment 6.4: The Pointing Experiment – Part 3

Look at your finger and notice that it has colour, shape, texture, wrinkles etc. It is obviously a thing. Now with this thing, by pointing, direct your attention to a far wall. Notice that your finger (a thing, with shape, colour and extension) is pointing at another thing, with shape, colour and extension. Also notice that your finger and the

[85] This is a version of the Card Experiment, in which you use a card with a head sized hole in it. See for example Harding (1990, p. 114-116). This method involves a phenomenal comparison rather than a phenomenal contrast. It demonstrates that there is no phenomenal difference between the gap framed by your fingers and the gap from which you are apparently looking.

wall are separated by a gap. Now point to the floor. Notice the patterns, colours and textures. Now point to your foot. Once again you are pointing at a shaped and coloured thing. Now very slowly, tracing your pointing finger up your body, notice that this pattern of duality between object and object persists. Finger –gap- legs. Finger –gap- stomach. Finger –gap- chest. Now bring your finger up in line with where others see your face. Finger –gap- ??? Suddenly we have seemingly lost the duality. From your present experience is your finger pointing at an object, a thing? Does there seems to be a head or face here? Continue pointing and please go through this checklist. What is your finger pointing at? Do there seem to be: (1) Any colours here? (2) Any shape here? (3) Any texture here? (4) Any wrinkles here? (5) Any movement here? Is it true to say that this space seems to encompass everything on show, including your finger, hand, arm, body and the room? Finally, aren't you also apparently pointing at the viewer or at least the looker?[86]

6.7. Results and Discussion

The goal of the experiments was to bring attention back to what it is like to be the looker in your own experience. Common sense says that I am looking out of a head – an opaque, solid thing. That is, I am a thing in the world that looks at other things. The results of the experiment were in complete contrast to common sense. What I found was:

[86] This is a form of meditation. The experiment is most effective if you do not rush through it. I suggest forgetting philosophy for a short while - relax, sit quietly, and point here for at least 30 seconds. For examples of the pointing experiment see: Harding (1990, p. 8-9, 41-42; 2000, p. 8-9), Lang (2003, p. 7-8).

1. This spot seems to be lacking in colours, and shapes. The experience is as of transparency rather than opaqueness.

2. There seems to be one gap here. It seems single.

3. There was something it was like to experience the blank region. There was a phenomenal character – an experience of spacious emptiness.

4. The apparent space here seemingly encompasses or is full of the scene.

5. It does not seem to be in anything.

6. When I point here I seem to be pointing at myself, or at least the looker.

When I attend to where I am apparently looking from, I find no visual features. Recall, that lack of colour, shape etc. is exactly what was predicted to be a defining characteristic (or lack of characteristic) of the minimal subject. It is also seemingly single. There is only one gap. This was the second predicted characteristic of the subject.

Harding refers to this location as a 'visibly boundless Space' (Harding, 1988, p. 109). I read 'visible' as saying that there is something it is like to experience it. In particular, there is a character of emptiness to the experience.[87] This is an important finding. As Dainton (2002) points out, phenomenal character need not be exhausted by sensory qualities such as visual, auditory and tactile properties:

> The notion of phenomenal character need not be restricted to qualities of this sort. A consciousness which consists of nothing but a *feeling* of void-like emptiness has a definite (if difficult to describe) phenomenal character. An 'awareness' of this kind is tangible rather than pure, even if it is natural to

[87] An objection to calling this space visible is the stipulation that only that which is in the visual field is visible. If one insists on this, then let me stipulate that this space is visible* by which I mean that there is a visual phenomenal character to experiencing it.

> describe it as ‘pure’. By contrast, a truly bare Awareness has absolutely no phenomenal character of any kind, and so is subjectively indistinguishable from non-existence (Dainton, 2002, p. 45-46).

This reasoning about awareness also applies to the subject. If there is nothing it is like to experience myself apart from the properties of sensory qualities then Hume is correct that a unique self-experience does not exist. If, however, there is a unique phenomenal character involved in apprehending myself, then self-experience is indeed possible. The subject can then make a phenomenal difference.

Does this experience also fit the criteria for being non-objectifying? These were lack of: a background, sensory properties, discreteness from other phenomena, and apparently at no distance from myself. Visual objects always appear in the visual field. Here on the other hand, I am pointing outside of the visual field and so this location is already a good candidate for not being an object of experience. Neither are there apparently any sensory qualities here. This gap is not seemingly discrete as it is never experienced without contents such as the scene or blackness (with eyes closed). Thoughts, visual images and sounds interfere with each other, however, this gap is does not interfere with any other experienced phenomena. It is compatible with every experienced phenomena. Neither does this gap apparently have a background against which it stands out.

I also seem to be pointing directly at myself or at least the looker. Here there is no separation in terms of experienced distance between the observed and the observer. Here the observer apparently coincides with the observed. Even though this gap can be attended to it fits none of the criteria for being an object of experience. I hence conclude that this is an attentionally directed yet a non-objectifying experience.

This gap seems to be me, or I at least seem to be looking from here. There is a sense that I am here (a sense of self) – as discussed in chapter 5. This provides one motivation for thinking that this gap is me. Importantly, the target of experience fits the criteria of being a self-experience outlined in section 4. This was an experience in which the target *seemingly* (1) has no sensory qualities, and (2) is singular. These were characteristics which were inferred to be required for the target to function as the bearer of experience. The gap also apparently encompassed the visual scene which is also consistent with it being a bearer.

6.8. Objections

I argued in the previous section that the experiments provide a candidate self-experience. We are not yet considering whether or not the experience is veridical. Rather in this section I consider some objections to calling this a 'self-experience' in the thick sense of a prima facie direct experience of myself as subject of experience. These objections describe the experience in alternative terms that do not mention or qualify as a subject. I consider two such alternatives here.

6.8.1 A Pure Visual Absence?

According to commonsense there is nothing special about this spot, it is just a visual blind spot. My eyes do not look backwards, so of course there is nothing to see here. Perhaps we can say that here is just a pure visual absence. I am pointing outside the visual field, and thus of course what I find is a lack of visual experience, a visual blank. It is natural then to explain this phenomenon as merely a pure visual absence.

There is something right about calling this a visual absence, but what kind is it? Take, for instance, a blind spot where I cannot see a car because it is behind a truck. I see the truck but not the car. This is a *blind spot by occlusion*. There is also a visual blind spot where the optic nerve passes through the retina. The blind location is filled in by the other eye so that we do not typically notice the loss of information. It is important to note that these types of visual absences are not seen as nothing but have a sensory phenomenal character. Even the nothingness of outer space appears black not as a pure absence. This gap is not like this, nor like any other direction. Neither is it a 'perception of absence' in the sense that I see the absence of my laptop on the desk when it has been stolen (Farennikova, 2013). Another type of blind spot or absence are holes and gaps. For example, I experience the gap where something is missing, and there is a character of emptiness to the experience. These are *blind spots by absence*. Finally, there is a blind spot where there is a complete lack of experience altogether. This type of absence has no phenomenal character. This is a *pure blind spot*. Is this a complete absence of experience, a pure visual absence or is more like a gap? Perhaps the target is best described as a complete absence of visual experience. We can test this by contrasting 'it' with the location out of your visual field on the horizontal axis.

Experiment 6.5: Pure Blind Spot and Blind Spot by Absence

Look directly ahead and move your hand slowly to the left. Notice that your hand begins to look blurry and eventually visibly disappears altogether. You have found the 'edge' of your visual field. Off the edge of the visual field, I find a true blind spot, a pure visual absence. If I merely experience nothing here, if it is an absolute absence of

experience then what it is like to attend there should be exactly the same as here. Point off to the side and attend to that location. I find that I am pointing at nothing whatsoever, no things, no colours, no shapes. This is as close to a bare nothing as I can find. The visual field just ends. Now by contrast point here. There is a tangible phenomenal difference between the two spots. I am again apparently pointing at no thing, colour, or shape, but there is also an experience of spacious emptiness. It is like a hole. There is something it is like to experience it. Hence, this is not merely an absence of experience. Furthermore this is not a mere nothing as it is filled by the scene – it seemingly encompasses the finger and the room, there is no dividing line between this gap and the room. I cannot attend in this direction without also seeing the scene, but off to side the scene just ends.

