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**WHY ASK:
THE EPISTEMOLOGY OF
QUESTIONING**



Lani Watson

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**Dedicated to the memory of
Mike Porter**

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Abstract

Imagine living one day without asking a single question. Why not try it. How long before a question surfaces in your mind. How long before you are compelled, by force of necessity or habit, to ask it. Questioning is an integral part of our everyday lives. We use it to learn, to communicate, to express ourselves and to understand our world. Questioning binds us to common goals, allows us to establish common ground and is a vital tool in our daily search for information. *What* we ask, *how* we ask and *where, when,* and *who* we ask determines a large proportion of what we come to know about our world and the people that we share it with. That's why questioning matters. Regardless of who we are, questioning occupies a familiar, ubiquitous, and indispensable place in our lives.

This thesis examines the nature and value of questioning. It opens in Chapter One with an overview of the history of questioning in the Western philosophical tradition, uncovering divergent roles for questioning in distinct historical contexts, and changing attitudes towards the practice in line with underlying epistemological commitments. In *Chapter Two* a contemporary context for the epistemology of questioning is offered, providing an indication of the nature and scope of contemporary philosophical inquiry into questioning, and outlining a contemporary epistemological context for the investigation. *Chapter Three* begins the analytical investigation, presenting a characterisation of questioning as a social epistemic practice, and a characterisation of questions as acts, drawing on the results of a large online survey. *Chapter Four* investigates the value of questioning, highlighting its role in the acquisition of epistemic goods, such as knowledge and understanding, and in the dissemination of these goods within epistemic communities. *Chapter Five* examines the nature and practice of good questioning, presenting a component-based account of good questioning, drawing on the results of an original empirical study conducted with schoolchildren. *Chapter Six* explores the nature of virtuous questioning, offering a characterisation of the intellectual virtue of inquisitiveness and highlighting the distinctive role of inquisitiveness in the intellectually virtuous life. Finally, *Chapter Seven* investigates the role that questioning plays in education and presents an argument in support of educating for virtuous questioning.

The epistemological examination of questioning captures its essential character and significance. Questioning matters because of the purpose that it serves; that of finding things out. We ask questions in order to gather information on the basis of which we form beliefs and decide how to act. Through the information that we gather and the beliefs that we form, we arrive at knowledge and understanding. Questioning matters because it forms the basis of what we know and understand, as individuals and communities. This thesis examines questioning in light of its central epistemological significance. As such, it provides the groundwork for an *epistemology of questioning*.

Declaration

I have read and understood The University of Edinburgh guidelines on Plagiarism and declare that this thesis is all my own work except where I indicate otherwise by proper use of quotes and references. The work has not been submitted for any other degree or professional qualification except as specified.

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*“Look then how he will come out of his perplexity while searching along with me.
I shall do nothing more than ask questions”
(Socrates in Meno 84c)*

Preface

This research is about questions and questioning. Before the main introduction, a preliminary point of methodology is required regarding the use of question-marks. My task during the writing of this thesis has been to investigate the nature of questions and questioning, and to examine the role that they play in everyday life. My primary subject matter has always been, and continues to be, the questions that I find myself asking throughout the day, and those that are asked of me. These have provided rich, authentic and diverse material for my research.

At an early stage in the research it became apparent, through reflection on my own questions, and those of others, that the form of a question, typically an interrogative sentence followed by the familiar question-mark, and the question as an abstract entity, were at least to some extent, distinct objects of analysis. The former, for example, is governed by certain linguistic norms, while the latter is not. In order to make this distinction explicit, and so to explore it further, I chose to drop the use of question-marks in my own writing. I have adopted this approach consistently in, for example, personal writing and note-taking, informal communication with friends and family, and formal settings such as conference papers and academic publications.

Removing this conventional grammatical marker has provided many valuable opportunities to actively engage with and analyse questions in a wide variety of settings, as abstract philosophical entities, distinct from their linguistic manifestation. It has proven, somewhat surprisingly, to be a valuable methodological tool. It is hoped that the reader will also be compelled to engage actively in their own analysis of questions and questioning throughout the forthcoming investigation and to this end, no question-marks are included in the thesis except where they have been employed by others and are quoted as such.

Introduction

Questioning is an integral part of our everyday lives. We use it to learn, to communicate, to express ourselves and to understand our world. We use it to navigate our environment and to interact with the people in it. Questioning binds us to common goals, allows us to establish common ground and is a vital tool in our daily search for information, whether that's understanding the quantum universe, or simply knowing the price of milk. Questioning arises across cultures, languages and histories and serves the same basic function, regardless of gender, age or social context. It is familiar, indispensable and ubiquitous. Most importantly, questioning matters. What we ask, how we ask, and where, when, and who we ask, determines a large proportion of what we come to know about our world and the people that we share it with.

This thesis examines the nature and value of questioning. It asks what questioning is and what makes it valuable. It investigates both good and virtuous questioning and asks what it takes to *be* a good or virtuous questioner. Lastly, it explores the role that questioning plays in learning, and asks whether we should educate for questioning. The investigation is conducted within an *epistemological framework*. It examines the role that questioning plays in our epistemic lives and investigates its relationship to epistemic goods such as knowledge and understanding. This framework captures the essential character and significance of questioning. Questioning matters because of the purpose that it serves; that of finding things out. We ask questions in order to gather information on the basis of which we form beliefs and decide how to act. Information itself is both pervasive and indispensable. Questioning leads us to it. Crucially, through the information that we gather and the beliefs that we form, we arrive at knowledge and understanding. All that we purport to know or understand about the world around us is therefore, largely, perhaps exclusively a product of the questions that we ask. The significance of this is hard to overstate. What we know and understand determines much of what we feel, think and do. This is as true of our daily interactions as it is of our scientific endeavours and political engagements. Questioning matters because it forms the basis of what we know and understand, as individuals and as communities. This thesis examines the nature and value of questioning in the light of its central epistemological significance. As such, it provides the groundwork for an *epistemology of questioning*.

Reflection on the epistemological significance of questioning has been largely absent from the philosophical canon. Despite its pervasive influence, few philosophers throughout history have turned their attention explicitly towards the vital epistemic role that questioning plays within either philosophical endeavour or everyday life. Work on questions in contemporary philosophy, emerging in the past fifty years, has been undertaken by a small number of authors and focuses predominantly on the formal logical, semantic or pragmatic structure of questions. The distinctively epistemic role of questioning is, in general, not treated explicitly. The topic is not yet one of notable contemporary philosophical interest. Significantly, there is no entry under either ‘questions’ or ‘questioning’ in the *Oxford Dictionary of Philosophy* (2008), nor listed on the Internet Encyclopedia of Philosophy (as of 27th January 2015). The first entry on ‘questions’ appeared in the online Stanford Encyclopedia of Philosophy in February 2014, and recounts, primarily, the formal logical and linguistic focus of contemporary contributions to the field. Consequently, this thesis explores novel and expansive philosophical terrain. Given the absence of both historical and contemporary investigations into the epistemology of questioning, it rests only marginally on any direct work in this field. Rather, the investigation draws on recent and emerging discourses in virtue and social epistemology, and the epistemology of education. Whilst there is little explicit attention paid to questioning in these fields, they nonetheless provide a pertinent contemporary epistemological context for the investigation.

The investigation opens, in *Chapter One*, with an overview of the history of questioning in the Western philosophical tradition. The distinct roles that questioning has occupied within this tradition are examined and changing attitudes towards the practice of questioning uncovered. The overview begins with an extended examination of questioning in Ancient Athens and proceeds through the Middle Ages, Early Modern and Modern eras, drawing to a close at the start of the twentieth century. This overview highlights the historical absence of any sustained philosophical inquiry into questioning and provides a valuable historical context for the contemporary epistemology of questioning, thereby laying the historical foundations for the discussion of the thesis.

The investigation in *Chapter Two* provides a contemporary context for the epistemology of questioning spanning the twentieth and early twenty-first centuries and outlining the most salient ideas that have emerged during this period. This provides an indication of the nature and scope of contemporary philosophical inquiry into questioning and highlights a number of important theoretical insights from the philosophies of language and logic. Following this, two pertinent contemporary epistemological movements are outlined, namely, virtue and social epistemology, and these are seen to provide the contemporary epistemological context for the investigation.

In *Chapter Three*, the investigation itself begins with an examination of the nature of questioning. A characterisation of questioning is developed and interrogated in light of recent social-epistemological debates concerning the genealogy of knowledge (Craig 1999) and the nature of testimony (Goldman 1999; Lackey 1999; Goldberg 2010). The distinctive epistemic function of questioning is identified, leading to an account of questions themselves, developed with reference to the results of a large online survey conducted as part of the research. Details of the online survey are provided in Appendix One.

In *Chapter Four*, the investigation turns to a normative examination of questioning, focusing on what makes questioning valuable. An account of the role that questioning plays in the acquisition of epistemic goods, such as knowledge and understanding, is developed, drawing on recent work concerning the nature and value of these goods (Kvanvig 2003; Pritchard 2010; Greco 2010). In addition, the role that questioning plays within epistemic communities is examined. Two types of value for questioning are revealed throughout the investigation, namely, instrumental and constitutive value. Alongside these, a third type of value, labelled essential constitutive value, is speculatively proposed and explored.

In *Chapter Five*, the investigation addresses a second normative question concerning the nature and practice of good questioning. The distinctive epistemic function of questioning is once again interrogated here in order to develop a rich normative account of good questioning. With this in place, the investigation turns to the substantive and challenging issue of what it takes to *be* a good questioner. Here, the discussion outlines three components of good questioning, labelled the content, communication and context components. Each of these is explicated in detail with reference to results of an original experimental study conducted with schoolchildren. Details of the study are provided in Appendix Two.

In *Chapter Six*, the investigation turns from good to virtuous questioning, and the intellectual virtue of inquisitiveness is identified as the manifestation of virtuous questioning. A characterisation of inquisitiveness is developed drawing on closely related work in virtue epistemology characterising others of the intellectual virtues (Zagzebski 1996; Robert & Wood 2007; Riggs 2010). Inquisitiveness is identified as the ‘question-asking virtue’ and the inquisitive person is as one who is characteristically motivated to engage sincerely in good questioning. The distinctive role of inquisitiveness in the intellectually virtuous life is then examined highlighting its central import to virtue-epistemological discourse.

Finally, in *Chapter Seven*, the role that questioning plays in education is examined. The chapter begins with an overview of positions regarding the aims of education (Elgin 1999; Goldman 1999; Curren 2000; Baehr 2011; Kotzee 2013) and explores the role of questioning in education with respect to each of these. An argument is then presented in support of educating for both the skill of good questioning and the motivation to engage in good questioning drawing, once again, on empirical data collected in the school experiment. On this basis, an argument is given in support of educating for virtuous questioning.

With this, the groundwork for an epistemology of questioning has been laid, and its applications within an education context examined. The investigation closes with a brief and speculative exploration of potential further areas of inquiry which may be fruitfully explored in the lights of an epistemology of questioning. These range from the role of questioning in political and societal contexts to its role in scientific research, technological innovation, and at the heart of the 'Information Age'. This wide-ranging exploration serves to further emphasise the significance of questioning in our everyday and intellectual lives. As such, firm foundations are laid for the proliferation of research into this familiar, yet indispensable practice.

Chapter One

The Epistemology of Questioning:

A Brief History

The history of philosophy is replete with fascinating questions. Since its earliest inception in Ancient Greece the Western philosophical tradition has concerned itself with the most fundamental of human mysteries; questions of how to live a good life, of why there is something rather than nothing, of the nature of truth, of happiness and of freedom, and of whether we can know. The history of these questions however, and of philosophical questioning itself, has taken a winding path. Individual questions have fallen in and out of philosophical favour across the centuries and the practice of questioning has taken a variety of guises underlined by changing epistemological foundations. Moreover, theoretical reflections on this practice have been largely absent from much of philosophical history. Despite a close bond between the art of philosophy and the practice of questioning, few philosophers have focused their attention explicitly on the nature and value of questions and questioning. This is a shortcoming that contemporary philosophy has only recently begun to address. As we shall see however, it is a subject more than worthy of philosophical reflection.

This chapter presents a brief history of questioning in the Western philosophical tradition.¹ The aim is to understand and examine the variety of roles that questioning has occupied in distinct historical contexts. This will uncover changing attitudes towards the practice of questioning throughout history, in line with divergent and evolving epistemological commitments, and shed light on the limited philosophical attention paid to this practice. Consequently, the overview will provide a valuable *historical context* for the examination of questioning in contemporary epistemology. Key epistemological concepts will be introduced and the role of questioning as an epistemic practice highlighted and interrogated throughout. The investigation is intended to offer no more than an

¹ Given the significant breadth of the topic and period under discussion, the historical narrative has been limited to the epistemology of questioning in the Western philosophical tradition. The nature and role of questioning in the Eastern traditions has been left unexplored. This is a promising subject for future research.

introductory historical overview and only the most salient events and characters in each period will be discussed. Nonetheless, an informative and, I believe, compelling historical context for the contemporary epistemology of questioning will emerge.

THE CLASSICAL TRADITION **(C4th – C1st BCE)**

Amidst the great city squares, imposing marble temples and shaded limestone streets of Ancient Athens the birth of Western philosophy is witnessed and the earliest recorded philosophical discussions brought to life by an array of extraordinary thinkers. Here the first formal higher-learning institutions were established, from which our modern-day universities are descended. Athena, the Greek goddess of wisdom and justice, serves as a fitting symbol for the maternal origins of this ancient tradition. For its paternal origins, if there are to be any, there is perhaps no more suitable candidate than the enigmatic, maverick, street philosopher, Socrates. It is with Socrates that the historical narrative begins, uncovering the role that questioning played in philosophical discourse at the dawn of the Western philosophical tradition.

SOCRATES: A LIFE OF QUESTIONING

470/469-399 BCE

Perhaps one of the best known and oft-quoted sentiments in Western philosophy is Socrates' eloquent assertion during his trial in the Athenian court that "the unexamined life is not worth living" (*Apology* 38a). Whether or not Plato's account in the *Apology* of Socrates' defence at this trial serves as a faithful rendition of the events that occurred there, or a dramatic representation, is still an open debate. It is, however, evident from the many Platonic dialogues in which Socrates plays the principal role that his commitment to a life of ongoing examination and inquiry was indeed both sincere and resolute. This commitment is most strikingly demonstrated by Socrates' refusal to abandon the practices of philosophical inquiry, for which he was condemned, in the face of his own death.

In the *Apology*, Socrates is seen to accept the sentence of death conferred upon him and although he deems it unjustified embraces the opportunity that it may afford him to continue his philosophical inquiries among the many great heroes residing in the afterlife. Thus, we see him confidently pronounce; "[M]ost important, I could spend my time testing and examining people there, as I do here" (*Apology* 41b). Far from relinquishing the philosophical methodology that had by this point made him so unpopular amongst the men of power and influence in Ancient Athens, Socrates was, it seems, willing to make the ultimate sacrifice in order to defend it. It was therefore, to a great

extent his *approach* to philosophical discourse that set Socrates apart from his contemporaries in the late fourth century BCE. Given Socrates' distinguished standing in philosophical history we can rightly ask what it was about this approach that stood out among the philosophers of his day; an approach that so impressed itself upon both his admirers and adversaries that it eventually determined his fate.

Socratic Questioning

The character of Socrates as portrayed in the Platonic dialogues is commonly associated with a spirited commitment to philosophical questioning. This familiar association is moreover, supported by the scholarly account of Socrates. As Dominic Scott (2006) comments “the historical Socrates believed adamantly in our duty to inquire” (p.91). We can furthermore identify the process of question-and-answer as an essential ingredient in this form of inquiry. In his seminal account of Socrates' method, for example, Gregory Vlastos (1982) highlights the centrality of “two-party question-and-answer adversative argument” (p.711-12). Similarly, Gilbert Ryle (1966) describes Socrates “driving his interlocutors by sequences of questions into admitting the falsity of the theses they had been defending” (p.10). Thomas Brickhouse and Nicholas Smith (2000) likewise observe that “in Plato's dialogues what we see Socrates doing most is asking questions” (p.53) and Harold Tarrant (1993) comments that “Socratic philosophy can only be truly realized through question and answer” (p.xiii). As such we can identify a scholarly consensus indicating that the practice of questioning was a distinguishing feature of Socrates' philosophical approach.

In addition, an investigation of Socrates' own reflections on his practice suggests that he was himself aware of employing a distinctive form of question-based examination. During his defence in the *Apology* against the charge of corrupting the youth for example, he contests:

“those who have most leisure...take pleasure in hearing people questioned; they themselves often imitate me and try to question others” (*Apology* 23c).

Similarly, in his discussion with the reluctant interlocutor Hippias, Socrates attempts to ingratiate himself by claiming that he only questions the wise:

“it is always my custom to pay attention when someone is saying something, especially when the speaker seems to me to be wise. And because I desire to learn what he means, *I question him thoroughly*” (*Lesser Hippias* 369d, emphasis added).

Later in the dialogue, Socrates refers once again to this practice which he describes as his ‘one wonderfully good trait’ remarking, “I’m not ashamed to learn. I inquire and ask questions and I’m very grateful to the one who answers” (372c). Here Socrates is referring explicitly to the method of questioning with which Socratic philosophy is now so intimately associated. The picture that emerges is a coherent portrayal of Socratic philosophy as a mode of examination by means of questioning. As Tarrant (2009) eloquently puts it, “Socrates is...a divine agent of inquiry” (p.263).

Aim of Socratic Questioning

In order to understand the truly distinctive nature of Socrates’ approach to philosophical inquiry however, it is necessary to examine not only how he went about it but also the purpose that it served. It is here that Socrates’ distinctively *epistemic* aim in philosophical discourse becomes evident. Questioning, for Socrates, was an epistemic practice, meaning that it was directed towards the acquisition of epistemic goods such as truth, knowledge and understanding.² While to modern ears this may seem like a rather unremarkable claim concerning our otherwise eccentric first philosopher, it was, in fact, a distinctive feature of Socrates’ approach in his day. This epistemological orientation thus defines Socrates’ central role in the historical narrative. In particular, when contrasted with the explicitly non-epistemic aims of the Sophists, a group of contemporary philosophers and rhetoricians, the epistemic aims of Socratic questioning appear somewhat exceptional.

An illuminating indication of this contrast can be found in Plato’s dialogue *Gorgias*, in which Socrates discusses the nature of rhetoric with the infamous Sophist, Gorgias. Recounting Gorgias’ explanation of rhetoric Socrates notes, “[I]f I follow you at all, you’re saying that oratory is a producer of persuasion. Its whole business comes to that, and that’s the long and short of it” (453a); an account to which Gorgias assents. Socrates then goes on to assert his own goals for their discussion:

“Listen then, Gorgias. You should know that I’m convinced I’m one of those people who in a discussion with someone else really want to have *knowledge* of the subject the discussion’s about” (453b, emphasis added).

A more explicit statement of Socrates’ epistemic aims in philosophical inquiry could hardly be forthcoming. Shortly after this he goes on to defend his method of examination by means of questioning by stressing, “[I]t’s not you I’m after, it’s our discussion, to have it proceed in such a

² An in depth examination of epistemic practices is offered in Chapter Three.

way as to make the thing we're talking about most clear to us" (453c). This short exchange provides a valuable insight into the divergent aims of Sophistic rhetoric and Socratic questioning. Most significantly, this divergence rests on an opposing orientation towards epistemic goals such as knowledge and truth. Socrates' method of question-based examination, in contrast to the Sophists, is epistemically motivated. As such, Socratic questioning plays a distinctively epistemic role in philosophical discourse.

The epistemic role of Socratic questioning is as significant today, in contemporary philosophical discourse, as it was distinctive in its time. Socrates' approach to questioning provides a preliminary archetype for philosophical questioning at large. The philosophers of the modern age are, like Socrates, galvanised by distinctively epistemic goals; the search for truth, knowledge and understanding. Questioning that aims at these epistemic goals is among their most valuable tools. As such, it is not hard to appreciate the primary import of Socrates' dedication to a life of questioning in our historical overview of the topic. A more in depth investigation of Socrates' use of questioning in the Platonic dialogues will thus be both edifying and illuminating. It will, moreover, be instructive to further examine the contrast between Socrates' approach and that of the Sophists, in order to identify two distinctive roles for questioning in the Classical Tradition.

Socrates and The Sophists

In placing Socratic questioning within its historical context, the epistemic function of this practice emerges as deeply significant. Socrates' philosophical approach contrasted dramatically with that of his contemporaries, the Sophists. Rather than seeking truth, knowledge or understanding, the Sophists' methods were explicitly not tied to either the pursuit or expression of epistemic goods. Their emphasis instead, lay in the art of persuasion by means of skilful speechmaking and rhetoric. Evidence of these opposing methodologies can be found throughout the Platonic dialogues and in other notable contemporary sources.³ Returning to the discussion of rhetoric in Plato's *Gorgias*, for example, Socrates is seen to contrast his approach directly with that of the eponymous Sophist:

“Well now, Gorgias, would you be willing to complete the discussion in the way we're having it right now, that of alternately asking questions and answering them, and to put aside for another time this long style of speechmaking” (*Gorgias* 449b).

³ Notably, Xenophon's account of Socrates' trial in his *Apology of Socrates to the Jury*, as well as Aristophanes' somewhat ridiculing and comedic play, *The Clouds*.

It can be seen from the comparison Socrates makes here, that his method of question-and-answer contrasted with the Sophistic approach and was distinctive for this reason. Moreover, his appeal to Gorgias that they proceed in his preferred manner suggests that Socrates viewed his own method as the more effective of the two. In order to understand this preference we can examine Socrates' method, and his epistemically oriented use of questions, in contrast to that of the Sophists.

The Socratic Method

Over and above the general association with questioning already identified, the historical Socrates is also traditionally associated with a specific form of question-based examination often referred to as the *Socratic Method*. In his earliest works Plato attempted to represent this distinctive method by reproducing Socrates' discussions with the citizens of ancient Athens. The process of questioning characteristic of the Socratic Method is thus featured prominently throughout the early Platonic dialogues and has attracted significant scholarly attention over the past 25 years (see for example Vlastos 1982; Brickhouse and Smith 1984; Nehamas 1992; Benson 2002). Throughout this literature the Socratic Method is known as the *elenchus* or *elenctic* method, a term commonly taken to mean 'cross-examination' or 'refutation'.

In his seminal paper on the topic, entitled simply 'The Socratic Elenchus' (1982), Gregory Vlastos offers a schematic account of the standard elenchus in which he identifies four distinct stages in the process of elenctic inquiry. Firstly, Socrates is seen to pick out an assertion, made in earnest by his interlocutor. He then solicits the endorsement of a number of independent assertions from the same interlocutor and goes on to argue that these are logically incompatible with the original assertion. Securing the interlocutor's agreement to this, Socrates then proclaims the falsity of the original assertion. This influential account of the elenctic method thus emphasises the central role of *refutation* in Socratic inquiry. Scholarly debate concerning this traditional account has recently brought this interpretation into question. In particular, the camps are divided as to whether Socrates sought to reveal the *truth* about a given subject matter or merely identify inconsistencies within his interlocutors' set of beliefs thereby exposing their *ignorance*. This question has become known in the literature as the 'problem of the elenchus' and both this problem and its resolution have occupied a significant portion of Socratic scholarship since their original inception (see for example, Kraut 1982; Brickhouse and Smith 1984; Polansky 1985).

Significantly, however, despite these divided camps, commentators on both sides of the debate maintain the crucial epistemic orientation of the elenctic method. The problem of the elenchus concerns precisely what Socrates is able and endeavouring to do once his interlocutors' claims have

been brought into question. Whether his goal is to reveal truths or merely expose falsehoods, however, the aim of the elenchus is undeniably within the epistemic domain. Hugh Benson (2000), in his detailed treatment of Socrates' philosophical approach, circumvents the problem of the elenchus eloquently, emphasising precisely this point; "whatever else the Socratic method can or must be able to accomplish, it must be able to test whether someone knows what he is reputed (by himself or others) to know" (2000, p.17).⁴ The elenctic method thus highlights a distinctively epistemic role for questioning in the Socratic context. Through elenctic questioning, Socrates shines a sceptical light on his interlocutors' assertions, bringing into doubt even their most safely guarded claims to knowledge. This demonstrates the efficacy of questioning as a tool for testing and interrogating knowledge claims in order to expose those that do not stand up to scrutiny. Questioning thus plays an important epistemic role in Socrates' philosophical discourse.

Value of Socratic Questioning

The epistemic role that questioning played was, for Socrates, a profoundly important one. The method of question-and-answer was, for him, the essence of philosophical examination and inquiry lying at the heart of the intellectually good life. As Kraut (2009) comments, "[W]hat cannot be plausibly denied is that the great value of an examined life is an assumption central to the life and thought of the historical Socrates" (p.232). The examined life itself is epitomised in the Platonic dialogues by the method of question-and-answer.

The value that Socrates assigned to questioning can be identified in a well-known passage of the *Meno* in which Socrates engages in a question-and-answer exchange with one of Meno's slaves. The exchange arises in response to an earlier challenge put forward by Meno now commonly referred to as 'Meno's Paradox' or the 'Paradox of Inquiry'. Reacting to Socrates' characteristic assertion that he knows nothing himself of virtue, the topic of their discussion, Meno challenges him to explain

⁴ In the past decade a debate has emerged amongst a number of Socratic commentators questioning the claim that Socrates employed a distinctive method such as the standard elenchus at all. A collection of essays edited by Scott (2002) explores this question in depth and several contributors to this volume argue that there is no textual basis in the dialogues for identifying a *single* method employed by Socrates in his philosophical discussions. Instead they argue that he used a variety of methods and techniques according to specific interlocutors and topics. In light of this, David Wolfsdorf (2013) has recently commented that Socratic scholarship should "broaden examination of Socrates' arguments beyond the elenchus" (p.38). The present discussion is responsive to this appeal given that its focus is, in general, not the elenchus itself but the more foundational and widely accepted use of questioning in Socratic philosophy.

how he is therefore able to inquire into the subject at all; “[H]ow will you look for it Socrates, when you do not know at all what it is?” (*Meno* 80d). Socrates accepts this challenge (referring to it as a ‘debater’s argument’, thereby implying that it exhibits Sophistic characteristics) and goes on to express it in more schematic terms:

“[a man] cannot search for what he knows – since he knows it, there is no need to search – nor for what he does not know, for he does not know what to look for” (*Meno* 80e).

Here the challenge is expressed as a paradox. Nehamas (1992) offers a succinct modern version of this paradox; “[H]ow do two people who are ignorant of the answer to a given question discover that answer and how do they realise they have discovered it” (p.306). How, essentially, can a *process of questioning* lead to knowledge when both questioner and answerer are ignorant of the subject under examination.

Plato’s famous theory of recollection is commonly cited as Socrates’ principal response to the Paradox of Inquiry. According to the theory of recollection, the soul is immortal and possesses all the knowledge required for inquiry in this life from its previous existences. As such, one can inquire into any subject on the basis that one has only temporarily forgotten what is ultimately known by one’s immortal soul. However, alongside the theory of recollection there is good reason to draw attention to Socrates’ use of questioning in this section of the dialogue as this provides one of the richest examples of Socratic questioning in any of Plato’s works (*Meno* 82b-85b). It has been argued by a number of commentators that an examination of this section reveals something over and above the theory of recollection at work in Socrates’ response to the Paradox of Inquiry (Fine 1992; Day 1994; Scott 2006). This exchange serves convincingly to illustrate the great value that Socrates placed on the role of questioning as an epistemic practice.