A difference between the target and prototypical gaps is that holes are gaps in the visual field. They are defined by the edges of things. This gap by contrast is not seemingly framed by anything. Furthermore a hole, in contrast to this location, is experienced as being as some distance from myself. By being bounded and experienced at a distance from me, holes count as objects of experience (in the broad sense of ‘object’ provided by the criteria in section 6.3). By not being experienced as an object, at the same time as apparently encompassing the visual scene this gap is perfectly suited to be the subject. This spot can certainly be categorised as a type of visual absence. However, there are many types of visual absence, and this is a unique absence which has properties consistent with those hypothesized to be possessed by the subject of experience. Also importantly, I seem to be looking from here. This is

not a mere gap. I conclude then that this is not a pure visual absence but rather is the best candidate for myself that I can find.[88]

6.8.2 From Looker to Experiencer?

Experiments 6.1-6.5 investigated what it is like to be the looker using the visual modality. The looker seemed to be a space-for-the-visual-scene. Does this result generalise to the experiencer? The experiencer does not just see, but also hears, smells, feels etc. Suppose someone accepts that they can distinguish a space here which functions as a bearer for the visual field. This would not be sufficient to count as the experiencer unless it encompassed all sensory modalities. The objection is that the experiments do not provide a phenomenally singular experiencer, and hence it provides an inadequate candidate for self-experience. Certainly the gap here is experienced visually (as a lack of colours and shapes), but is it merely encompassing the visual scene?

I do not just experience the coffee cup that I pick up as white, and cup-shaped, but as feeling hard and warm, and that felt hardness and warmth is out there with the cup – perfectly integrated with the visual features. I find that this space seems to encompass not just visually experienced properties and objects but that it includes items from other sensory modalities. Consider also when someone speaks the sound is not just an additional element, but is heard as coming from their mouth. I do not experience a separate field of sound layered on top of the visual field. Or consider the experience of lying in bed in a dark room. My thoughts, the feeling of warmth, bodily-sensations and the sounds of traffic all occur in the same awareness. These

[88] See Lewis and Lewis (1970) on the metaphysics of holes. Sorenson (2007) also theorizes that the self is a kind of absence and touches on many points that I discuss here. I differ from Sorenson in emphasizing the affinities between this absence and substance theories of the self.

visual, bodily and auditory elements are unified in a single experiential field. There is only one single multimodal phenomenal field from which we abstract out fields of different modalities.[89] Certainly I do not always hear sounds at the same time as visually experiencing a scene (for example when I hear things behind me), but this does not show that there are separable fields, only that some of the contents of the single multi-modal phenomenal field can occur without others.

6.9. Conclusion

The question of this chapter was whether there was a candidate for a unique, non-objectifying self-experience. The subject cannot be presented to itself as an object. I argued that a non-objectifying experience involving attention is one in which the target of attention lacks: a background, sensory properties, discreteness from other experiential phenomena, and is apparently at no distance from myself. I also used apriori reasoning to infer that a minimal synchronic subject (a bearer) should be lacking in sensory qualities and single. This provided criteria for what the experience should be like to count as a minimal non-objectifying self-experience. With the assistance of experiments designed by Douglas Harding I found that there is such an experience. I seem to be looking out of a gap. This gap was found to lack the properties of an object of experience, at the same time as apparently lacking in sensory qualities and being seemingly single. As the experience meets the criteria for a non-objectifying self-experience, it hence provides prima facie justification for the reality of the subject.

[89] See Tye (2003) on the single experience view. On this view the question of whether there are different bearers for each sensory modality would not even arise.

This outcome is contrary to Hume, in that there is an experience which could count as a unique self-experience that goes beyond qualitative and emotion experiences (the *Self-Experience Thesis*). This result then arguably undermines one of the primary motivations for (standard) bundle theories of the self. I cannot claim, however, to have refuted the bundle theory nor the other arguments in its favour.

The current findings suggest that Hume, and countless others since, failed in the search for the experiencer because they were attending in the wrong direction. They were attending outwards when they should have attended inwards. The current proposal differs from previous interpretations of the elusiveness of the subject. Others have held that the subject by definition cannot be attended to (e.g., Albahari, 2009). This is a necessary, or built in elusiveness. The present findings suggest, on the other hand, that the elusiveness of the subject is contingent rather than necessary. It just happens to be the case that we rarely (if ever) attend inwards, and so fail to find the experiencer. We overlook the place from which we are looking. In fact, it is common within meditative traditions to hold that the method for recognising the essential nature of one's self requires a reversal of attention away from the objects of experience (Shear & Jevning, 1999, p. 190-191). Harding provides precise instructions on how to do this: attend 180 degrees from the black markings you are currently seeing to who or what is apparently seeing them.

A further question is whether this experience veridical? Many hold that phenomenology alone does not give you metaphysics. Even if there seems to be a subject it does not follow that there *is* a subject. How exactly does one move from phenomenology to metaphysics? The answer I offered was that there does not need to be a necessary connection between phenomenology and metaphysics. Rather all that needs to be claimed is that the experience provides prima facie justification for

believing that this is me. Furthermore, if experience can indeed provide prima facie justification, then this justification is bolstered by the independent apriori considerations on the nature of the subject as discussed in section 6.4. In the reverse direction, the experience provides a prima facie verification of the hypothesis that there is a bearer of experience. As the experience and the apriori considerations were arrived at independently of each other they can be used as mutually supporting sources of justification. The phenomenological and rational routes converge on the same conclusion. Despite giving justification for the view, its prima facie status means that it can be undermined by further evidence. In particular, this theory also needs to be consistent with scientific findings and the third-person perspective in general. More needs to be said as to how theory fits with the standard scientific picture of the world. I set aside this question for another time.

If we assume that the experience is veridical, then the minimal subject is single and lacking in sensory qualities (in itself). Assuming that the experience is veridical, I take the phenomenological findings to support a substance view of the subject in which the subject is a bearer of experience, but in which this bearer is not the body or the brain. There are a family of substance views of the subject. The traditional, prototypical, non-bodily substance theory is substance dualism. However, the existence of a minimal subject does not entail the possibility of ghostly free floating subjects. Alternatives to substance dualism are substance monist views such as idealism and panpsychism. I find panpsychism to be plausible on independent grounds (Chalmers, 2015; Mørch, 2014; Strawson, 2006). There is also a non-standard bundle theory in which there is a master property that bears phenomenal properties. Neither is a non-bodily substance necessarily non-physical. There are many possible physical bearers which are not the body or brain, such as the various

fields in physics (though this will entail a form of panpsychism). A non-bodily substance does not imply that the subject of experience is soul-like in the sense of being atomistic and separate from other subjects. Subjects may overlap (be molecular) or perhaps there is ultimately only one Self or Consciousness as held in the tradition of the Advaita Vedanta and the Perennial philosophy (and by Harding, 1992).

A substance view is also compatible with subject-object non-duality. I never experience this space without its contents such as the scene, thoughts, feelings, sounds. I interpret this as a 'thin subject' which by definition necessarily has experiences (Strawson, 2009). That is, there cannot be a subject without objects of awareness (and vice versa). A substance as a thin particular is nothing in itself apart from its properties, and hence the theory does not entail the possibility of substances existing without properties (bare particulars). [90] That there is a phenomenal distinction between the subject and objects of awareness does not imply that they are ontologically distinct. I agree then with Descartes who states in the *Principles of Philosophy* that a substance and its properties is a 'distinction of reason' (conceptual distinction) rather than a 'real distinction' (an ontological distinction) (Descartes, 1644, p. 135-137). However, I also hold that subject and objects of awareness are also phenomenally distinguishable, it is not merely a conceptual distinction. The common view that subject-object non-duality involves the rejection of a substance seems to be based upon a rejection of substance dualism, that is of atomistic, separable subjects, rather than other concepts of substance.

Finally, it will be recognised by some that there is nothing new in the present phenomenological findings. Reference to the void-like nature of the self (or Self) is found in many Eastern and mystical traditions (See Harding, 1986a, 1992). These

[90] Sider (2006) provides a defence of the intelligibility of substances (substratum), and even allows for the possibility of bare particulars. See also Martin (1980) for a defence of substances. For a review of theories of substance see Robinson (2014).

diverse first-person investigations across many cultures, ancient and contemporary, describe my essential self (Self in Advaita Vedanta or Buddha-Nature in Buddhism) as empty, still and void. Others call it No-Self. Here are three examples from among many from the Chinese Ch'an (Zen) tradition:[91]

> Hui-neng: Learned Audience, the illimitable Void of the universe is capable of holding myriads of things of various shape and form, such as the sun, the moon, stars, mountains, rivers, worlds, springs, rivulets… Space takes in all these and so does the voidness of our nature. We say the Essence of Mind is great because it embraces all things, since all things are within our nature (Hui-Neng, Christmas Humphreys, and Wong Mou-lam, 1973, p. 28).

> Hui-hai: Mind has no colour, such as green or yellow, red or white; it is not long or short; it does not vanish or appear; it is free from purity and impurity alike; and its duration is eternal. It is utter stillness. Such, then, is the form and shape of our original mind. (Blofeld, 2007, p. 47).

> Shen-hui: Seeing into one's Self-nature is seeing into Nothingness. Seeing into Nothingness is true and eternal seeing. (Suzuki, 1956. p. 191).

[91] An objection to linking this experience with Zen Buddhism is the traditional view that Buddhism denies the existence of the self in any form (e.g., Rahula, 2007), and hence any minimal subject. Buddhism is a multifaceted tradition and it is difficult to identify any one core metaphysical view which its adherents unequivocally assert. An alternative interpretation to the traditional view is that Buddhism denies the existence of personal selves that are metaphysically separable from the world, as well as denying atomistic souls, but it does not rule out Upanishadic notions of Self (for a defence see Albahari, 2002). On this interpretation it allows for, and in Zen Buddhism seems to assert, an unchanging essence of the subject (Buddha Nature) which is impersonal and the same in all beings. There are certainly no personally identifying characteristics to this gap, and in this sense it could also be described as No-Self. An outright denial of a subject in any form is 'annihilationism' which the historical Buddha officially opposed.

Harding's experiments shed light on otherwise mysterious statements such as these. However, his methods are not 'mystical' or 'spiritual' at all, but coldly scientific. Rather they provide systematic and repeatable means for investigating what I am for myself.

References

Albahari, M. (2002). Against no-ātman theories of anattā. *Asian Philosophy*, 12(1), 5-20.

Albahari, M. (2006). *Analytical Buddhism: The two-tiered illusion of self.* Houndmills: Palgrave MacMillan.

Albahari, M. (2009). Witness-Consciousness: Its definition, appearance and reality. *Journal of Consciousness Studies*, 16(1), 62-84.

Albahari, M. (2011). Nirvana and ownerless consciousness. *In* M. Siderits, E. Thompson and D. Zahavi eds. *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions*. Oxford, Oxford University Press, pp. 79-113.

Albertazzi, L. (2013). *Handbook of experimental phenomenology: Visual perception of shape, space and appearance.* Wiley-Blackwell.

Armstrong, D. (1968). *A materialist theory of the mind.* London: Routledge & Kegan Paul.

Armstrong, D. (1969). Editor's Introduction. *In* D. Armstrong ed. *Berkeley's Philosophical Writings*. London, Collier-Macmillan Ltd.

Armstrong, D. (1989). *Universals: An opinionated introduction.* Boulder: Westview Press.

Armstrong, D. M. (1961). *Perception and the physical world.* New york: Humanities Press.

Atkinson, J., F. W. Campbell and M. R. Francis (1976). The magic number 4±0: A new look at visual numerosity judgements. *Perception*, 5(3), 327-334.

Ayer, A. J. (1940/1963). *The foundations of empirical knowledge.* London: MacMillan & Co.

Ayer, A. J. (1988). *Bertrand Russell.* Chicago: University of Chicago Press.

Baddeley, A. (1992). Working memory. *Science*, 255(5044), 556-559.

Baddeley, A. (2000). The episodic buffer: A new component of working memory? *Trends in cognitive sciences*, 4(11), 417-423.

Baddeley, A. (2003). Working memory: Looking back and looking forward. *Nature Reviews Neuroscience*, 4(10), 829-839.

Ballester, J., B. Patris, R. Symoneaux and D. Valentin (2008). Conceptual vs. perceptual wine spaces: Does expertise matter? *Food quality and preference*, 19(3), 267-276.

Bayne, T. (2009). Perception and the reach of phenomenal content. *Philosophical Quarterly*, 59, 385-404.

Bayne, T. (2010). *The unity of consciousness.* Oxford: Oxford University Press.

Bayne, T. and D. Chalmers (2003). What is the unity of consciousness? *In* A. Cleeremans ed. *The Unity of Consciousness: Binding, Integration and Dissociation*. Oxford, Oxford University Press, pp. 23-58.

Bayne, T. and M. Montague, eds. (2011). Cognitive phenomenology: An introduction. Oxford, Oxford University Press.

Bayne, T. and M. Spener (2010). Introspective humility. *Philosophical Issues*, 20(1), 1-22.

BBC News. (May 8, 2015). *The people who think they are made of glass* [*online*]. Available at: http://www.bbc.com/news/magazine-32625632 [Accessed May 24, 2016.

Beenfeldt, C. (2008). A philosophical critique of heterophenomenology. *Journal of Consciousness Studies*, 15(8), 5-34.

Berkeley, G. (1713/1969). *Berkeley's philosophical writings.* London: Collier-Macmillan Ltd.

Bermúdez, J. L. (1998). *The paradox of self-consciousness.* Cambridge: The MIT Press.

Blanke, O. and T. Metzinger (2009). Full-body illusions and minimal phenomenal selfhood. *Trends in cognitive sciences*, 13(1), 7-13.

Block, N. (1996). Mental paint and mental latex. *Philosophical Issues*, 7, 19-49.

Block, N. (2007). Consciousness, accessibility, and the mesh between psychology and neuroscience. *Behavioral and Brain Sciences*, 30(5-6), 481-499.

Blofeld, J. (2007). *Zen teachings of instantaneous awakening (Ch'an Master Hui Hai).* Totnes: Buddhist Publishing Group.

Bogen, J. (2010). Theory and observation in science. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2010/entries/science-theory-observation/>.

Bond, E. (2005). Does the subject of experience exist in the world? *Philosophy and Phenomenological Research*, 71(1), 124-133.

Boring, E. G. (1942). *Sensation and perception in the history of experimental psychology.* New york: Appleton-Century.

Boring, E. G. (1953). A history of introspection. *Psychological Bulletin*, 50(3), 169-189.

Breitmeyer, B. and H. Ogmen (2006). *Visual masking: Time slices through conscious and unconscious vision.* Oxford University Press.

Broadbent, D. E. (1958). Perception and communication. Pergamon, New York.

Broadbent, D. E. (1975). The magic number seven after fifteen years. *In* A. Kennedy and A. Wilkes eds. *Studies in Long-Term Memory*. New York, Wiley, pp. 3-18.

Brook, A. and P. Raymont (2014). The unity of consciousness. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/win2014/entries/consciousness-unity/>.

Bruyer, R. and J.-C. Scailquin (1998). The visuospatial sketchpad for mental images: Testing the multicomponent model of working memory. *Acta Psychologica*, 98(1), 17-36.

Buhle, J. and T. D. Wager (2010). Performance-dependent inhibition of pain by an executive working memory task. *Pain*, 149(1), 19-26.

Byrne, A. and D. Hilbert (2003). Color realism and color science. *Behavioral and Brain Sciences*, 26, 3-64.

Campbell, J. (1994). *Past, space and self.* Cambridge: The MIT Press.

Campbell, J. (2002). *Reference and consciousness.* Oxford: Clarendon Press.

Campbell, J. and Q. Cassam (2014). *Berkeley's puzzle: What experience teaches us.* Oxford: Oxford University Press.

Carlson, V. (1960). Overestimation in size-constancy judgments. *The American Journal of Psychology*, 73(2), 199-213.

Carlson, V. R. (1962). Size-constancy judgments and perceptual compromise. *Journal of Experimental Psychology*, 63, 68-73.

Carruthers, P. (2005). Conscious experience versus conscious thought. *Consciousness:*
Essays from a Higher-Order Perspective. Oxford, Oxford University Press.

Carruthers, P. (2011). *The opacity of mind: An integrative theory of self-knowledge.* Oxford: Oxford University Press.