In his exchange with Meno’s slave Socrates guides the boy through a series of questions concerning a geometrical problem. The boy offers two wrong answers to the problem landing him in a state of *aporia* (uncertainty) before arriving at the correct solution. Here Socrates makes several significant comments concerning the role of questioning in the discussion. Shortly after the boy has reached the correct solution, for example, Socrates asserts;

“[T]hese opinions have now just been stirred up like a dream, but if he were repeatedly asked these same questions in various ways, you know that in the end his knowledge about these things would be as accurate as anyone’s” (*Meno* 85c-d).

Questioning is thus seen to play a central role in the exposition of knowledge. Similarly, Socrates claims that the boy “will know it without having been taught but only questioned” (*Meno* 85d). Once again, the emphasis is placed on questioning as a means of arriving at knowledge. Finally, and perhaps most explicitly of all, Socrates states that the boy “will have true opinions which, *when stirred by questioning*, become knowledge” (*Meno* 86a, emphasis added).

Considering these remarks in relation to the Paradox of Inquiry, Fine (1992) argues that the questioning employed by Socrates throughout the demonstration is more than a mere vessel for the theory of recollection: it serves as a response to the Paradox of Inquiry in its own right. Fine argues that by drawing attention to the success of Socratic questioning in the dialogue, Plato aims to demonstrate its efficacy as a means of coming to know. It is by exposing the slave boy’s ignorance concerning the geometrical problem through a process of questioning that Socrates opens the door to the possibility of an eventual solution. Furthermore, it is by means of persistent questioning on the problem after this point that the correct solution is finally reached. Thus, it is by means of questioning that knowledge is acquired. This assessment of the role of questioning fits well with Socrates own assessment in the quotations above. Thus, Fine argues:

“Socrates has a more ambitious aim, in replying to Meno, than showing that enquiry is logically possible; he also wants to show that we can improve our cognitive condition through enquiry” (Fine, 2007, p.344).

It can be concluded that Socrates questioned with a view to bettering his own, as well as his interlocutor’s standing with respect to goods such as knowledge and understanding (whether this was by acquiring these goods themselves or by exposing a state of ignorance in relation to them), and that he placed considerable worth in this practice. This explicitly epistemic objective, and its pursuit by means of questioning highlights, once more, the distinctively epistemic role that questioning played in Socratic philosophy and the value that Socrates assigned to it.

The Sophistic Method

In contrast to Socrates’ highly prized and epistemically oriented philosophical method, the Sophists adopted a distinctively non-epistemic approach to philosophical discourse. When viewed from a modern-day perspective this may seem strangely at odds with philosophical, or perhaps even more broadly, intellectual endeavour. For this reason, an examination of the Sophistic method, and its epistemological foundations, provides a clear and helpful contrast to the epistemically motivated Socratic approach, allowing the identification of a distinctive, non-epistemic role for questioning in

the Classical Tradition. In order to understand the origins of this opposing, and perhaps less familiar methodology, it will be constructive to examine the historical context in which it arose.

The political system that emerged in ancient Athens in approximately the fifth century BCE is well-documented in the historical record as one of the first known democracies. It was, moreover, a direct democracy, meaning that all free male citizens of Athens could participate directly in the political affairs of the state. This included making and passing laws, deciding whether to go to war, granting citizenship and sitting on the jury, numbering anywhere between 200 and up to 6000, in criminal trials. Proceedings took place in three central political bodies; the assembly, the council and the courts. Meetings of the assembly were held regularly and by the fourth century BCE there were a minimum of forty a year. Typically, during these meetings the case for and against a particular proposal would be made by way of a timed speech and those present would vote yes or no by a show of hands. The speakers in this system were usually not representatives or trained professionals but citizens themselves. Similarly, during criminal trials held in the courts, those prosecuted frequently acted as litigants for their own defence, presenting their case directly to the assembled jury. The ability to present a convincing argument was, therefore, of utmost importance in the democratic Athenian state.

Within this political context there emerged, quite naturally, individuals willing to teach the art of persuasive argument to those who could afford to pay. The Sophists, their name deriving from the Greek word for 'wisdom' (*sophia*), professed to teach a variety of skills amounting, according to Socrates' description in Plato's dialogue *Protagoras*, to "the art of citizenship" (*Protagoras* 319a). Given the democratic system in place, a prominent role was assigned in these teachings to the skill of persuasive speaking as a central component of good citizenship. Protagoras himself, perhaps the most famous of the Sophists, describes the practice in that same dialogue:

"What I teach is sound deliberation, both in domestic matters – how best to manage one's household, and in public affairs – how to realize one's maximum potential for success in political debate and action" (*Protagoras* 318e-319a).

Consequently, a man could be taught all the oratory skills he needed in order to effectively fulfil his personal and civic duties and rise to political heights. Controversially, many of the Sophists, including Protagoras, also claimed to teach *arête*, commonly translated as 'virtue', provoking significant criticism and often ridicule from their contemporaries, including both Plato and Aristotle.

Alongside Protagoras, another prominent Sophist of this period was the Sicilian ambassador Gorgias. Gorgias, in particular, distanced himself from the lofty claims of those who sought to teach virtue. Instead he emphasized the power of speech alone proclaiming in one of his few surviving works, the *Encomium of Helen*, “discourse is a great potentate, which by the smallest and most secret body accomplishes the most divine works” (*Encomium of Helen*, fr.11). It was on the basis of this conviction that Gorgias rose rapidly to fame upon his arrival in Athens in 427 BCE at the age of 58, impressing with his “novel style of oratory” (Guthrie, 1971, p.270). The skill of persuasive speaking was, then, a road to success, both for those who taught it and those who could afford to benefit from their teachings. This skill is also commonly known as the art of rhetoric.

That rhetoric was a prominent topic of philosophical discourse for the ancient Greeks is borne out by its central role in no less than four of the Platonic dialogues; *Ion*, *Protagoras*, *Gorgias* and *Phaedrus*. In line with his own comments as quoted above, Gorgias, in Plato’s *Gorgias*, eloquently defends the art of rhetoric in response to Socrates’ request for a definition of what it is. Gorgias refers to it as “the greatest good...the source of freedom for humankind itself” (452d) and when pressed describes it as:

“the ability to persuade by speeches judges in a law court, councillors in a council meeting, and assemblymen in an assembly or in any other political gathering that might take place” (*Gorgias*, 452e).

This provides further evidence for the significance of rhetoric in Athenian political life. Rhetoric can be identified primarily as the skill of presenting a certain attitude or position with the aim of convincing an audience to accept or reject it by way of argumentation. Those who were talented in this regard were naturally liable to enjoy a significant degree of power and influence. Gorgias goes on to comment that, “the orators are the ones who give advice and whose views on these matters prevail” (456a). It is not surprising therefore that teaching, studying and debating the art of rhetoric were all common features of ancient philosophical discourse.

Rhetorical Questioning

The method of rhetoric employed by the Sophists contrasts fundamentally with the Socratic Method with respect to its orientation (or lack thereof) towards epistemic goods such as truth, knowledge and understanding. An investigation of the contrasting use of questioning employed by the Sophists offers a particularly revealing and salient insight into this allowing the identification of a distinctively non-epistemic role for questioning in the Classical Tradition. It is, crucially, from the practice of persuasive speaking that the notion of the *rhetorical question* emerges. A rhetorical

question differs vitally from a question proper in that its primary objective is not to obtain epistemic goods such as knowledge, understanding or information. As the Oxford English Dictionary defines it, a rhetorical question is “a question asked only to produce an effect or make a statement, rather than to elicit an answer or information” (Oxford English Dictionary Online).⁵ As such, rhetorical questions were employed in the ancient context as an argumentative device with the explicitly non-epistemic aim of persuasion. Thereby, in contrast to the epistemic role that questioning played for Socrates, a purely *argumentative role* for questioning can be observed.

Rhetorical questions were used in this argumentative role in a variety of ways by prominent Sophists of the time. In Gorgias’ epideictic speech in praise of Helen of Troy, for example, he attempts to convince the audience that Helen should not be blamed for leaving Sparta with Paris, as was commonly held, nor for the ensuing Trojan War. In doing so he asks:

“She who was forced and bereft of fatherland and orphaned of friends--how is she not to be pitied rather than reviled?” (*Encomium of Helen, section 7*).

The rhetorical question is used to provoke an emotional response from the audience. The emotive language suggests an appeal to their sense of charity or humanity and evokes empathy for the victimised Helen. Later, in concluding the same speech, Gorgias goes on to ask:

“How then is it necessary to regard as just the blame of Helen, who either passionately in love or persuaded by discourse or abducted by force or constrained by divine constraints did the things she did, escaping responsibility every way?” (*Encomium of Helen, section 20*)

In addition to the impassioned language used, the rhetorical question serves to summarise key argumentative points raised throughout the speech. By presenting this summary in the interrogative, Gorgias challenges the audience to arrive at any conclusion other than the one offered; that Helen is innocent. The interrogative but rhetorical nature of the challenge implies that the point at issue has already been conclusively demonstrated. Finally, in his *Defence of Palamedes*, a Peloponnesian prince wrongly accused of treachery during the Trojan War, Gorgias adopts the stance of Palamedes himself and asks of his putative accuser, “do you base your accusation on knowledge or conjecture?” (*Defence of Palamedes, section 7*). He then goes on to suggest that if the accusation is based on knowledge, the appropriate evidence should be forthcoming (and it is not). If it is based on conjecture, the accuser is unwarranted in bringing the charge and the jury should

⁵ An in depth examination of the distinction between rhetorical questioning and questioning is provided in Chapter Three. The aim of the discussion in Chapter Two is to highlight the import of rhetorical questioning in the historical context and as such an outline will suffice.

think hard before sentencing a man to death on this basis. As such, the rhetorical question is adopted as a means of positioning the speaker for a subsequent rebuttal of the propositions contained within it.

Both the *Encomium of Helen* and the *Defence of Palamedes* were most likely written by Gorgias as demonstration pieces for his manuals or '*Technai*' on rhetoric which were intended to be memorised by his students (see Guthrie, 1971, p.192). As such they represent paradigm examples of persuasive speaking in the ancient world. The different uses of rhetorical questions exemplified here are noteworthy for this reason. All are ultimately utilised with a view to convincing the audience of the position presented. Most importantly, the position itself is not one which the speaker need necessarily believe or endorse. Questioning in the Sophistic context served a specific and distinctively non-epistemic function. It was not treated as a means of gathering or scrutinising information about the world but of convincing a given audience that the world is a certain way. In particular, epistemic goods such as knowledge, understanding and information are not the primary goals of Sophistic questioning and may not feature at all under these explicitly rhetorical conditions. As Guthrie notes, "[I]t was part of rhetorical instruction to teach the pupil to argue with equal success on both sides of a question...and in particular to bolster up the weaker argument so that it appeared the stronger" (1971, p.50-51). The Sophists engaged in questioning within the context of a broad philosophical and political concern with argumentation. Rhetorical questions were just one of many strategies employed in the service of persuasive speechmaking. This orientation towards questioning provides an insight into the opposing methods of Socrates and the Sophists, drawing attention to two distinctive roles for questioning in the Classical Tradition. In the Socratic role, questioning is employed in the pursuit of epistemic goods. In the Sophistic role, questioning forms part of an argumentative strategy. This distinction further highlights the significance of Socrates' epistemic orientation towards questioning.

Contrasting Epistemological Commitments

The Sophistic art of rhetoric was an art of persuasion. Its practitioners were therefore primarily concerned with exhibiting impressive argumentation as opposed to offering a convincing case in favour of truth or knowledge in a given matter. This characteristic feature of rhetoric operated in perfect harmony with a background assumption that epistemic goods were not in fact out there to be had. As such, ancient rhetoric is closely aligned with ancient scepticism. A particularly eloquent rendering of this sceptical position is found in Plato's *Theaetetus* in which Socrates quotes Protagoras as having claimed, "[M]an is the measure of all things: of the things which are, that they are, and of the things which are not, that they are not" (152a). From a Sophistic perspective 'how things are' is

a matter determined by man, rather than an external reality. This sentiment represents a distinctive epistemological commitment to the subjective nature of truth, which goes hand-in-hand with the rhetorician's conviction in the power of persuasion. The notion of objective truth was thus regarded with some implausibility. As Guthrie (1971) notes, "the truth for any man was simply what he could be persuaded of and it was possible to persuade anyone that black was white" (p.51).

When contrasted with the Socratic perspective, this sceptical worldview is clearly significant. In particular, it tells of the underlying epistemological terrain in which the practice of questioning operated for the Sophists. If the truth is a purely subjective matter then any search for it in an objective reality is inevitably made redundant. Knowledge-seeking itself is silenced. Rather than serving an epistemic role, questioning would naturally play a more restricted and peripheral role in philosophical endeavour, as a feature of effective rhetorical argumentation. By contrast, for Socrates, the epistemic role of questioning could not have been more central. Indeed, the value he placed on this extended beyond success in individual epistemic endeavours to the good or virtuous life as a whole. Shortly after his demonstration with Meno's slave we find one of the strongest and most unequivocal statements anywhere in the dialogues of the value placed by Socrates on the process of inquiry:

"I would contend at all costs both in word and deed as far as I could that we will be better men, braver and less idle, if we believe that one must search for the things one does not know, rather than if we believe that it is not possible to find out what we do not know and that we must not look for it" (*Meno* 86b-c).