Casullo, A. (1986). The spatial structure of perceptual space. *Philosophy and Phenomenological Research*, 46(4), 665-671.
Casullo, A. (1989). Perceptual space is monadic. *Philosophy and Phenomenological Research*, 50(1), 131-134.
Chalmers, D. (2015). Panpsychism and panprotopsychism. *In* T. Alter and Y. Nagasawa eds. *Consciousness in the Physical World: Perspectives on Russellian Monism*. New York, NY, Oxford University Press, pp. 246-276.
Chalmers, D. J. (1995). Facing up to the problem of consciousness. *Journal of Consciousness Studies*, 2(3), 200-219.
Chalmers, D. J. (1996). *The conscious mind: In search of a fundamental theory.* Oxford University Press.
Chalmers, D. J. (1999) First-person methods in the science of consciousness. *Consciousness Bulletin* [*online*]. Available at: http://www.consciousness.arizona.edu/documents/Fall1999ConsciousnessBULLETINNewsletter.pdf.
Chalmers, D. J. (2004). How can we construct a science of consciousness? *In* M. S. Gazzaniga ed. *The Cognitive Neurosciences III*. Cambridge, Massachusetts, MIT Press, pp. 1111-1120.
Chalmers, D. J. (2010). *The character of consciousness.* Oxford: Oxford University Press.
Chase, W. G. and H. A. Simon (1973). Perception in chess. *Cognitive psychology*, 4(1), 55-81.
Chisholm, R. (1942). The problem of the speckled hen. *Mind*, LI(204), 368–373.
Chisholm, R. (1957). *Perceiving: A philosophical study.* Ithaca, NY: Cornell University Press.
Chudnoff, E. (2015). Phenomenal contrast arguments for cognitive phenomenology. *Philosophy and Phenomenological Research*, 91(1), 82-104.
Churchland, P. M. (1984). *Matter and consciousness: A contemporary introduction to the philosophy of mind.* Cambridge, MA: MIT Press.
Churchland, P. S. and V. S. Ramachandran (1994). Filling in: Why Dennett is wrong. *In* A. Revonsuo and M. Kamppinen eds. *Consciousness in Philosophy and Cognitive Neuroscience*. Hillsdale, NJ, Laurence Erlbaum Associates, pp. 65-91.
Cleeremans, A., ed. (2003). The unity of consciousness: Binding, integration and dissociation. Oxford, Oxford University Press.
Cohen, J. (2004). Color properties and color ascriptions: A relationalist manifesto. *The philosophical review*, 113(4), 451-506.
Cohen, J. (2013). Perceptual constancy. *In* M. Matthen ed. *Oxford Handbook of Philosophy of Perception*. Oxford, Oxford University Press.
Conan Doyle, A. (1926/1993). *The case-book of Sherlock Holmes.* Hertfordshire, England: Wordsworth Editions limited.
Cowan, N. (2001). The magical number 4 in short-term memory: A reconsideration of mental storage capacity. *Behavioral and Brain Sciences*, 24(1), 87-185.
Crane, T. and C. French (2016). The problem of perception. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2016/entries/perception-problem/>.
Dainton, B. (2000). *Stream of consciousness :Unity and continuity in conscious experience.* London: Routledge.
Dainton, B. (2002). The gaze of consciousness. *Journal of Consciousness Studies*, 9(2), 31-48.

Dainton, B. (2004). The self and the phenomenal. *Ratio*, 17(4), 365-389.
Dainton, B. (2008). *The phenomenal self.* Oxford: Oxford University Press.
Dainton, B. and T. Bayne (2005). Consciousness as a guide to personal persistence. *Australasian Journal of Philosophy*, 83(4), 549-571.
Damasio, A. (1999). *The feeling of what happens: Body and emotion in the making of consciousness.* London: William Heinemann.
Dannemiller, J. L. (1989). A test of color constancy in 9-and 20-week-old human infants following simulated illuminant changes. *Developmental Psychology*, 25(2), 171-184.
Danziger, K. (1980). The history of introspection reconsidered. *Journal of the History of the Behavioral Sciences*, 16(3), 241-262.
Deikman, A. J. (1996). I = awareness. *Journal of Consciousness Studies*, 3(4), 350-356.
Dennett, D., C. (1991). *Consciousness explained.* Boston: Little, Brown and Company.
Dennett, D., C. (2001a). *The fantasy of first-person science* [*online*]. Available at: http://ase.tufts.edu/cogstud/papers/chalmersdeb3dft.htm.
Dennett, D. (2003). Whos on first? Heterophenomenology explained. *Journal of Consciousness Studies*, 10(9-10), 19-30.
Dennett, D. C. (2001b). Surprise, surprise. *Behavioral and Brain Sciences*, 24(05), 982.
Dennett, D. C. (2002). How could I be wrong? How wrong could I be? *Journal of Consciousness Studies*, 9(5-6), 13-16.
Dennett, D. C. (2007). Heterophenomenology reconsidered. *Phenomenology and the Cognitive Sciences*, 6(1), 247-270.
Derakshan, N., M. W. Eysenck and L. B. Myers (2007). Emotional information processing in repressors: The vigilance–avoidance theory. *Cognition and Emotion*, 21(8), 1585-1614.
Descartes, R. (1641-1649/2003). *Meditations and other metaphysical writings.* London: Penguin Books.
Dolan, R. J. (2002). Emotion, cognition, and behavior. *Science*, 298(5596), 1191-1194.
Dretske, F. (1988). *Explaining behavior: Reasons in a world of causes.* Cambridge, MA: The MIT Press.
Dretske, F. (1995). *Naturalizing the mind.* Cambridge: MIT Press.
Dretske, F. (2003). Experience as representation. *Philosophical Issues*, 13(1), 67-82.
Dreyfus, G. (2011). Self and subjectivity: A middle way approach. *In* M. Siderits, E. Thompson and D. Zahavi eds. *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions*. Oxford, Oxford University Press, pp. 114-156.
Dror, I. E. and S. M. Kosslyn (1994). Mental imagery and aging. *Psychology and aging*, 9(1), 90-102.
Edey, M. (1997). Subject and object. *Journal of Consciousness Studies*, 4(5-6), 526-531.
Engelbert, M. and P. Carruthers (2010). Introspection. *Wiley Interdisciplinary Reviews: Cognitive Science*, 1(2), 245-253.
Ericsson, A. (2003). Valid and non-reactive verbalization of thoughts during performance of tasks towards a solution to the central problems of introspection as a source of scientific data. *Journal of Consciousness Studies*, 10(9-10), 1-18.

Ericsson, K. A. and H. A. Simon (1993). Protocol analysis. Cambridge, MA: MIT Press.
Evans, C. O. (1970). *The subject of consciousness.* London: G. Allen & Unwin.
Farah, M. J. (1988). Is visual imagery really visual? Overlooked evidence from neuropsychology. *Psychological Review*, 95(3), 307-317.
Farah, M. J. (2004). *Visual agnosia.* Cambridge, MA: MIT press.
Farennikova, A. (2013). Seeing absence. *Philosophical Studies*, 166(3), 429-454.
Farkas, K. (2003). What is externalism? *Philosophical Studies*, 112(3), 187-208.
Firestone, C. and B. J. Scholl (2015). Cognition does not affect perception: Evaluating the evidence for "top-down" effects. *Behavioral and Brain Sciences*, 1-72.
Forman, R., K. C. (1998). *Mysticism, mind, consciousness.* Albany, NY: State University of New York Press.
Forrest, P. (2005). Universals as sense data. *Philosophy and Phenomenological Research*, 71(3), 622–631.
Foster, J. (1982). *The case for idealism.* London: Routledge & Kegan Paul.
Fumerton, R. (2005). Speckled hens and objects of acquaintance. *Philosophical Perspectives*, 19(1), 121-138.
Gallagher, S. (2005). *How the body shapes the mind.* Oxford: Oxford University Press.
Gallagher, S. and J. B. Sørensen (2006). Experimenting with phenomenology. *Consciousness and cognition*, 15(1), 119-134.
Gallagher, S. and D. Zahavi (2010). Phenomenological approaches to self-consciousness. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/win2010/entries/self-consciousness-phenomenological/>.
Gibson, J. J. (1950). *The perception of the visual world.* Boston: Houghton Mifflin.
Gibson, J. J. (1966). *The senses considered as perceptual systems.* Oxford, England: Houghton Mifflin.
Gilinsky, A. S. (1955). The effect of attitude upon the perception of size. *The American Journal of Psychology*, 68(2), 173-192.
Ginsburg, C. (2005). First-person experiments. *Journal of Consciousness Studies*, 12(2), 22-42.
Goldman, A. (2004). Epistemology and the evidential status of introspective reports. *Journal of Consciousness Studies*, 11(7-8), 1-16.
Goldman, A. I. (2006). *Simulating minds: The philosophy, psychology, and neuroscience of mindreading.* Oxford: Oxford University Press.
Gombrich, E. H. (1960). *Art and illusion.* Oxford: Phaidon Press.
Granrud, C., E. (2012). Judging the size of a distant object: Strategy use by children and adults. *In* G. Hatfield and S. Allred eds. *Visual Experience: Sensation, Cognition, and Constancy*. Oxford, Oxford University Press, pp. 13-34.
Granrud, C. E. (2009). Development of size constancy in children: A test of the metacognitive theory. *Attention, Perception, & Psychophysics*, 71(3), 644-654.
Gross, S., T. Chaisilprungraung, E. Kaplan, J. A. Menendez and J. Flombaum (2014). Problems for the purported cognitive penetration of perceptual color experience and Macpherson's proposed mechanism. *Baltic International Yearbook of Cognition, Logic and Communication: Perception and Concepts*, 9, 1-30.
Grzybowski, A. and P. Aydin (2007). Edme Mariotte (1620–1684): pioneer of neurophysiology. *Survey of ophthalmology*, 52(4), 443-451.

Gupta, B. (1998). *The disinterested witness: A fragment of the Advaita Vedanta phenomenology.* Illinois: Northwestern University Press.

Guzeldere, G. (1995). Consciousness: what it is, how to study it, what to learn from its history. *Journal of Consciousness Studies*, 2(1), 30-51.

Hacking, I. (1983). *Representing and intervening.* Cambridge: Cambridge University Press.