Here Socrates offers an emphatic statement of his dedication to a life of questioning in the pursuit of epistemic goods. Crucially, this demonstrates the key Socratic conviction that epistemic goods such as truth, knowledge and understanding were there to be pursued and acquired. Socrates contrasts his belief that 'one must search for the things one does not know' with the belief that it is not possible to find them. As such he is responding directly to the prevailing sceptical epistemology of the Sophists.

The significance of the underlying epistemological commitments, for the divergent approaches to questioning taken by Socrates and the Sophists is evident. These opposing epistemologies determined, to a significant degree, their different philosophical methods and thus played an important part in establishing two distinct roles for questioning in the Classical Tradition. For Socrates, questioning was methodologically central as an epistemic practice, for the Sophists, it was employed as an argumentative device. This relationship between the epistemological commitments

of an individual, group or era, and the approach to questioning that typifies them, will re-emerge as a central feature throughout the history of questioning.

Socratic Pedagogy

Before continuing, one further observation can be made regarding the role of questioning in the Socratic context. This concerns the pedagogical implications of the use of questioning as an epistemic practice. In the *Apology*, Socrates proclaims that he has “never been anyone’s teacher” (33a). Similarly, throughout the slave boy demonstration in the *Meno*, Socrates continually contrasts his method of questioning with that of teaching (for example at 84d and 85d). Nevertheless, as Brickhouse and Smith (2000) observe, “[I]n Socrates we find a man so exceptional and so relentlessly dedicated to the life of inquiry that we are inclined to call him a teacher” (p.72).

This inconsistency between Socrates’ view of himself and that of his commentators at first appears puzzling. However, when considered within the broader historical context the seeming incongruity is less perplexing. In particular, when contrasted with the Sophists’ claims to teach the art of rhetoric, citizenship and in many cases virtue, it becomes apparent why Socrates, and moreover, Plato would seek to distance Socratic philosophizing from the activity of teaching. Socrates did not accept a fee for his philosophical services, nor did he establish a school of any kind. More significantly, his persistent disavowals of knowledge would leave him, apparently, with nothing to teach (as noted by Scott, 2000). Socrates’ approach, both in terms of its aims and means stood in sharp contrast to that of the Sophists who were strongly associated with the practice of teaching. Consequently there is good reason to think that he would have been disinclined to ascribe this label to his own activities. Furthermore, as Scott (2000) observes, Socrates’ most explicit rejection of this label appears in Plato’s account of his legal trial (*Apology*) where the issue of whether or not he was a teacher would have mattered significantly in determining his guilt on the charge of ‘corrupting the youth’. This would have provided further motivation for denying that he was engaged in any form of teaching during his philosophical discussions on the streets of Ancient Athens.

Nonetheless, the pedagogical implications of Socratic questioning are considerably harder to deny from a modern perspective. Its distinctive epistemic orientation and collaborative nature are two key features that align Socratic questioning with modern Western teaching practices and the explicit use of question-and-answer exchanges in this setting is particularly salient. The utilisation of questioning as an epistemic practice is, for example, naturally attuned to wider educational goals such as understanding. For many, these goals are fundamentally significant in the design and delivery of modern education and pedagogy. Thus, while Socrates himself may have rejected the

label of teacher, the influence of his distinctive philosophical approach to questioning can still be seen to have important pedagogical ramifications. As Scott (2000) rightly observes:

“the Socratic practice of asking questions rather than furnishing answers functions as a pedagogical device designed to place the priority on questioning over answers” (p.45).

Moreover, Socrates himself draws attention to the educational value of questioning in his demonstration with Meno’s slave:

“Look then how he will come out of his perplexity while searching along with me. I shall do nothing more than ask questions” (*Meno* 84c).

Here questioning is explicitly identified as the means by which the slave boy progresses on the path to knowledge. The pedagogical significance of questioning highlighted by an examination of Socrates’ distinctive philosophical method stands out as noteworthy in the ancient setting. It can once again be seen to reflect the underlying epistemological commitments of Socrates’ philosophical approach.⁶

With these pedagogical implications in mind, it is worth highlighting at this juncture the absence of any explicit treatment of questioning in the Platonic dialogues and, likewise, in the extant Sophistic writings. Despite the value ostensibly assigned to questioning by Socrates, along with the two distinctive roles that have been identified for questioning and its extensive use throughout ancient philosophical discourse, no theoretical reflections on the practice of questioning are offered in any of the surviving works. This is perhaps most surprising in the case of Socrates, for whom questioning was a way of life. Nonetheless, it is clear that questioning was not a subject of explicit philosophical concern in his day and as such, no theory or analysis of the practice was undertaken. This is a common thread running throughout the history of questioning in Western philosophy.

PLATO: A CUSTODIAN OF QUESTIONING

428/427-348/347 BCE

The account of Socrates presented so far derives almost exclusively from Plato’s rendering of him in the dialogues and subsequent interpretations of this in modern scholarship. However, one widely-accepted feature of Plato’s work is that it changes in a number of important respects along a broadly defined chronology. Typically the dialogues are divided into three groups associated with

⁶ The role of questioning in education will be examined in more detail in Chapter Seven. The observations made in this chapter provide a valuable historical context for that discussion.

the early, middle and late periods of Plato's life and a general consensus amongst ancient scholars suggests that the earlier works provide a more authentic representation of the historical Socrates (for example, Ryle 1966; Thesleff 1989; Vlastos 1991. See Rowe 2006 for a critical discussion of this). A brief examination of the middle and later dialogues will capture key elements of the transition from Socratic to post-Socratic questioning. The most salient difference marked by this transition concerns, not the aims but the *style* of philosophical discussions in Plato's later dialogues. Whilst Plato largely preserves the epistemic orientation of philosophical inquiry throughout his works, the methods he adopts change over time. The earlier dialogues are notable in part for the inclusion of distinctively Socratic question-and-answer exchanges. In the later dialogues these exchanges feature much less frequently and, as Gareth Matthews (2009) observes, Plato "largely abandon[s] the elenchus as a philosophical method" (p.449). This method is one characterised by question-and-answer and its abandonment is consequently significant in the history of questioning. Indeed, according to one commentator referring to this shift, "questioning died with Socrates" (Meyer, 1980, p.281).

One way to understand Plato's shifting methodology is in terms of the adoption of a broader range of argumentative strategies in the later works in contrast to the narrower method of proceeding solely by question-and-answer. This more diverse approach is commonly labelled *dialectic* and is typically characterised as a discourse or dialogue between parties holding opposing viewpoints through the examination of asserted premises or hypotheses.⁷ As with Socratic questioning, dialectic can be viewed as an epistemic practice, aiming at goods such as truth, knowledge and understanding. This likewise identifies dialectic as methodologically distinct from Sophistic rhetoric, with the latter's exclusive emphasis on persuasion. Socratic questioning, however, can be viewed as a restricted form of the more general dialectical approach. Specifically, dialectic is not explicitly associated with question-and-answer exchange. The reduced frequency of Socratic questioning in Plato's later works marks a shift away from this distinctively Socratic approach to a more varied style of philosophical inquiry.

Within the historical of questioning this shift is not insignificant. By assigning a less central role to question-based examination in his later works, Plato moves the focus away from this distinguishing feature of Socratic philosophy. In doing so, any explicit analysis or evaluation of the practice, by Plato himself or his contemporaries, is naturally inhibited. Similarly, the pedagogical significance of Socratic questioning is left unexplored. Instead of the fast-paced interaction of question-and-answer

⁷ The *Oxford Dictionary of the Classical World* (2007), for example, defines dialectic as "the science of conducting a philosophical dialogue by exploring the consequences of premises asserted or conceded by an interlocutor" (p.220).

we find much lengthier sections of monologue in the later dialogues in keeping with the more familiar practices of oratory and speechmaking. In this respect at least, later dialogues such as *Timaeus*, *Critias* and the *Laws* are reminiscent of a Sophistic rather than typically Socratic approach to argumentation and discourse.

A brief examination of the *Phaedrus* provides a clear indication of this shift. In the dialogue the discussion between Socrates and Phaedrus, although ostensibly about love, takes the art of rhetoric as a central theme. However, whilst in the earlier *Gorgias* a vehement attack on Sophistic rhetoric was seen, the *Phaedrus* offers a more balanced account of the practice. Crucially, Socrates comments that persuasive speechmaking is not in and of itself condemnable; “[I]t’s not speaking or writing well that’s shameful; what’s really shameful is to engage in either of them shamefully or badly” (258d). Over the course of the following discussion he argues that bad speechmaking arises from a speaker’s ignorance or inattention to the *truth* of the matter on which he speaks. The true art of rhetoric combines both persuasive speaking and knowledge of a subject. Thus, Socrates remarks:

“If you have a natural ability for rhetoric, you will become a famous rhetorician, provided you supplement your ability with knowledge and practice” (*Phaedrus* 269d).

In contrast to the Sophistic approach, with its non-epistemic aims, the art of rhetoric, now tied explicitly to epistemic goals, re-emerges in Plato’s later dialogues as a powerful philosophical tool. This coincides with a declining emphasis on Socratic questioning and the rise of dialectic methods. Whilst a typically Socratic, epistemically motivated approach to philosophical investigation is maintained, awareness of Socrates’ distinctive method and its impact on philosophical practice is greatly reduced. Significantly, the re-emergence of rhetorical and dialectical practices in this more favourable light is embraced by Plato’s many students and followers, the most notable by far being Aristotle. Given Aristotle’s extraordinary and sustained influence on intellectual history, his adoption of Plato’s later philosophical approach has a significant impact on philosophical method, powerfully affirming the move away from Socratic questioning and ensuring the lasting impact of this shift. With Aristotle we enter a distinctively post-Socratic history of questioning.

ARISTOTLE: A DUAL ROLE FOR QUESTIONING

384-322 BCE

Aristotle’s substantial role in the shaping of philosophical history is both indisputable and remarkable. Correspondingly, his role in the history of questioning is also significant. Aristotle employs questioning in both the Socratic and Sophistic roles identified, providing a valuable insight into these roles in the Classical Tradition, presented under a single philosophical system.

Aristotelian Questioning: Socratic Lineage

A striking indication of the extent to which Aristotle's philosophical approach, like that of Socrates', was epistemically motivated, is offered in the renowned opening line of the *Metaphysics*. Here Aristotle confidently proclaims, "[A]ll men by nature desire to know" (Book 1A, 980a25). This celebrated assertion demonstrates that for Aristotle, the search for epistemic goods was not merely a desirable pastime but the result of a natural human impulse. This impulse, moreover, is exhibited most distinctively, according to Aristotle, by the philosopher. Thus, he contends, "it is owing to their wonder that men both now begin and at first began to philosophize" (*Metaphysics*, Book 1A, 982b12). Aristotle thereby offers a bold statement of his belief in the natural epistemic drive integral to philosophical inquiry. This sentiment, moreover, is strikingly reminiscent of a claim made by Socrates in the *Theaetetus* in which he likewise alludes to the relationship between philosophy and wonder; "[T]his is an experience which is characteristic of a philosopher, this wondering: this is where philosophy begins and nowhere else" (*Theaetetus* 155d). Both Socrates and Aristotle can therefore be cited as ancient sources of the familiar aphorism that 'philosophy begins in wonder'. Aristotle was, then, deeply influenced by a characteristically Socratic orientation towards epistemic goods and exhibited an admiration for the life of inquiry explicitly and, at times even exclusively, directed towards their acquisition.

This deeply epistemic orientation towards philosophical inquiry is evident in an examination of Aristotelian questioning. Aristotle employs questions frequently throughout his work, primarily as a means of raising a problem for discussion or moving a line of inquiry forward. Passages can be found throughout his writing in which sequences of questions are given followed by a discussion of these and further questions. In these sequences, questions are used to set the scene for the discussion, develop the line of inquiry within it and test the conclusions reached. Perhaps the most intriguing and salient example of Aristotelian questioning can be found in a fascinating and extensive text known as the *Book of Problems*. Despite being one of the longest works in the whole Aristotelian corpus, this text has, according to Aristotelian scholar Edward Seymour Forster (1928), "been less read and studied than any other treatise" (p.163). This may be in part due to the unclear origins of the work; it was composed partially by Aristotle himself and supplemented by pupils at his Athenian academy, the Lyceum. Nonetheless, the *Book of Problems* offers a remarkable insight into the practice of questioning in the Aristotelian tradition, in the light of an epistemically oriented, Socratic lineage.

The work consists of almost nine hundred problems, each presented as a distinct series of questions. These are categorised into thirty-eight topics with one book dedicated to each. Topics

range across an elaborately broad spectrum of issues including physical features of the body such as the head, the nose, the eyes, perspiration and the coloration of the flesh as well as features of the world including the air, the winds, salt water and the sea. Several books are dedicated to virtues including justice and injustice, fear and courage as well as intelligence and practical wisdom. Mathematical theory, literary study and music are also covered as well as a number of more obscure categories including twenty-six problems on ‘barley-meal, barley-cake and the like’ and fourteen problems connected with fruit. A small selection of the problems, presented below, offers an illuminating and somewhat entertaining insight into the work:

“Why is it that great excesses cause disease?” (Bk1, 1, 859d1)

“Why is perspiration salty?” (Bk2, 3, 866b19)

“Why are birds, and men with thick hair, lustful? (Bk4, 31, 880a34)

“Why is it that man sneezes more than any other animal?” (Bk10, 54, 897a1)

“Why does a large choir keep better time than a small one?” (Bk19, 22, 919a36)

“Why does wine seem bitter when drunk after the eating of rotten fruits?” (Bk22, 5, 930b5)

“Why is it that poverty is more commonly found amongst the good than amongst the bad?” (Bk27, 1, 947b10)

“Why do those who are afraid tremble?” (Bk29, 4, 950b9)

“Why is it that man in particular thinks one thing and does another?” (Bk30, 12, 956b32)

“Why is the face chosen for representation in portraits?” (Bk36, 1, 965b1)

This selection represents a mere fraction of the issues covered in the text. Each question is followed by another, longer question or series of questions with suggested solutions to the problem raised. For example, in considering ‘problems connected with the drinking of wine and drunkenness’, Aristotle, or perhaps a student of his, ponders:

“Why is it that it is not those who are very drunk that are most troublesome in their cups, but those who are only half blotto? Is it because they have neither drunk so little that they still resemble the sober nor so much that they are in the incapacitated state of those who have drunk deep?” (*Problems*, Bk3, 2, 871a7).

The use of further questions in place of any definitive answers provides an intriguing insight into the emphasis placed on the posing of questions in this context. Questions are employed both as a means of identifying problems and as a method of presenting hypotheses for further consideration. Thus questioning is utilised both in the initiation of inquiry and in its ongoing direction. These roles are both integral to the function of questioning as an epistemic practice. Here questioning plays a distinctively epistemic role, much in line with the Socratic approach. Once again, this epistemic role aligns with the underlying Aristotelian conviction that epistemic goods could reasonably be sought after and acquired. As with Socrates, this underlying epistemological commitment shapes the role that questioning can and does play in the Aristotelian tradition.

Aristotelian Questioning: Sophistic Lineage

In contrast to this Socratic lineage, a distinctly more Sophistic heritage can be identified in Aristotelian questioning, demonstrated most explicitly in his extensive works on argumentation. Here the second role for questioning in the Classical Tradition can be identified throughout many key Aristotelian works. In *Rhetoric*, for example, Aristotle offers a broad range of advice on improving an individual's rhetorical skills including some guidance on the use of rhetorical questions. He comments that one effective way of concluding a speech is to "put it in the form of a question" and offers examples such as, "'What has not been proved by me?' or 'What has my opponent proved?'" (Bk3, 1420a1). This use of rhetorical questions is reminiscent of the use made by Gorgias when concluding the *Encomium of Helen*. Similarly, Aristotle discusses the device of interrogation in some detail stating at the outset:

"The best moment to employ this is when your opponent has so answered one question that the putting of just one more lands him in absurdity" (*Rhetoric*, Bk3, 1419a1).

Here questioning is construed as a rhetorical device in a manner similar to that employed by the Sophists. Likewise, Aristotle offers advice concerning the 'arrangement and putting of questions' in his discussion of dialectical reasoning in the *Topics*. For example, he states:

"The business of the questioner is so to develop the argument as to make the answerer utter the most implausible of the necessary consequences of his thesis" (*Topics*, Bk8, 159a17).

In much the same tone he asserts, "[A]ny one who intends to frame questions must, first of all, select the ground from which he should make his attack" (*Topics*, Bk8, 155a-b). The nature of the advice proffered here clearly suggests an emphasis on the argumentative force of questioning. Aristotle's approach to questioning adds a distinctively and unashamedly rhetorical dimension to the practice that is at least not explicitly present in the Socratic questioning of Plato's early dialogues. Rather, this rhetorical dimension aligns more closely with Plato's later methodology and is more naturally in agreement with the Socrates of the *Phaedrus*. The impact of the Socratic lineage on Aristotelian questioning thus extends only so far. Tellingly, Aristotle asserts, "[A]ny one who keeps on asking one thing for a long time is a bad inquirer" (*Topics*, Bk8, 158a25); surely something of which the historical Socrates could be justly accused.

Aristotle, however, is not only concerned with effective argumentative strategies, but with arguing *well*, where this means, arguing on the basis of what one knows or believes to be true. Significantly,

the guidance he offers concerns not only the posing of rhetorical questions in a persuasive speech, but questioning in the context of a dialectical dispute. This indicates a broader treatment of questioning than that exhibited by the Sophists. Questions are not merely utilised as a form of persuasive language, but as part of a complex argumentative strategy aimed at exposing the flaws in an opposing viewpoint. Here Aristotle's underlying epistemological commitments are once again evident; he is not concerned with persuading an audience that black is white. Nor, however, does he disregard the power of persuasive argumentation as a feature of philosophical discourse. Rather he is concerned with offering the most *persuasive* case in support of the *truth*, and this concern is reflected in the dual role for questioning found in the Aristotelian corpus. The influence, on Aristotle, of both the Socratic and Sophistic approaches to questioning are thus observed. This rich heritage results in a sophisticated and epistemically motivated tradition of philosophical argumentation in which the practice of questioning plays a central and dual role.

CICERO: QUESTIONING IN ANCIENT ROME

106-43 BCE

An indication of the significant influence of Aristotle on intellectual history can be observed in the work of the Roman orator, statesman and philosopher, Cicero. Likewise, the continued impact of the Aristotelian approach to philosophical inquiry, and the corresponding dual role for questioning employed throughout his works, is evident. As one of the most accomplished and prolific orators of his day, Cicero is remembered prominently for his contribution to the study and art of rhetoric. His development of the practice can be seen to descend directly from Aristotle's seminal observations on the topic and he comments that Aristotle, "of all men has supplied the greatest number of aids and ornaments to this art" (*De Inventione*, Bk1, chapter V).

Cicero wrote extensively on the art of rhetoric producing thorough commentaries such as *Orator* and *Brutus* as well as handbooks for instruction including the four-part *De Inventione* and three-part dialogue, *De Oratore*. In addition, he wrote prolifically on a range of philosophical topics including friendship (*De Amicitia*), fate (*De Fato*) and morality (*De Finibus Bonorum et Malorum*). A large number of his recorded speeches, fifty-eight in total, have also survived, offering a valuable insight into the style of ancient Roman oration. Within this extensive body of work subtle developments in the history of questioning can be identified, focusing, as with Aristotle, on its applications in persuasive speaking and argumentation, yet still with a view to advancing knowledge and offering a case in support of the truth.

Invention and Stasis

In *De Inventione* Cicero presents the Five Canons of rhetoric, first suggested by Aristotle and later substantially developed by the Roman rhetorician Quintilian. The Five Canons constitute a complete system of rhetorical instruction comprising invention, arrangement, style, memory and delivery. Of these, the most relevant to the history and epistemology of questioning is the first canon, *invention*. This is also, according to Cicero, “the most important of all the divisions...which applies to every description of cause in which an orator can be engaged” (*De Inventione*, Bk1, chapter VII). The art of invention was central to ancient rhetorical practice and has subsequently enjoyed a rich history in the study of rhetoric in which it has been subject to a range of interpretations. Central to the concept in all its manifestations is the skill of identifying distinct and opposing lines of argument. As contemporary rhetoric scholar Janice Lauer (2004) writes, “[I]nherent in the notion of invention is the concept of a process that engages a *rhetor* (speaker or writer) in examining alternatives” (p.6). The ability to identify opposing lines of argument or standpoints is a skill naturally aligned to the practice of questioning. By its very nature, questioning opens up a forum for the examination of multiple alternatives and in this context the Sophistic principle of arguing on both sides of a question is again evident. This advice, revealingly, is repeated during the course of Cicero’s substantial dialogue *De Oratore* in which the dialogue’s recipient is urged to “dispute on both sides of every question” (*De Oratore*, XXXIV, 158). As with its Greek forerunner, questioning in the Roman setting is central to the art of rhetoric.

The centrality of questioning in Roman rhetorical argumentation can be observed through an examination of the theory of *stasis* which Cicero presents in his detailed treatment of invention in *De Inventione*. *Stasis* was employed as a formal procedure for identifying important issues arising in a speech or debate and, alongside its counterpart *topoi*, was an integral feature of invention involving the systematic asking of pre-defined questions. Cicero asserts:

“Every subject which contains in itself any controversy existing either in language or in disputation, contains a question either about a fact, or about a name, or about a class, or about an action” (*De Inventione*, Bk1, chapter VII).

Questions are thereby considered an essential feature of debate and dispute. In his account of *stasis*, Donovan Ochs (2003) explicates the theory as presented by Cicero in some detail, outlining the specific questions employed:

“According to the simplest interpretation of this doctrine, three questions are involved in the crux of a given case: (1) “Did anything happen?” a conjectural question answered by

physical evidence; (2) “What name should be applied to what happened?” a question answered by precise definitions; (3) “What sort of an action was it?” a qualitative inquiry allowing the orator to specify mitigating circumstances” (Ochs, 2003, p.155).

Further evidence for this use of questions can be found in Quintilian’s influential twelve-part textbook *Institutio Oratoria* in which he comments; “Cicero, think[s] that there are three essential bases: conjectural (fact: is it?), definitive (name: what is it?), qualitative (kind: what kind is it?)” (BkIII, section 6). This provides a clear indication of the central and prescriptive role assigned to questioning in the context of Roman argumentation.

Following Aristotle and the Socratic lineage, however, questioning in this context did not typically come at the expense of the epistemic goals towards which Roman argumentation was ultimately directed. On the contrary, Cicero states explicitly in Book I of *De Inventione* that “oratory has been helpful to mankind, but *wisdom* must accompany eloquence” (Book I, section 4, emphasis added). Despite the Roman emphasis on persuasive argumentation, Cicero, much like his non-Sophistic predecessors, was committed to maintaining an essentially epistemic orientation in philosophical discourse. Questioning, correspondingly, maintains an epistemic role in the Roman setting. Once again, questioning is seen to play a dual role in the Classical Tradition, both as a tool for seeking out epistemic goods, and as armament in the philosophical arenas of the ancient world.

THE RELIGIOUS TURN **(CE C1st – C14th)**

The first century CE is characterised in Western intellectual history by the explosive emergence and rapid spread of early Christian thinking in Europe. Arising in the Near East and evolving over the course of four centuries, Christian thinking eventually came to dominate the moral and ideological landscape of Europe throughout Late Antiquity and the Middle Ages. This dramatic shift from the Classical Tradition of the Ancient era to the new Christian tradition of the Orient culminated, in the fourth century CE, with the declaration of Christianity as the official religion of the, then to be, *Holy Roman Empire*. This significant religious turn had a profound impact on the epistemological commitments underlying philosophical discourse and, consequently, on the practice of questioning in the philosophical domain.

LATE ANTIQUITY: FROM VIRTUE TO VICE

CE C1st – C4th

The first Christian thinkers and theologians arrived in Europe, following the death of Jesus Christ, with a message of devotion and salvation. The story of Christ, his crucifixion and resurrection, was

to have a profound and lasting impact on the religious convictions of both the learned scholars and thinkers of the day and the common populace. Amidst a surge of new ideas and doctrines, perhaps the most significant aspect of this religious conversion for the epistemology of questioning was the reinterpretation of the story of creation in the Old Testament as an account of Original Sin and the Fall of Man. In this early Christian retelling of the original Hebrew narrative, Eve's fated harvesting of the forbidden fruit was identified as the source of original sin and the cause of humankind's subsequent descent from its cherished first home in the Garden of Eden. In the ancient Judaic tradition, no such association was made. Indeed, it was not until the first century CE that this idea emerged and it can be largely attributed to the teachings and writings of the Roman theologian, St Paul the Apostle (5-67 CE).

As one of the most influential of the early Christian thinkers, a group now commonly referred to as the Church Fathers, St Paul was responsible for the development and spread of key lines of Christian thought and played a central role in defining the place of Christian doctrine within the context of the Judaic tradition. As historian Peter Bouteneff (2008) writes, "[I]t is because of Paul's theology that we see Adam as the forefather of humanity, the progenitor of sin and a type for Christ" (p.33). Even from an unscholarly perspective St Paul's influence on the history of Christian ideas is not difficult to appreciate. Of particular consequence for the history of questioning is the notion that the story of creation, as told in the Book of Genesis, is also the story of the Fall of Man. This idea was adopted and disseminated by the Church Fathers and is now widely accepted as a central tenet of Christianity.

The retelling of Genesis plays a pivotal role in the history of questioning in virtue of the association made, as a result, between the desire for knowledge and original sin. Explicit reference to this can be found in the third book of Genesis in which the serpent entreats Eve to eat the forbidden fruit:

“And when the woman saw that the tree *was* good for food, and that it *was* pleasant to the eyes, and a tree to be desired *to make one wise*, she took of the fruit thereof, and did eat, and gave also unto her husband with her; and he did eat” (Genesis 3:6, King James Bible, emphasis added).

It is Eve's 'desire to be wise', as portrayed here, and its role in the subsequent banishment of Adam and Eve from the Garden of Eden, that was emphasised by St Paul and the Church Fathers. The connection between desiring wisdom and original sin thus served to demonstrate the dangers of knowledge-seeking in the early Christian world. Consequently, the desire for knowledge was identified as a treacherous and contemptible Christian vice; the vice of *curiosity*.

Unsurprisingly, the implications of this for the practice of questioning were significant. In the Classical Tradition questioning played a central role in the search for and exposition of philosophical knowledge and truth, whether this be in its argumentative, or purely epistemic capacity. The adverse connotations attached to epistemic pursuits during Late Antiquity effectively rendered the practice of questioning a dangerous and potentially sinful activity, to be approached with caution in oneself and treated with suspicion in others. This dramatic shift in attitudes towards the acquisition of epistemic goods, and so in the underlying epistemological commitments of the thinkers and theologians of the early Christian world, can be seen to define a new and altogether more restrained approach to questioning in the Western philosophical tradition.