Halford, G. S., W. H. Wilson and S. Philips (1998). Processing capacity defined by relational complexity: Implications for comparative, developmental, and cognitive psychology. *Behavioral and Brain Sciences*, 21(6), 803-864.

Hardin, C. (1988/1993). Color for philosophers: Unweaving the rainbow. *Indianapolis: Hackett*.

Harding, D., E. (1967). The face game. *Transactional Analysis Bulletin*, 6(22), 40-52.

Harding, D., E. (1986b). "Confrontation": The game people play. *Transpersonal Transactional Analysis*, 16, 99-109.

Harding, D., E. (1988/2001). *The little book of life and death.* London: The Sholland Trust.

Harding, D., E. (1990/1999). *Head off stress.* London: The Sholland Trust.

Harding, D., E. (2000). *Face to no-face: Rediscovering our original nature.* Carlsbad, California: InnerDirections Publishing.

Harding, D. E. (1986a). *On having no head: Zen and the rediscovery of the obvious.* London, England: Arkana.

Harding, D. E. (1996). *Look for yourself: The science and art of self-realisation.* London: Head Exchange Press.

Harding, D. E. (1998). *The hierarchy of heaven and earth: A new diagram of man in the universe.* Crowquill: The Sholland Trust.

Harding, D. E. (2002). *The trial of the man who said he was God.* London: The Shollond Trust.

Harman, G. (1990). The intrinsic quality of experience. *In* J. Tomberlin ed. *Philosophical Perspectives 4: Action Theory and Philosophy of Mind*. Atascadero, CA, Ridgewell Publishing Company, pp. 31-52.

Harmon-Jones, E. and J. Sigelman (2001). State anger and prefrontal brain activity: Evidence that insult-related relative left-prefrontal activation is associated with experienced anger and aggression. *Journal of Personality and Social Psychology*, 80(5), 797-803.

Harmon-Jones, E., K. Vaughn-Scott, S. Mohr, J. Sigelman and C. Harmon-Jones (2004). The effect of manipulated sympathy and anger on left and right frontal cortical activity. *Emotion*, 4(1), 95-101.

Hatfield, G. (2005). Introspective evidence in psychology. *In* P. Achinstein ed. *Scientific Evidence: Philosophical Theories and Applications*. Baltimore and London, John Hopkins University Press, pp. 259-286.

Hatfield, G. (2009). *Perception and cognition: Essays in the philosophy of psychology.* Oxford: Clarendon Press.

Hatfield, G. (2012). Phenomenal and cognitive factors in spatial perception. *In* G. Hatfield and S. Allred eds. *Visual Experience: Sensation, Cognition, and Constancy*. Oxford, Oxford University Press, pp. 35-62.

Helmholtz, H. v. (1860/1925). *Treatise on physiological optics.* Optical Society of America.

Hilbert, D. (2016). Comments on Brentyn Ramm, "Phenomenal Size". American Philosophical Association Central Meeting, Chicago, March 2-5.

Hill, C. S. (1991). *Sensations: A defense of type materialism.* Cambridge: Cambridge

University Press.
Hill, C. S. and D. J. Bennett (2008). The perception of size and shape. *Philosophical Issues*, 18(1), 294-315.
Hill, S. C. (2011). How to study introspection. *Journal of Consciousness Studies*, 18(1), 21-43.
Hofstadter, D. R. and D. C. Dennett, eds. (1982). The mind's I. Fantasies and reflections on self and soul. Middlesex, Penguin Books.
Hohwy, J. (2011). Phenomenal variability and introspective reliability. *Mind & Language*, 26(3), 261-286.
Holway, A. H. and E. G. Boring (1941). Determinants of apparent visual size with distance variant. *The American Journal of Psychology*, 54(1), 21-37.
Horgan, T. and U. Kriegel (2007). Phenomenal epistemology: What is consciousness that we may know it so well? *Philosophical Issues*, 17(1), 123-144.
Horgan, T. and J. Tienson (2002). The intentionality of phenomenology and the phenomenology of intentionality. *In* D. J. Chalmers ed. *Philosophy of Mind: Classical and Contemporary Readings*. Oxford, Oxford University Press, pp. 520-533.
Horst, S. (2005). Phenomenology and psychophysics. *Phenomenology and the Cognitive Sciences*, 4(1), 1-21.
Howell, R. J. (2010). Subjectivity and the elusiveness of the self. *Canadian Journal of Philosophy*, 40(3), 459-483.
Huineng, C. Humphreys and W. Mou-lam (1973). *The Sutra of Wei Lang (or Hui Neng).* Hyperion Press.
Hume, D. (1777/1975). *Enquiries concerning human understanding and concerning the principles of morals.* Oxford: Clarendon Press.
Hurlburt, R. and C. L. Heavey (2004). To beep or not to beep: Obtaining accurate reports about awareness. *Journal of Consciousness Studies*, 11(7-8), 113-128.
Hurlburt, R. T. (1990). *Sampling normal and schizophrenic inner experience.* New York: Plenum Press.
Hurlburt, R. T. (1993). *Sampling inner experience in disturbed affect.* New York: Plenum Press.
Hurlburt, R. T. and E. Schwitzgebel (2007). *Describing inner experience?: Proponent meets skeptic.* The MIT Press.
Husserl, E. (1960). *Cartesian meditations: An introduction to phenomenology.* The Hague: Martinus Nijhoff.
Ihde, D. (2012). *Experimental phenomenology: Multistabilities.* Albany: SUNY Press.
Irvine, E. (2012). Old problems with new measures in the science of consciousness. *The British Journal for the Philosophy of Science*, 63(3), 627-648.
Ishai, A. and D. Sagi (1995). Common mechanisms of visual imagery and perception. *Science*, 268, 1772–1774.
Jack, A. and A. Roepstorff, eds. (2003). Trusting the subject? Vol. 1. Charlottesville, VA, Imprint Academic.
Jack, A. I. and T. Shallice (2001). Introspective physicalism as an approach to the science of consciousness. *Cognition*, 79(1), 161-196.
Jackson, F. (1977). *Perception: A representative theory.* Cambridge: Cambridge University Press.
Jackson, F. (1982). Epiphenomenal qualia. *Philosophical Quarterly*, 32(127), 127-136.
Jacovides, M. (2016). Locke on perception. *In* M. Stuart ed. *A Companion to Locke*. Oxford, John Wiley & Sons pp. 175-192.

Jagnow, R. (2012). Representationalism and the perspectival character of perceptual experience. *Philosophical Studies*, 157(2), 227-249.
James, W. (1890/1950). *The principles of psychology. 2 vols.* New York: Dover Publications.
Johnston, M. (2004). The obscure object of hallucination. *Philosophical Studies*, 120(1), 113-183.
Just, M. A. and P. A. Carpenter (1992). A capacity theory of comprehension: Individual differences in working memory. *Psychological Review*, 99(1), 122-149.
Kahneman, D. (1973). *Attention and effort.* New Jersey: Prentice-Hall.
Kanizsa, G. (1976). Subjective contours. *Scientific American*, 234, 48-52.
Kelly, S. D. (2008). Content and constancy: Phenomenology, psychology, and the content of perception. *Philosophy and Phenomenological Research*, 76(3), 682-690.
Kennedy, M. (2009). Heirs of nothing: The implications of transparency. *Philosophy and Phenomenological Research*, 79(3), 574-604.
Kind, A. (2003). What's so transparent about transparency? *Philosophical Studies*, 115(3), 225-244.
Kirby, K. N. and S. M. Kosslyn (1990). Thinking visually. *Mind & Language*, 5(4), 324-341.
Koffka, K. (1935). *Principles of gestalt psychology.* New York: Harcourt, Brace, & World.
Köhler, W. (1947). *Gestalt psychology.* New York: Liveright.
Koksvik, O. (2015). Phenomenal contrast: A critique. *American Philosophical Quarterly*, 52(4), 321-334.
Korcz, K. A. (2010). The epistemic basing relation. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2010/entries/basing-epistemic/>.
Kosslyn, S. M. (1980). *Image and mind.* Cambridge, Mass: Harvard University Press.
Kosslyn, S. M., G. Ganis and W. L. Thompson (2001). Neural foundations of imagery. *Nature Reviews Neuroscience*, 2(9), 635-642.
Kosslyn, S. M., W. L. Thompson and N. M. Alpert (1997). Neural systems shared by visual imagery and visual perception: A positron emission tomography study. *Neuroimage*, 6(4), 320-334.
Kouider, S. and S. Dehaene (2007). Levels of processing during non-conscious perception: a critical review of visual masking. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 362(1481), 857-875.
Kriegel, U. (2003). Consciousness as sensory quality and as implicit self-awareness. *Phenomenology and the Cognitive Sciences*, 2(1), 1-26.
Kriegel, U. (2005). Naturalizing subjective character. *Philosophy and Phenomenological Research*, 71(1), 23-57.
Kriegel, U. (2007). The phenomenologically manifest. *Phenomenology and the Cognitive Sciences*, 6(1-2), 115-136.
Kriegel, U. (2009). *Subjective consciousness: A self-representational theory.* Oxford: Oxford University Press.
Kriegel, U. (2011). Review of E. Schwitzgebel, Perplexities of Consciousness. *Notre Dame Philosophical Reviews*.
Kriegel, U. (2013) A hesitant defense of introspection. *Philosophical Studies* [*online*]. Available at: http://link.springer.com/content/pdf/10.1007%2Fs11098-013-0148-0.pdf.