The Vice of Curiosity

As a result of the recasting of Genesis, curiosity acquired a vicious reputation. This new attitude stands in stark contrast to the reverence for natural wonder exulted by both Socrates and Aristotle five hundred years previously. Rather than serving as the natural habitat of the philosopher, a paradigm for philosophical inquiry, wonder was now closely associated with the sins of pride, vanity and lust. According to the influential fourth century theologian St Augustine, “the haughtiness of pride, the delight of lust, and the poison of curiosity are motions of the dead soul” (*Confessions*, Bk13, chapter 21, section 30). Augustine’s fervent language reveals the deep disdain with which curiosity was regarded. Similarly, he describes his own impious meanderings, “following a sacrilegious curiosity, which...began to drag me down into the treacherous abyss, into the beguiling obedience of devils” (*Confessions*, Bk3, chapter 3, section 5). This offers a vivid impression of a much-derided curiosity and the dire consequences of its pursuit.

This zealous religious contempt for curiosity was, in particular, evoked by a belief in its profane motivations. Curiosity was alleged to expose, as Peter Harrison (2001) puts it, ‘a desire to be like God’. Early Christian thinkers placed a heavy emphasis on the inability of the human mind to know the mind of God, as St Jerome illustrates, writing also in the fourth century:

“Is it not evident that a man who day and night wrestles with the dialectic art, the student of natural science whose gaze pierces the heavens, walks in vanity of understanding and darkness of mind?”⁸ (*Commentarius in Epistolam and Ephesios* 4.17, quoted in Harrison, 2001, p.267).

Once again, if the *desire* for knowledge alone was enough to evoke such a vitriolic reaction then its *pursuit* was one step further on the road to damnation. Knowledge-seeking reflected a will to know

⁸ It is interesting to note St. Jerome’s evocative use of a rhetorical question here.

the mind of God and it was precisely this will that had afflicted Eve prior to the original sin. It would succeed, however, only in luring the curious mind into ‘the beguiling obedience of devils’. As an epistemic practice, questioning was sure to suffer under these circumstances, fundamentally threatened by the notion that the pursuit of knowledge was itself a sin. This epistemological orientation was to exert a sustained influence on intellectual history, throughout the subsequent one thousand year period now commonly known as the Middle Ages. Its impact on the history of questioning is thus of deep significance.

MIDDLE AGES: A RESTRICTED ROLE FOR QUESTIONING

CE C5th – C14th

The image of curiosity as a vice, and of knowledge-seeking as its vicious manifestation, was firmly rooted in the intellectual climate of Europe by the start of the Middle Ages. The length of this period in history and the permanence of this image of curiosity reflect the extent to which early Christian thinking impacted on the writers and thinkers of the era. As Russell confirms in his *History of Western Philosophy* (1946), “[U]ntil the fourteenth century, ecclesiastics have a virtual monopoly of philosophy, and philosophy, accordingly, is written from the standpoint of the Church” (p.304). Intellectual history records stagnation in the evolution of ideas as well as dwindling cultural and economic progress during this period and significant philosophical developments are likewise considered to be few and far between. It is for these reasons that the period is often bleakly referred to as the Dark Ages.

It is tempting to draw a more or less straight line between the religious contempt for knowledge-seeking introduced by early Christianity and the intellectual inertia of the Middle Ages, with ongoing implications for questioning as an epistemic practice during the period. However, this would to some extent be an over-simplification of the intellectual landscape at the time. Rather it is important to recognise the specific cause of the Christian disdain for knowledge-seeking which derives from the knowledge-seeker’s perceived impious motivations; the desire to be like God. If the desire for and pursuit of knowledge is to avoid falling into sin it must instead be guided by virtuous motivations. These motivations arise from a dedication to and love of God, rather than a desire to be like Him. With respect to philosophical pursuits in particular, the Middle Ages can be characterised by a distinctive *narrowing*, as opposed to darkening, of intellectual endeavour.

This narrowing is the product of a firm and exclusive focus on the examination of religious doctrine as the source of knowledge and truth, exposing the substantial influence of the underlying epistemological commitments in play. Those who would seek knowledge should search for it only in the religious domain. St Augustine exhibits this succinctly in the first book of his *Soliloquies* in

which he presents a dialogue between himself and a figure called Reason. Reason asks Augustine what he desires to know and Augustine proclaims, “I desire to know God and the soul”. “And nothing more?” inquires Reason, to which Augustine responds, “Nothing whatever” (*The Soliloquies of St Augustine*, Bk1, chapter 2, section 7). The pursuit of knowledge in this deeply religious context was thereby expressly restricted to knowledge of a religious nature. As a result, questioning within the theological and philosophical writing of this period is predominantly governed by and restricted to religious concerns and the dramatic influence of Early Christian thinking on the history and epistemology of questioning is evident.

Scholastic Questioning

This influence can be most clearly seen in the increasingly formalised higher-education institutions which began to emerge in Europe in the eleventh and twelfth centuries, in which the theological focus of the Middle Ages was firmly rooted. Within these institutions a rigorous method of learning was developed, known as Scholasticism, which placed a strong emphasis on critical reasoning and argumentation. Questioning in this setting arose in the context of *Disputations*, a highly structured method of debate, primarily focused on theological issues. Scholastic Disputations consisted in the posing of a designated question, followed by the consideration of a range of views, usually presented in opposition to an assumption made within the question, and finally with a defence of the original assumption, and refutation of the opposing views. This Scholastic approach to questioning provides an illustration of its restricted role in the philosophical landscape of the Middle Ages.

Perhaps the best known and most widely studied work to exemplify this formalised and overtly religious approach to questioning is St Thomas Aquinas’ (1225-1274) *Summa Theologica*. Composed in the thirteenth century, the *Summa Theologica* is a vast work structured explicitly around the posing and answering of questions. A total of five hundred and twelve questions are examined across its three books, concerning the nature and existence of God, the purpose of man and the religious life and the life of Christ. The list of contents lays out in full the restricted, albeit penetrating, range of questions to be examined, including, for example; “Whether God is in all things?”, “Whether “one” adds anything to “being”?”, “Whether the essence of God can be seen with the bodily eye?”, “Whether this name “God” is communicable?”, “Whether good can be the cause of evil?” and “Whether an angel is composed of matter and form?” (*Summa Theologica*, Contents). Questioning, it must be conceded, of a most pious nature. Juxtaposing the impressive scale of the *Summa Theologica* against the exclusively religious focus of the questions posed within it gives us some indication of

the restricted role that was assigned to questioning within the historical context in which it was written, highlighting the unwaveringly religious epistemological orientation of the era.

Significantly, given the structure of the *Summa Theologica* as an extensive series of questions and answers, a useful contrast can be drawn between this thirteenth century Scholastic text and Aristotle's *Book of Problems*, originally composed over fifteen hundred years earlier. The *Book of Problems* similarly comprised an extensive range of questions and speculative answers. This may be no coincidence as Aquinas himself was much influenced by Aristotelian philosophy and sought to incorporate Aristotelian ideas into Christian theology. The notable resemblance between these two voluminous works however, allows for a succinct comparison between questioning in the Classical Tradition and that following the Religious Turn. Crucially, what sets the two works apart is not the role that questioning plays but the subject matter that the authors have as their target. In the ancient context, questioning ranged across the whole spectrum of physical, metaphysical and philosophical concerns. Following the Religious Turn, questioning operated within a restricted and explicitly religious domain as a means of seeking out, examining and affirming religious doctrine. It was, then, the scope of philosophical questioning, rather than its epistemic role that was substantially affected by the underlying epistemological commitments of the Religious Turn.⁹

Philosophical questioning in the fifteen hundred year period following the Religious Turn was restricted to the investigation of theological concerns as a result of the deep suspicion with which broader ranging investigations were regarded by religious orthodoxy. This sets the period dramatically apart from philosophical inquiry in the Classical Tradition. In both cases, however, explicit theoretical reflection on the practice of questioning is absent from philosophical and theological writing. This is perhaps less surprising in the context of Late Antiquity and the Middle Ages, than in the ancient setting, given the general contempt with which uninhibited questioning was regarded. Nonetheless, the lack of any explicit philosophical treatment of questions and questioning remains a consistent feature of the historical narrative. Given the expansive nature of modern-day philosophical inquiry, however, the narrow religious focus of philosophical questioning

⁹ A notable exception to the exclusively religious focus of questioning in the Middle Ages can be found in the work of the English philosopher Adelard of Bath (1080-1152). Among his principle works is to be found the '*Questiones Naturales*', a text comprising of seventy-six questions, presented in the form of a dialogue, concerning the nature of man and the natural world. The work attracted a popular following in its time, at least partly in virtue of the relative novelty of its subject matter, further demonstrating, albeit indirectly, the dominance of the religious focus in philosophical inquiry at the time.

in the Middle Ages has evidently not persisted. It is thus with the emergence of the Early Modern era, to which we now turn, that the epistemology of questioning is again seen to evolve.

THE SCIENTIFIC TURN **(CE C15th – C19th)**

The dawn of the Early Modern era signifies the beginning of a rich and dynamic period in philosophical history, arising from an emerging epistemological struggle between religious orthodoxy and the drive for knowledge extending beyond its reaches. Ancient philosophical questions are examined in the light of new thinking and philosophical methodology itself is influenced by changes in accepted dogma. Ultimately, during the Early Modern era the drive for new knowledge is seen to prevail, eventually coming to characterise the intellectual landscape of the fifteenth to eighteenth centuries. As such the period lays the ground for a *Scientific Turn*, defined by the evolving epistemological commitments of the time. This new liberated epistemological attitude in turn makes way for a vastly expanded role for questioning in philosophical discourse which continues to flourish into the nineteenth and twentieth centuries of the Modern era. As such, the Early Modern era represents a new and dramatic period in the history of questioning.

EARLY MODERN ERA: A REVOLUTION FOR QUESTIONING CE C15th – C18th

Europe in the fifteenth century was a time and place of significant intellectual and cultural change. Emerging from the relative inertia of the Middle Ages, the beginning of the Early Modern era is marked by the growth and spread of new artistic and intellectual movements, as well as technological advances and global exploration. Among the most significant developments of this period was the Renaissance, an artistic movement which came to define the aesthetic character of Europe throughout the Early Modern era. As well as its immense impact on art, the Renaissance also influenced the direction of fifteenth century architecture, music and literature as well as the intellectual discourse of the time. These wide-ranging innovations are especially notable for the speed with which they took hold and spread throughout European culture, set against the stagnant backdrop of the previous fifteen hundred years. Correspondingly, the Renaissance also plays an important role in the history of questioning. Given its intellectual foundations, the movement is closely associated with the gradually expanding horizons of philosophical inquiry, and changing epistemological commitments, that arose in the first half of the fifteenth century. This expansion was, in particular, characterised by a renewed philosophical concern with the natural world. In contrast to the narrow religious focus of questioning in the Middle Ages, the philosophers and thinkers of the Early Modern era were once again asking questions about the things they saw in the

world around them. Questions concerning the composition of natural objects, their operations and functions in observable reality, and the structure of the world at large. Consequently, the period represents the beginnings of a return to the natural philosophy of the Ancients, and the corresponding use of questioning in a broad-ranging epistemic role.

Perhaps one of the most revealing and striking examples of this renewed concern with natural philosophy, and the liberated approach to questioning that accompanied it, can be found in the extensive and much celebrated notebooks of Leonardo Da Vinci (1452-1519). The *Codex Leicester* is the most famous of these surviving notebooks, detailing Da Vinci's meticulous and wide-ranging observations on the natural world including notes on fossils, the movements of mountains, astronomical observations, the sun, the moon and, most extensively, the nature of water. In this work Da Vinci compiled a vast array of questions concerning the different forms and motions of water. Thus he considers rivers, canals, the sea, currents, whirlpools, waves, the surface of water and its depths, as well as machines that turn water and that which is consumed by it. According to the popular science writer, Philip Ball (2013), Da Vinci intended these topics to form the basis of a large treatise on the nature of water (p.23). Whether or not such a treatise was ever completed or even begun in earnest by the prolific Renaissance thinker is unclear. Regardless, the *Codex Leicester* offers a crucial insight into the changing intellectual climate of the Early Modern era and a renewed engagement with the powerful potential for questioning as an uninhibited epistemic practice.

Ball quotes an array of topics to be found in the *Codex Leicester* concerning the flow of river water, among which, Da Vinci lists for consideration and investigation:

“the different currents on the surface of the waters...the different currents on the bed of the rivers...the different depths of the rivers...the different shapes of the hills covered by the waters...[and] the different shapes of the hills uncovered by the waters” (Da Vinci, *Codex Leicester* quoted in Ball, 2013, p.24).

From this small fragment it is clear to see both the dedicated nature of Da Vinci's concern with the natural world and the explicitly empirical approach that he took towards the investigation of its features. This represents a changing attitude towards the acquisition of epistemic goods, inspired by the Renaissance, in contrast to that of the previous era. Significantly, given its question-based structure, the *Codex Leicester* can be usefully contrasted with Aquinas' *Summa Theologica*, in order to further elucidate the role of the former within the history of questioning. This contrast exposes the dramatically restricted, religious role assigned to questioning during the Middle Ages. As Ball remarks, comparing Da Vinci's approach with that of the Scholastics:

“What distinguishes Leonardo was not the method he used to approach the nature of water flow, but the fact that he considered these things worth studying in the first place” (Ball, 2013, p.26).

It is not, then, the epistemic orientation of questioning in the Early Modern era that distinguishes it from the questioning of Late Antiquity and the Middle Ages but the *scope* of the subject matter under investigation. Da Vinci’s wide-ranging questioning of the natural world and his distinctively observational approach to information-gathering are much more closely aligned with the methods and epistemological commitments of the Aristotelian tradition, than those of Aquinas or Augustine. These represent key features in the early stages of the Scientific Turn, and epitomise the nature of the changing intellectual landscape at the start of the Early Modern era.