Krueger, J., W (2011). The who and the how of experience. *In* M. Siderits, E. Thompson and D. Zahavi eds. *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions*. Oxford, Oxford University Press, pp. 27-55.

Laing, D. G. and G. Francis (1989). The capacity of humans to identify odors in mixtures. *Physiology & Behavior*, 46(5), 809-814.

Lambie, J. A. and A. J. Marcel (2002). Consciousness and the varieties of emotion experience: a theoretical framework. *Psychological Review*, 109(2), 219-259.

Land, M. F. (1999). Motion and vision: why animals move their eyes. *Journal of Comparative Physiology*, 185(4), 341-352.

Lane, R. D., S. Lee, R. Reidel, V. Weldon, A. Kaszniak and G. E. Schwartz (1996). Impaired verbal and nonverbal emotion recognition in alexithymia. *Psychosomatic Medicine*, 58(3), 203–210.

Lang, R. (2003). *Seeing who you really are.* London: Watkins Publishing.

Larsen, J. K., N. Brand, B. Bermond and R. Hijman (2003). Cognitive and emotional characteristics of alexithymia: A review of neurobiological studies. *Journal of psychosomatic research*, 54(6), 533-541.

Legrain, V., G. Crombez, K. Verhoeven and A. Mouraux (2011). The role of working memory in the attentional control of pain. *Pain*, 152(2), 453-459.

Legrain, V., S. V. Damme, C. Eccleston, K. D. Davis, D. A. Seminowicz and G. Crombez (2009). A neurocognitive model of attention to pain: behavioral and neuroimaging evidence. *Pain*, 144(3), 230-232.

Levine, J. (1994). Out of the closet: A qualophile confronts qualophobia. *Philosophical Topics*, 22(1/2), 107-126.

Levine, J. (2001). *Purple haze: The puzzle of consciousness.* Oxford and New York: Oxford University Press.

Lewis, D. (1983a). New work for a theory of universals. *Australasian Journal of Philosophy*, 61(4), 343-377.

Lewis, D. (1983b). Extrinsic properties. *Philosophical Studies*, 44(2), 197-200.

Lewis, D. and S. Lewis (1970). Holes. *Australasian Journal of Philosophy*, 48(2), 206-212.

Livermore, A. and D. G. Laing (1996). Influence of training and experience on the perception of multicomponent odor mixtures. *Journal of Experimental Psychology: Human Perception and Performance*, 22(2), 267-277.

Lormund, E. (1996). Nonphenomenal consciousness. *Noûs*, 30, 242-261.

Luck, S. J. and E. K. Vogel (1997). The capacity of visual working memory for features and conjunctions. *Nature*, 390(6657), 279-281.

Lutz, A. and E. Thompson (2003). Neurophenomenology integrating subjective experience and brain dynamics in the neuroscience of consciousness. *Journal of Consciousness Studies*, 10(9-10), 31-52.

Lycan, W. G. (1996). *Consciousness and Experience.* Cambridge, MA: MIT Press.

Lycan, W. G. (2001). The case for phenomenal externalism. *Noûs*, 35(s15), 17-35.

Lyons, W. (1986). *The disappearance of introspection.* Cambridge, MA: The MIT Press

Mach, E. (1890). The analysis of sensations - Anti-Metaphysical. *The Monist*, 1, 48-68.

Mack, A. (2010). Indirect nature of perception. *In* E. B. Goldstein ed. *Encyclopedia of Perception, Vol 1*. Sage, pp. 489-492.

Mack, A. and I. Rock (1998). *Inattentional blindness.* Cambridge, MA, US: The MIT Press.

Macpherson, F. (2012). Cognitive penetration of colour experience: Rethinking the issue in light of an indirect mechanism. *Philosophy and Phenomenological Research*, 84(1), 24-62.

Mandler, G. and B. J. Shebo (1982). Subitizing: an analysis of its component processes. *Journal of Experimental Psychology: General*, 111(1), 1-22.

Marbach, E. (2007). No heterophenomenology without autophenomenology: Variations on a theme of mine. *Phenomenology and the Cognitive Sciences*, 6(1-2), 75-87.

Markie, P. (2009). Classical foundationalism and speckled hens. *Philosophy and Phenomenological Research*, 79(1), 190-206.

Martin, C. B. (1980). Substance substantiated. *Australasian Journal of Philosophy*, 58(1), 3-10.

Martin, M. G. F. (2002). The transparency of experience. *Mind and Language*, 17(4), 376-425.

Masrour, F. (2011). Is perceptual phenomenology thin? *Philosophy and Phenomenological Research*, 83(2), 366-397.

McGinn, C. (1991). *The problem of consciousness: Essays toward a resolution.* Oxford: Blackwell.

Meketa, I. (2012). The false dichotomy between experiment and observation: The case of comparative cognition. *Philosophy of Scientific Experimentation 3*. University of Colorado, Boulder, October 5-6.

Merleau-Ponty, M. (1945/2002). *Phenomenology of perception.* London: Routledge Classics.

Merleau-ponty, M. (1968). *The visible and the invisible.* Evanston: Northwestern University Press.

Metzinger, T. (2004). *Being no one: The self-model theory of subjectivity.* MIT Press.

Mikels, J. A., P. A. Reuter-Lorenz, J. A. Beyer and B. L. Fredrickson (2008). Emotion and working memory: Evidence for domain-specific processes for affective maintenance. *Emotion*, 8(2), 256-266.

Monson, C. K. (1993). A comment to suspend the introspection controversy. *In* R. T. Hurlburt ed. *Sampling Inner Experience in Disturbed Affect*. New york, Plenum Press, pp. 15-26.

Mørch, H. H. (2014). Panpsychism and causation: A new argument and a solution to the combination problem. Doctoral Dissertation. University of Oslo.

Most, S. B., B. J. Scholl, E. R. Clifford and D. J. Simons (2005). What you see is what you set: sustained inattentional blindness and the capture of awareness. *Psychological Review*, 112(1), 217-242.

Müller-Lyer, F. C. (1889). Optische urteilstäuschungen. *Archiv für Anatomie und Physiologie. Physiologische Abteilung*, 2, 263-270.

Nagel, T. (1974). What is it like to be a bat? *The philosophical review*, 83(4), 435-450.

Nahmias, E. A. (2002). Verbal reports on the contents of consciousness: Reconsidering introspectionist methodology. *Psyche*, 8(21), http://journalpsyche.org/files/0xaab0.pdf.

Nanay, B. (2012). Perceptual phenomenology. *Philosophical Perspectives*, 26(1), 235-246.

Nelkin, N. (1989). Propositional attitudes and consciousness. *Philosophy and Phenomenological Research*, 49(3), 413-430.

Newman, L. (2014). Descartes' epistemology. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL =

<http://plato.stanford.edu/archives/win2014/entries/descartes-epistemology/>.
Nichols, S. and S. P. Stich (2003). *Mindreading: An integrated account of pretence, self-awareness, and understanding other minds.* Clarendon Press/Oxford University Press.
Nisbett, R. E. and T. D. Wilson (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, 84, 231–359.
Noble, A. C., R. A. Arnold, J. Buechsenstein, E. J. Leach, J. Schmidt and P. M. Stern (1987). Modification of a standardized system of wine aroma terminology. *American Journal of Enology and Viticulture*, 38(2), 143-146.
Noe, A. (2004). *Action in perception.* Cambridge, MA: MIT Press.
Oberauer, K. (2009). Design for a working memory. *In* B. H. Ross ed. *The Psychology of Learning and Motivation: Advances in Research and Theory*. San Diego, CA, Elsevier Academic Press, pp. 45-100.
Okasha, S. (2011). Experiment, observation and the confirmation of laws. *Analysis*, 71, 222-232.
Olson, E. (2003). An argument for animalism. *In* J. Barresi and R. Martin eds. *Personal Identity*. Oxford, Blackwell.
Olson, E., T. (2007). *What are we? A study in personal ontology.* Oxford: Oxford University Press.
Olson, E. T. (1997). *The human animal: Personal identity without psychology.* Oxford: Oxford University Press.
Overgaard, M., S. Gallagher and T. Z. Ramsøy (2008). An integration of first-person methodologies in cognitive science. *Journal of Consciousness Studies*, 15(5), 100-120.
Overgaard, M., J. Rote, K. Mouridsen and T. Z. Ramsøy (2006). Is conscious perception gradual or dichotomous? A comparison of report methodologies during a visual task. *Consciousness and cognition*, 15(4), 700-708.
Overgaard, S. (2010). On the looks of things. *Pacific Philosophical Quarterly*, 91(2), 260-284.
Palmer, S. E. (1999). *Vision science: Photons to phenomenology.* Cambridge, MA: MIT press.
Pappas, G. S. (1989). Sensation and Perception in Reid. *Noûs*, 23, 155-167.
Parfit, D. (1984). *Reasons and persons.* Oxford University Press.
Parker, W. S. (2009). Does matter really matter? Computer simulations, experiments, and materiality. *Synthese*, 169(3), 483-496.
Pautz, A. (2007). Intentionalism and perceptual presence. *Philosophical Perspectives*, 21(1), 495-541.
Peacocke, C. (1983). *Sense and content: Experience, thought, and their relations.* Oxford: Clarendon Press.
Peacocke, C. (1992). *A study of concepts.* Cambridge: The MIT Press.
Peacocke, C. (2014). *The mirror of the world: subjects, consciousness, and self-consciousness.* Oxford University Press.
Pearson, J., R. L. Rademaker and F. Tong (2011). Evaluating the mind's eye: The metacognition of visual imagery. *Psychological Science*, 22(12), 1535–1542.
Perdreau, F. and P. Cavanagh (2013). Is artists' perception more veridical? *Frontiers in neuroscience*, 7, 1-11.
Piccinini, G. (2003). Data from introspective reports: Upgrading from common sense to science. *Journal of Consciousness Studies*, 10(9-10), 141-156.
Piccinini, G. (2009). First-person data, publicity, and self-measurement. *Philosophers Imprint*, 9(9), 1-16.

Piccinini, G. (2010). How to improve on heterophenomenology: The self-measurement methodology of first-person data. *Journal of Consciousness Studies*, 17(3-4), 84-106.
Pitt, D. (2004). The phenomenology of cognition Or What is it like to think that P? *Philosophy and Phenomenological Research*, 69, 1-36.
Poston, T. (2007). Acquaintance and the problem of the speckled hen. *Philosophical Studies*, 132(2), 331-346.
Prinz, J. (2004). The fractionation of introspection. *Journal of Consciousness Studies*, 11(7-8), 40-57.
Prinz, J. (2012). Waiting for the self. *In* J. Liu and J. Perry eds. *Consciousness and the Self*. Cambridge, Cambridge University Press, pp. 123-149.
Pryor, J. (2000). The skeptic and the dogmatist. *Noûs*, 34(4), 517-549.
Rademaker, R. L. and J. Pearson (2012). Training visual imagery: Improvements of metacognition, but not imagery strength. *Frontiers in psychology*, 3, 1-11.
Rahula, W. (2007). *What the Buddha taught.* New York: Grove Press.
Ramm, B. J. and G. S. Halford (2012). Novelty and processing demands in conceptual combination. *Australian Journal of Psychology*, 64(4), 199-208.
Ramsøy, T. Z. and M. Overgaard (2004). Introspection and subliminal perception. *Phenomenology and the Cognitive Sciences*, 3(1), 1-23.
Revonsuo, A. (2001). Putting color back where it belongs. *Consciousness and cognition*, 10(1), 78-84.
Robb, D. and J. Heil (2014). Mental causation. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2014/entries/mental-causation/>.
Robinson, H. (2014). Substance. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2014/entries/substance/>.
Robinson, J. O. (2013). *The psychology of visual illusion.* Courier Dover Publications.
Robinson, W. S. (2005). Thoughts without distinctive non-imagistic phenomenology. *Philosophy and Phenomenological Research*, 70, 534-561.
Rock, I. (1975). *Introduction to perception.* New York: Macmillan.
Rock, I. (1977). In defense of unconscious inference. *In* W. Epstein ed. *Stability and Constancy in Visual Perception: Mechanisms and Processes*. New York, John Wiley, pp. 321-373.
Rock, I. (1983). *Logic of perception.* Cambridge: MIT Press.
Rock, I. and S. Ebenholtz (1959). The relational determination of perceived size. *Psychological Review*, 66(6), 387-401.
Rock, I. and L. Kaufman (1962). The moon illusion II: The moon's apparent size is a function of the presence or absence of terrain. *Science*, 136(3521), 1023-1031.
Ross, P. W. (2001). The location problem for color subjectivism. *Consciousness and cognition*, 10(1), 42-58.
Russell, B. (1914). On the nature of acquaintance. III. Analysis of experience. *The Monist*, 24(3), 435-453.
Russell, B. (1919). *Mysticism and logic: And other essays.* New York: Longmans, Green and co.
Samur, D., M. Tops, C. Schlinkert, M. Quirin, P. Cuijpers and S. L. Koole (2013). Four decades of research on alexithymia: Moving toward clinical applications. *Frontiers in psychology*, 4, 1-4.
Sartre, J.-P. (1956). *Being and nothingness: An essay on phenomenological ontology.* NewYork: Philosophical Library.

Saults, J. S. and N. Cowan (2007). A central capacity limit to the simultaneous storage of visual and auditory arrays in working memory. *Journal of Experimental Psychology: General*, 136(4), 663-684.
Schellenberg, S. (2008). The situation-dependency of perception. *The Journal of Philosophy*, 105(2), 55-84.
Schmeichel, B. J., R. N. Volokhov and H. A. Demaree (2008). Working memory capacity and the self-regulation of emotional expression and experience. *Journal of Personality and Social Psychology*, 95(6), 1526-1540.
Schwitzgebel, E. (2008). The unreliability of naive introspection. *Philosophical Review*, 117(2), 245-273.
Schwitzgebel, E. (2011). *Perplexities of consciousness.* Cambridge, Mass.: MIT Press.
Schwitzgebel, E. (2012). Introspection, what? *In* D. Smithies and D. Stoljar eds. *Introspection and Consciousness*. Oxford, Oxford University Press, pp. 29-48.
Schwitzgebel, E. (2013). Reply to Kriegel, Smithies, and Spener. *Philosophical Studies*, 1-12.
Searle, J. R. (1992). *The rediscovery of the mind.* Cambridge: MIT press.
Searle, J. R. (2004). *Mind: A brief introduction.* Oxford: Oxford University Press.
Shear, J. (1998). Experiential clarification of the problem of self. *Journal of Consciousness Studies*, 5(5-6), 673-686.
Shear, J. and R. Jevning (1999). Pure consciousness: Scientific exploration of meditation techniques. *Journal of Consciousness Studies*, 6(2-3), 189-209.
Shear, J. and F. J. Varela, eds. (1999). The view from within: First-person approaches to the study of consciousness. Thorverton, Imprint Academic.
Shoemaker, S. (1994). Self-knowledge and 'Inner-Sense'. *Philosophy and Phenomenological Research*, 54, 249-314.
Shoemaker, S. (2003). Content, color, and character. *Philosophical Issues*, 13(1), 253–278.
Sider, T. (2006). "Bare Particulars". *Philosophical Perspectives*, 20(1), 387-397.
Siegel, S. (2006a). Which properties are represented in perception? *In* T. S. Gendler and J. Hawthorne eds. *Perceptual Experience*. Oxford, Oxford University Press, pp. 481-503.
Siegel, S. (2006b). Subject and Object in the Contents of Visual Experience. *Philosophical Review*, 115(3), 355-388.
Siegel, S. (2007). How can we discover the contents of experience? *The Southern Journal of Philosophy*, 45(S1), 127-142.
Siegel, S. (2010). *The contents of visual experience.* Oxford: Oxford University Press.
Siegel, S. (2014). The contents of perception. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. forthcoming URL = <http://plato.stanford.edu/archives/win2014/entries/perception-contents/>.
Siewert, C. (1998). *The significance of consciousness.* Princeton, NJ: : Princeton University Press.
Siewert, C. (2006). Is the appearance of shape protean? *Psyche*, 12(3), 1-16.
Simon, T. J. and S. Vaishnavi (1996). Subitizing and counting depend on different attentional mechanisms: Evidence from visual enumeration in afterimages. *Perception & Psychophysics*, 58(6), 915-926.
Simons, D. J. (2000). Attentional capture and inattentional blindness. *Trends in cognitive sciences*, 4(4), 147-155.
Simons, D. J. and C. F. Chabris (1999). Gorillas in our midst: Sustained inattentional blindness for dynamic events. *Perception*, 28(9), 1059-1074.

Singer, J. L. (1952). Personal and environmental determinants of perception in a size constancy experiment. *Journal of Experimental Psychology*, 43(6), 420-427.

Slater, A., A. Mattock and E. Brown (1990). Size constancy at birth: Newborn infants' responses to retinal and real size. *Journal of experimental child psychology*, 49(2), 314-322.

Slater, A. and V. Morison (1985). Shape constancy and slant perception at birth. *Perception*, 14(3), 337-344.

Smith, A. D. (2002). *The problem of perception.* Cambridge, Mass: Harvard University Press.

Smithies, D. (2013a). On the unreliability of introspection. *Philosophical Studies*, 165(3), 1177-1186.

Smithies, D. (2013b). The nature of cognitive phenomenology. *Philosophy Compass*, 8(8), 744-754.

Smithies, D. (2014). The phenomenal basis of epistemic justification. *In* M. Sprevak and J. Kallestrup eds. *New Waves in Philosophy of Mind*. Palgrave Macmillan, pp. 98-124.

Solomon, G. E. A. (1990). Psychology of novice and expert wine talk. *The American Journal of Psychology*, 103(4), 495-517.

Sorensen, R. (2007). The vanishing point: A model of the self as an absence. *The Monist*, 90(3), 432-456.

Sosa, E. (2003a). Privileged access. *In* Q. Smith ed. *Consciousness: New Philosophical Essays*. Oxford, Oxford University Press, pp. 273–292.

Sosa, E. (2003b). Beyond internal foundations to external virtues. *In* L. BonJour and E. Sosa eds. *Epistemic Justification: Internalism vs. Externalism, Foundations vs. Virtue*. Oxford, Blackwell Publishing.

Soto, D., J. Hodsoll, P. Rotshtein and G. W. Humphreys (2008). Automatic guidance of attention from working memory. *Trends in cognitive sciences*, 12(9), 342-348.

Spener, M. (2012). Mind-independence and visual phenomenology. *In* D. Smithies and D. Stoljar eds. *Introspection and Consciousness*. Oxford, Oxford University Press, pp. 381-403.

Sperling, G. (1960). The information available in brief visual presentations. *Psychological monographs: General and applied*, 74(11), 1-29.

Stoljar, D. (2004). The argument from diaphanousness. *Canadian Journal of Philosophy*, 30, 341-390.

Stoljar, D. (2010). *Physicalism.* New York, NY: Routledge.

Stoljar, D. (2016). Physicalism. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/spr2016/entries/physicalism/>.

Strawson, G. (1994/2010). *Mental Reality.* 2nd ed Cambridge: The MIT Press.

Strawson, G. (1997). The self. *Journal of Consciousness Studies*, 4(5-6), 405-428.

Strawson, G. (2006). Being realistic: Why physicalism entails panpsychism. *Journal of Consciousness Studies*, 13(10-11), 3-31.

Strawson, G. (2009). *Selves: An essay in revisionary metaphysics.* Oxford: Oxford University Press.

Strawson, G. (2011). Radical self-awareness. *In* M. Siderits, E. Thompson and D. Zahavi eds. *Self, No Self?: Perspectives From Analytical, Phenomenological, and Indian Traditions*. Oxford, Oxford University Press, pp. 274-307.

Strayer, D. L. and W. A. Johnston (2001). Driven to distraction: Dual-task studies of simulated driving and conversing on a cellular telephone. *Psychological*

Science, 12(6), 462-466.
Suzuki, D. T. (1956). *Zen Buddhism* Garden City: Doubleday.
Thompson, B. (2008). Representationalism and the argument from hallucination. *Pacific Philosophical Quarterly*, 89(3), 384-412.
Thouless, R. H. (1931). Phenomenal regression to the real object. I. *British Journal of Psychology*, 21, 339-359.
Tiles, J. E. (1993). Experiment as intervention. *The British Journal for the Philosophy of Science*, 44(3), 463-475.
Travis, C. (2004). The silence of the senses. *Mind*, 113(449), 57-94.
Trick, L. M. and Z. W. Pylyshyn (1994). Why are small and large numbers enumerated differently? A limited-capacity preattentive stage in vision. *Psychological Review*, 101(1), 80-102.
Tse, P. U. (2005). Voluntary attention modulates the brightness of overlapping transparent surfaces. *Vision research*, 45(9), 1095-1098.
Tye, M. (1995). *Ten problems of consciousness.* Cambridge, MA: The MIT Press.
Tye, M. (2000). *Consciousness, color, and content.* Cambridge, MA: MIT Press.
Tye, M. (2003). *Consciousness and persons: Unity and identity.* Cambridge, MA: The MIT Press.
Tye, M. (2009). A new look at the speckled hen. *Analysis*, 69(2), 258-263.
Tye, M. (2014). Transparency, qualia realism and representationalism. *Philosophical Studies*, 170(1), 39-57.
Van Dillen, L. F. and S. L. Koole (2007). Clearing the mind: a working memory model of distraction from negative mood. *Emotion*, 7(4), 715-723.
Varela, F. J. (1996). Neurophenomenology: A methodological remedy for the hard problem. *Journal of Consciousness Studies*, 3(4), 330-349.
Varela, F. J. and J. Shear (1999). First-person methodologies: What, why, how. *Journal of Consciousness Studies*, 6(2-3), 1-14.
Velmans, M. (1999). Intersubjective science. *Journal of Consciousness Studies*, 6(2-3), 299-306.
Velmans, M. (2000a). *Understanding consciousness.* London, UK: Routledge.
Velmans, M. (2000b). A psychologist's map of consciousness studies. *In* M. Velmans ed. *Investigating Phenomenal Consciousness: New Methodologies and Maps*. Amsterdam, John Benjamins, pp. 333–358.
Velmans, M. (2007). Heterophenomenology versus critical phenomenology. *Phenomenology and the Cognitive Sciences*, 6(1-2), 221-230.
Vermersch, P. (1999). Introspection as practice. *Journal of Consciousness Studies*, 6(2-3), 17-42.
Vicario, G. B. (1993). On experimental phenomenology. *Advances in psychology*, 99, 197-219.
Wagner, M. (2012). Sensory and cognitive explanations for a century of size constancy research. *In* G. Hatfield and S. Allred eds. *Visual Experience: Sensation, Cognition, and Constancy*. Oxford, Oxford University Press, pp. 63-86.
Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological Review*, 20(2), 158-177.
Watzl, S. and W. Wu (2012). Perplexities of consciousness, by Eric Schwitzgebel. *Mind*, 121(482), 524-529.
Weatherson, B. and D. Marshall (2014). Intrinsic vs. extrinsic properties. *In* E. N. Zalta ed. *The Stanford Encyclopedia of Philosophy*. URL = <http://plato.stanford.edu/archives/win2014/entries/perception-contents/>.

Weiskrantz, L. (1986). *Blindsight: A case study and implications.* Oxford: Oxford University Press.

Wertheimer, M. (1912). Experimentelle studien über das sehen von bewegung. *Zeitschrift für Psychologie*, 61(1), 161–265.

Wickens, C. D. (1984). Processing resources in attention. *In* R. Parasuraman and D. R. Davies eds. *Varieties of Attention*. New York, Academic Press, pp. 63–102.

Wickens, C. D. (2002). Multiple resources and performance prediction. *Theoretical issues in ergonomics science*, 3(2), 159-177.

Williams, B. (1973). Imagination and the self. *Problems of the Self: Philosophical Papers 1956-1972*. Cambridge, Cambridge University Press, pp. 26-45.

Williford, K. (2006). The self-representational structure of consciousness. *In* U. Kriegel and K. Williford eds. *Self-Representational Approaches to Consciousness*. Cambridge, MIT Press, pp. 111-142.

Wittgenstein, L. (1922). *Tractatus logico-philosophicus.* London: Routledge & Kegan Paul.

Woodward, J. (2003). Experimentation, causal Inference, and instrumental realism. *In* H. Radder ed. *The Philosophy of Scientific Experimentation*. Pittsburgh, University of Pittsburgh Press, pp. 87 -118.

Zahavi, D. (2005). *Subjectivity and selfhood: Investigating the first-person perspective.* Cambridge MA: The MIT press.

Zahavi, D. (2007). Killing the Straw Man: Dennett and Phenomenology. *Phenomenology and the Cognitive Sciences*, 6(1-2), 21-43.

Zahavi, D. (2011). The experiential self: Objections and clarifications. *In* M. Siderits, E. Thompson and D. Zahavi eds. *Self, No Self? Perspectives from Analytical, Phenomenological, and Indian Traditions*. Oxford, Oxford University Press, pp. 56-78.

Zahavi, D. and U. Kriegel (2015). For-me-ness: What it is and what it is not. *In* D. O. Dahlstrom, A. Elpidorou and W. Hopp eds. *Philosophy of Mind and Phenomenology: Conceptual and Empirical Approaches*. London, Routledge, pp. 36-53.