Expanding Horizons of Inquiry

The impact of Da Vinci’s intellectual explorations was greatly enhanced by the invention of the first European printing press in 1439 by Johannes Gutenberg (1395-1468). The same can be said of all fifteenth century writers and thinkers and their successors right up to the modern day. Contributing significantly to the spread of the ideas and methods of the Renaissance, and therefore to the rapidly changing intellectual climate of the fifteenth century as a whole, the invention of the printing press was arguably the most significant single event in the intellectual rebirth of Early Modern Europe. Gutenberg’s major innovation was a technique of mechanical, movable type printing which enabled the mass production of printed books in a manner that was both efficient and affordable. As a result, the invention of Gutenberg’s printing press quickly led to a printing revolution in Europe which spread rapidly across the continent, with printing available in over two hundred and fifty European cities by the end of the fifteenth century. In conjunction with the perpetual creativity of the Early Renaissance, the effect of the printing revolution was to dramatically increase and accelerate the spread of ideas, techniques and information throughout Europe. This laid the foundations for subsequent intellectual advances on a prolific and unprecedented scale.

It is not hard to see the significance of the Printing Revolution for the history and epistemology of questioning given the wider context of cultural and intellectual change. The advent of new thinking in art, architecture, music and literature, drawing at least in part on a revival of ancient Greek thought, provided a striking contrast to the narrow range of Scholastic resources available to even the brightest minds of the Middle Ages. The mass production of books and other written sources, enabled by the printing revolution, facilitated the exchange and proliferation of these new ideas. Correspondingly, the horizons of inquiry were vastly expanded in a dramatically short period of time. As Elizabeth Eisenstein (1983) asserts in her seminal historical work on the topic, “[the] move

from the copyist's desk to the printer's workshop... revolutionized all forms of learning" (p.3). Access to vast amounts of novel information and divergent perspectives were simply not available prior to the introduction of widespread printing. The Printing Revolution provides a valuable historical context for the evolving epistemological commitments underlying the early stages of the Scientific Turn and the broad-ranging questioning associated with this.

Within a century of the introduction of widespread printing in Europe, the proliferation of new ideas and the emergence of significantly expanded intellectual networks would lead to the first stirrings of the period now known as the Scientific Revolution. This period, lasting approximately one hundred and fifty years, is often cited as beginning with the publication of Nicolaus Copernicus' famous treatise *'On the Revolutions of the Heavenly Spheres'* in 1543, in which he first put forward the radical proposal that the Earth rotated around the sun. In addition to this major perspectival shift, the Scientific Revolution saw the significant revising and often abandonment of many key Aristotelian notions that had previously been enshrined in intellectual discourse. As with the Printing Revolution, the Scientific Revolution represents a dramatic expansion of epistemic horizons, engendering a vastly more liberal approach to questioning than had been acceptable during the previous one thousand years.

Perhaps unsurprisingly, this liberation was not without resistance. The religious domination of the Middle Ages continued to act as a significant barrier to the pursuit of non-theological knowledge at this time, and the vicious reputation of curiosity, in particular, was not readily put aside. As Harrison (2001) notes:

"the traditional classification of curiosity amongst the vices and its complicity in the commission of the first sin represented a major obstacle to early modern projects to enlarge human understanding" (Harrison 2001, p.266).

This barrier was forcefully defended during the Protestant Reformation, with key figures such as the influential theologian and pastor, John Calvin (1509-1564) reaffirming the close tie between curiosity and original sin. This tension between the control of epistemic goods by religious powers and their investigation and discovery by science is no more clearly captured than in the condemnation of Galileo in 1616 by the Catholic Church and the corresponding ban on the Copernican treatise that he had advocated and defended. Nonetheless, the power of the Church and its control over the direction and profits of inquiry were drastically reduced throughout the course of the sixteenth and seventeenth centuries, in line with the changing epistemology of the time.

The Scientific Revolution to a great extent, changed the face of human inquiry in the Early Modern era. It is generally thought to culminate in the publication of Isaac Newton's *Principia Mathematica* in 1687 in which the foundations for classical physics were established. This culmination gave rise to an even broader intellectual and cultural movement in which scientists, alongside philosophers and other members of the cultural and intellectual community, forcefully advocated for the new scientific method and the power of reason. This period has come to be known as the Enlightenment or the Age of Reason in which the practice of knowledge-seeking itself was afforded a new status, with natural implications for the ever expanding role of questioning. One of the most influential figures to have had an impact on this transformation, and indeed, in the general advocacy of the methods of science and reason at this time, was the English philosopher and statesman, Francis Bacon (1561-1626).

The Age of Reasoning

Bacon was a prominent figure in the British political sphere of the sixteenth and seventeenth centuries, serving as both the Attorney General and the Lord Chancellor of England during his lifetime. In addition, he was an accomplished intellectual dedicated to a life of learning and was the author of a considerable number of works on both scientific and theological topics. Among these are included the *Meditationes Sacrae*, published in 1597 and *The Advancement of Learning*, published in 1605. The former serves as the origins of the famous aphorism 'knowledge is power', a fitting slogan for the newly invigorated intellectual climate of the sixteenth century. In the latter, Bacon offers a general defence of knowledge and of knowledge-seeking practices, addressed to King James I himself. In Bacon's own words, *The Advancement of Learning* is a treatise "concerning the excellency of Learning and Knowledge, and the excellency of the merit and true glory in the augmentation and propagation thereof" (Bk1, section 3). Such a direct and unashamed expression of his own love of knowledge, written for no less than the King of England, highlights the significant influence that Bacon had and the very real nature of the battle for epistemic terrain that was being fought at the time. This is particularly evident when contrasted with the almost contemporaneous condemnation of Galileo for his involvement in precisely such knowledge-propagation activities. Bacon was, therefore, both a sincere believer in the value of intellectual, and especially scientific pursuits, and in a position privileged enough to effect genuine change in this regard.

In addition to his remarks directly concerned with knowledge and learning, Bacon's most influential contribution to the advancement of knowledge-seeking, reason and the scientific method was his skilful retelling of many of the key Biblical messages on which the vilification of such practices had

been based. In the first sections of *The Advancement of Learning* for example, Bacon addresses the issue of the Fall directly, reporting that he has heard men claim, “that the aspiring to overmuch knowledge was the original temptation and sin whereupon ensued the fall of man” (Bk1, section 2), citing both Solomon and St. Paul as sources of this notion. However, he goes on to argue that it was not the acquisition of ‘pure’ knowledge that led to the Fall but only “the proud knowledge of good and evil” (Bk1, section 3). Bacon offers a more nuanced reading of the Biblical story in which only a certain kind of knowledge-seeking, that which attempts to know or supersede the mind of God, should be associated with original sin. Knowledge-seeking that does not fall into this category, he argues, on the contrary should be praised as no less than a Christian virtue:

“God hath framed the mind of man as a mirror or glass, capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive light” (*Advancement of Learning*, Bk1, section 3).

The world, Bacon argued, has been designed by God, precisely for the human mind to comprehend it and to take joy in this comprehension. In these relatively short opening sections of the *Advancement of Learning*, Bacon attempts to overthrow the entrenched negative view of knowledge-seeking that had been so dogmatically wielded for over fifteen hundred years. He thus sought to transform attitudes towards knowledge-seeking practices, quite simply, from vice to virtue, and in doing so, deeply alter the underlying epistemological commitments of the age. Most strikingly of all, he was largely successful.

Bacon’s sustained efforts in the service of knowledge-seeking and learning were taken up and had widespread influence within both political and philosophical circles. As such, his championing of the new scientific method, with its heavy emphasis on empirical research and evidence, has since led to his unofficial title as the father of empiricism. Bacon’s views on the activity of knowledge-seeking were adopted by subsequent empiricist philosophers and thinkers and in large part provided the foundations for the empiricist movement itself. This movement represents a significant epistemological shift, impacting on both the methods and aims of philosophical inquiry. The early empiricist Thomas Hobbes (1588-1679), for example, advanced the Baconian notion that knowledge-seeking was a distinctively valuable human activity, arguing that, alongside reason, the love of knowledge is all that separated men from ‘beasts’. He compares an exalted curiosity, describing it as the ‘lust of the mind’, with base desires such as hunger and other sensory pleasures asserting that “the continual and indefatigable generation of Knowledge, exceedeth the short vehemence of any carnal Pleasure” (*Leviathan*, 1651, Chapter 6, p.35). Knowledge-seeking, on this picture, is viewed as a higher-order form of desire, unique to the human mind and prized for precisely this reason. Similarly, the canonical empiricist thinker John Locke (1632-1704) projected a

treasured view of curiosity, arguing that, for children in particular, “[C]uriosity should be as carefully cherished...as other appetites suppressed” (*Some Thoughts Concerning Education*, 1693, section 108). He regards it as “the great instrument nature has provided to remove that ignorance they were born with” (*Some Thoughts Concerning Education*, 1693, section 118) and maintains that the cultivation of curiosity in children is a valuable component of successful education. Here a striking indication of the transformed view of curiosity among the thinkers of the day is evident, a trait that only two hundred years previously had been considered the origin of all human vice. Just as the vicious reputation of curiosity aligned with a restricted role for questioning in the Middle Ages, this positive affirmation of curiosity as a natural human virtue, corresponds to the expanded role for questioning, following the Scientific Turn.

Further confirmation of the new status of curiosity, towards the end of the Early Modern era, can be identified in the work of the eighteenth century empiricist, David Hume (1711-1776). Hume concludes Book II of his major work, *A Treatise of Human Nature* (1738), with a discussion of curiosity which he regards as synonymous with a ‘love of truth’. He acknowledges “a certain curiosity implanted in human nature” and endorses this as “the first source of all our enquiries” (section 2.3.10). Hume thereby captures the new approach to knowledge-seeking that had been instilled in the intellectual community by this time. By the end of the Early Modern era, the quest for knowledge, and the distinctively human curiosity that inspired it, were well-established features of the Western philosophical community and method. This new attitude goes naturally hand-in-hand with a revolutionised approach to questioning. The vast intellectual heritage that has been left to us from the Early Modern era bears testament to this.

MODERN ERA: A NEW PARADIGM FOR INQUIRY

CE C19th

By the dawn of the nineteenth century, the intellectual and cultural community of the West was immersed in a new paradigm for inquiry; one startlingly different from that with which the Early Modern Era had begun. Epistemic authority was no longer in the hands of religious institutions alone but spread throughout a diverse and growing network of intellectuals, comprising scientists, philosophers, theologians, mathematicians, literary figures and a range of other thinkers and cultural figures across a spectrum of traditional and newly emerging disciplines. The ideas of both the Scientific Revolution and the Age of Reason continued to spread throughout Europe and the world, inducing the proliferation of ever more wide-ranging subject-matter for investigation, and increasingly novel attempts to provide solutions to the deepest mysteries of the natural and social world. The underlying epistemological commitments of the time identified the natural and physical world as a primary and legitimate source of epistemic goods, such as truth and knowledge. In line

with this, questioning was once again centre-stage, employed as a broad-ranging epistemic practice, and this practice was one actively undertaken and encouraged by the cultural norms.

This regenerated role for questioning, and the epistemological commitments on which it was based, are echoed deeply in the words of the Modern era German philosopher, Friedrich Nietzsche (1844-1900) in a letter to his devoutly religious sister Elizabeth. Written in the latter half of the nineteenth century, Nietzsche explains, with a certain solemn resoluteness, his loss of the Christian faith, which they had grown up with:

"Hence the ways of men part: if you wish to strive for peace of soul and pleasure, then believe; if you wish to be a devotee of truth, then inquire..." (Nietzsche, Letter to His Sister, 1865).

Here Nietzsche evokes a striking contrast between the solace associated with unquestioned religious belief, and the devotion with which one must conduct inquiry in the pursuit of truth. This sentiment provides a penetrating insight into the philosophical allegiances of the day, and represents, from the perspective of one individual, the shifting historical and epistemological contexts of two and a half thousand years of philosophical history. By the end of the Modern era, questioning was once again at the heart of philosophical endeavour and employed openly in the pursuit of truth, knowledge and understanding. This epistemic approach to questioning was enshrined in the now established and much revered scientific method. In many respects this brings the narrative full circle, with the expansive and enthused questioning of the Ancients clearly apparent in the philosophical and broadly intellectual pursuits of the nineteenth century. This brings the historical examination of questioning to a close.

CHAPTER SUMMARY

Key insights from Chapter One can now be summarised. Beginning in Ancient Athens in the fourth century BCE, an investigation of questioning in the *Classical Tradition* revealed two distinct roles for questioning in line with the divergent methods and epistemological commitments of Socrates and the contemporaneous Sophists. Following this, the role of questioning in the Aristotelian tradition, and its subsequent impact in Ancient Rome, were examined, where the two roles for questioning were seen to coexist under a unified philosophical system. The investigation then proceeded into Late Antiquity, where the dramatic influence of the *Religious Turn* in Europe was observed, and its sustained impact throughout the Middle Ages uncovered, corresponding to the distinctive epistemological orientation of the era. Subsequently, the equally notable influence of the *Scientific Turn*, throughout the Early Modern and Modern eras, was explored, where the

underlying epistemological commitments of the age were seen to correspond to a more liberated attitude towards questioning. Notably, despite its significant role in philosophical discourse, the practice of questioning, as a subject of theoretical reflection, has been largely overlooked in the Western philosophical tradition. Where this is not the case, the primary focus of philosophical attention paid to questioning, has been on its role in formal argumentation, in the context of rhetorical, dialectical or Scholastic dispute. Questioning as an epistemic practice beyond this, or indeed as a common feature of everyday life, has not featured as a topic of concern in Western philosophy. The practice of questioning, with its deep roots in the philosophical tradition, thus remains a tantalisingly underexplored area of philosophical inquiry.

Chapter Two

The Epistemology of Questioning:

A Contemporary Context

Philosophical interest in questions and questioning has emerged in contemporary philosophical discourse over the past one hundred years. The most extensive and explicit philosophical treatment of questions in this context has undoubtedly occurred in the philosophy of language, following the *Linguistic Turn* of the early twentieth century. The discourse in this regard has focused on the *question* as a subject of linguistic analysis, as opposed to *questioning*, as a practice or skill. This linguistic emphasis on questions is significant when considered in light of the distinctively epistemic role for questioning identified in the previous chapter. Despite the extensive use of questioning as a means of seeking out epistemic goods, contemporary theoretical reflections on the topic have focused on the linguistic features of questions, as opposed to their role in epistemic endeavour.

This chapter provides an overview of some of the most salient developments in the study of questions and questioning that have arisen in the contemporary philosophical field, offering a *contemporary context* for the epistemology of questioning. The first half of the chapter provides an overview of important and original theoretical reflections concerning questions in the philosophy of language. The second half explores the prospects for a broadening of this contemporary focus, beyond the analysis of questions as a linguistic entity, to the analysis of questioning as an epistemic practice. To this end, the virtue and social epistemology movements are outlined and are seen to offer a promising and timely theoretical framework for the epistemology of questioning.

THE LINGUISTIC TURN

(CE C19th – C21st)

The study of questions in contemporary philosophy has adopted an overtly and almost exclusively linguistic orientation. This can be attributed, at least in part, to the dramatic rise of philosophical interest in the formal operations of language, inspired by the Linguistic Turn. This early twentieth century movement is characterised by a central and exclusive focus on the nature and logic of

language and so by the core belief that all the ontological and conceptual problems of philosophy can be addressed through an analysis of the language in which they are expressed. Central to the movement are the works of Gottlob Frege (1848-1925), Bertrand Russell (1872-1970) and Ludwig Wittgenstein (1889-1951), all of whom were writing and publishing during the end of the nineteenth and first half of the twentieth centuries.

A succinct expression of the movement's central tenet can be found in Frege's *Foundations of Arithmetic*, first published in 1884, in which, according to subsequent Frege scholars, notably Michael Dummett (1973), the origins of the Linguistic Turn can be identified. Specifically, Dummett cites paragraph sixty-two as containing the central claim around which the turn is made. Here Frege outlines his 'context principle', which states that, "it is only in the context of a proposition that words have any meaning" (1953, p.73). Thus he maintains that in order to determine, for example, the meaning of a number word such as 'four' we must "define the sense of a proposition in which a number word occurs" (1953, p.73). The context principle thereby suggests that all philosophical problems should be understood in terms, not of what is or what can be known, but, of how it can be defined in language. This fundamental shift in philosophical perspective, from epistemological and metaphysical questions, to questions about language, sparked a move towards the formal analysis of linguistic terms and inspired the development of foundational logical axioms. This focus on the nature and structure of language, in turn, provided a basis for the formal study of questions as a linguistic entity. It is thus as a result of the Linguistic Turn that the first explicit, and at least to some extent, sustained philosophical inquiry into the nature of questions occurs.¹⁰

The Logic of Questions

Investigations into the logical structure of questions have been central to their treatment and analysis in contemporary philosophical discourse. Some early remarks concerning the logic of questions can be identified in the writings of the nineteenth century rhetorician and theologian, Richard Whately (1787-1863) in his 1826 *Elements of Logic* and 1828 *Elements of Rhetoric*. Notably these works precede the advent of the Linguistic Turn by several decades. However, interest in the texts, and in particular in Whately's observations concerning questions, did not arise until over a century later, in the midst of the new philosophical concern with language. Whately's work was brought to limited philosophical attention in the 1930s by the Transylvanian philosopher Eugeniu Sperantia (1888-1972) who used it to develop his own logic of interrogatives, a branch of logic that

¹⁰ It is worth reiterating here the exclusive emphasis in this context on *questions*, as opposed to *questioning*.

has come to be known as *erotetic logic*. Erotetic logic did not itself receive any significant attention in philosophical circles until the 1950s when it was first popularized by logicians Mary and Arthur Prior. In their formative paper on the topic, published in 1955, entitled simply ‘Erotetic Logic’, the authors note, referring to Sperantia’s earlier work, “[V]ery little has been written on interrogatives since, and we propose here to open up the subject a little further” (1955, p.43). Following this, interest in erotetic logic gradually increased and by the late 1960s and 1970s it had grown to become a specialised but not insignificant field of study. Whilst interest in the logic of questions thus first emerged in the nineteenth century, it was not until the second half of the twentieth century that this developed into a defined area of philosophical inquiry.

The 1960s saw some of the most significant early advances in erotetic logic, with the publication of a number of seminal papers focusing on the development of a logical system for formalising questions and answers, and characterising the question-answer relationship. David Harrah’s, ‘A Logic of Questions and Answers’ (1961), Lennart Åqvist’s, ‘A New Approach to the Logical Theory of Interrogatives’ (1965), Nuel Belnap’s, ‘Questions, Answers and Presuppositions’ (1966) and Sylvain Bromberger’s ‘Why-Questions’ (1966) all represent important early contributions to this body of work. In this work, the question is treated exclusively in terms of its linguistic manifestation as a proposition. A key feature of this discourse is therefore its treatment of the logical structure of questions in terms of the prevailing system of propositional logic developed, originally by Frege, in the previous decades of the twentieth century. Within this system, questions are formally defined in terms of their relation to other propositions. Specifically, they are defined in terms of the propositions that serve as their answers. A grounding notion in the logical analysis of questions, therefore, is that a question is defined by its answers. The characterisation and formal treatment of answers has been central to the development of erotetic logic since its foundation in philosophical discourse.

This ongoing focus on the relationship between questions and answers, and the propositional orientation of erotetic logic in general, is evident in Nuel Belnap and Thomas Steel’s later seminal work, ‘*The Logic of Questions and Answers*’ (1977). Belnap and Steel presented one of the most comprehensive systems of erotetic logic available at the time, building on their own, as well as others’ earlier contributions to the field. Indeed, *The Logic of Questions and Answers* still serves as a seminal text on erotetic logic today. Belnap and Steel draw heavily throughout the work on the notion of a ‘direct answer’. A direct answer is characterised as an answer that completely but only just completely answers a question (1977, p.3). In turn, a question is characterised in terms of its possible direct answers. To offer a simple example, the question ‘Did Leonardo Da Vinci paint the Sistine Chapel’ is characterised in terms of its two possible direct answers, namely, ‘yes, Leonardo

Da Vinci did paint the Sistine Chapel' and 'no, Leonardo Da Vinci did not paint the Sistine Chapel'. Alternatively, the question 'what day of the week is it' is characterised in terms of the seven possible options that constitute its direct answers, namely, the days of the week. This notion of direct answers, as employed by Belnap and Steel, places answers at the heart of the examination of questions, within formative systems of erotetic logic. Indeed, according to their account, in order to *understand* a question, one must understand what can count as a possible direct answer to it. This focus on answers will emerge as a common thread in the contemporary philosophical study of questions.

Following Belnap and Steel's major contribution to the field, Finnish philosopher and logician, Jaakko Hintikka (1929-present) expanded and advanced the logical treatment of questions in the 1980s by applying erotetic logic within a more general theory of inquiry which he terms the Interrogative Model of Inquiry (IMI) (1984, 1985, 1989). Within this work, Hintikka develops the central notions of the earlier erotetic logic arguing that inquiry consists of a formalised sequence of interrogatives *and* deductions. The IMI thereby incorporates a logic of both questions, construed as interrogatives, and inferences, construed as deductions, combining key insights from erotetic logic, with established elements of deductive logic. The IMI thus represents an expanded and distinct, albeit derivative treatment of questions and their logical form, from that of the former and narrower erotetic logic of the 1960s.

Central to Hintikka's exposition of the IMI is the notion of an 'interrogative game'. An interrogative game is played by a single participant, labelled the 'Inquirer', interacting with a source of information, labelled the 'Oracle'. The aim of the game is for the Inquirer to establish a given conclusion as the answer to a given question by eliciting the required information from the Oracle. Within the game several simple logical moves are available to the Inquirer, based on the rules of both erotetic and deductive logic. Consequently, these rules, and the questioning strategies available as a result of their application, comprise the workings of the IMI. In this respect, the IMI provides a context for the examination, not only of questions but also of questioning strategies, within a set of pre-defined parameters, thereby expanding the study of questions in the contemporary philosophical field. Consequently, Hintikka's work has had an active and important influence in contemporary work on the logic of questions and inquiry. A recent conference on Logic, Questions and Inquiry (LoQI) hosted in 2013 by the IMI Project, for example, focused heavily on recent developments of Hintikka's work. Developing the notion of the interrogative game, for example, Andrzej Wisniewski (2003) has advanced the concept of an 'erotetic search scenario' which aims to provide an even more fine-grained model of inquiry based on the principles of erotetic logic. By modelling and examining erotetic search scenarios, Wisniewski aims to uncover the underlying

patterns inherent within questioning strategies, underlined by the logic of questions. According to Wisniewski:

“a scenario of this kind shows how an initial question can be answered on the basis of a given set of initial premises and by means of asking and answering auxiliary questions” (2003, p.391).

As with Hintikka’s IMI, Wisniewski’s detailed exposition of erotetic search scenarios aims to expose some of the key features of efficient and effective problem-solving, demonstrating the centrality of questions, not only within scientific inquiry, but in everyday reasoning. Both interrogative games and erotetic search scenarios thus draw attention to the significance of the logical analysis of questions within philosophical inquiry. In this respect, the logic of questions continues to grow as a distinct area of philosophical interest, with ever broadening applications, both within philosophy and the adjoining disciplines.

With this in mind, however, the treatment of questions exclusively within systems of formal logic must also be viewed in light of its natural limitations. Indeed, Belnap and Steel (1977), whose pioneering work shaped much of the contemporary discourse, themselves concede that insight into the logic of questions can only advance our understanding so far. Thus, as Kielkopf (1978) observed in an original review of *The Logic of Questions and Answers*:

“They [Belnap and Steel] admit, as we must admit about all formulations, that we cannot be certain that their precise formulation of a question expresses exactly what the natural language question asked” (1978, p.491).

Despite the many important advances that have since been made, this restriction remains true of the contemporary field. The logical formulation of a question does not, and cannot be expected to map the complex formulation of a question in natural language. Furthermore, it cannot be expected to capture the full or precise *meaning* of a natural language question; its semantic content. This indicates, to some extent, the limitations of the study of questions in formal logic. Consequently, alongside further developments in the logic of questions, philosophical inquiry into questions in the 1960s led, in the 1970s, to a broader field of study concerning, not only the structure and form of questions, but the *semantics* of questions, in both the philosophy of language and formal linguistics.

The Semantics of Questions

Early work concerning the semantics of questions built directly on the erotetic logic of the 1960s. As such it is also seen to define a question in terms of its relation to propositions, and take the

question-answer relationship as central to its proper analysis. In this context, however, the object of analysis is the question's meaning, as opposed to its logical form. Charles Hamblin's 'Questions in Montague English' (1973) and Lauri Karttunen's 'The Syntax and Semantics of Questions' (1977) offer two seminal, and slightly contrasting, examples of early work in this field. Despite subtle differences, for both of these contributors, the meaning of a question can be derived from the propositions that serve as answers to it. As the recent Stanford Encyclopedia of Philosophy entry on 'Questions' notes, for both Hamblin and Karttunen:

“the meaning of a question is fully determined by – and could be identified with – the set of all propositions that correspond to a possible answer” ('Questions', Stanford Encyclopedia of Philosophy, 2014).

The centrality of answers in the philosophical treatment of questions can once again be observed here. However, it is the question's meaning that is here defined in terms of its possible answers. This early position in the semantic analysis of questions reflects Belnap and Steel's claim that in order to understand a question, one must understand what can count as a direct answer to it. The connection between the logic and semantics of questions, perhaps unsurprisingly, is a close one.

As in the development of the logical analysis of questions, semanticists have built on this central relationship between questions and answers, leading to a number of key developments concerning question-meaning since the late 1970s. Throughout the 1980s and 1990s, the discourse attracted a growing number of contributors seeking to provide new and increasingly complex systems in which to explicate question-meaning including, Groenendijk and Stokhof's (1984) 'partition semantics', followed in the 1990s by 'dynamic semantics' (Jager 1996; Groenendijk 1999), and in the 2000s by 'inquisitive semantics' (Groenendijk 2009; Ciardelli 2010). Each of these systems aims to provide a more accurate and fine-grained interpretation of question-meaning than its predecessor, modelling increasingly complex and dynamic semantic contexts. These systems in general represent a steady progression in the theory over the course of the past three decades. Notably, a general consensus has emerged throughout the course of the discussion concerning the nature of a question itself. Here the centrality of answers in the analysis of question-meaning can be seen most explicitly. Commenting on the literature, Jonathan Ginzburg (1997) notes:

“The most influential proposals...have, in fact, proposed a very specific characterisation of what a question is: namely, that a question is a property of propositions, that property which specifies what it is to be an exhaustive answer” (1997, p.386)

Contemporary theory thereby accords with its earlier manifestations in the work of Hamblin and Karttunen, and more generally with the consensus present among those concerned with the logical analysis of questions. A question is construed as a property of its answers. The meaning of a question is derived from this and is, therefore, likewise defined by its answers. The philosophical heritage of erotetic logic is here seen to underpin and inform contemporary theory in the semantics of questions. The notion that a question is defined by its answers can thus be regarded as a commonplace view within the theory of questions, for both logicians and semanticists.

Notably, this view is not without some resistance in the contemporary field. Ginzburg (1997) himself rejects this consensus, offering some compelling criticisms of the reduction of a question to its associated set of answers. In particular, he maintains that the point at which a question can be considered resolved depends, not only on the semantic content of the resolving proposition (the answer), but on relevant features of the agent. The exclusive identification of a question as a property of its answers thus fails to capture a number of significant factors in the determination of when a question has, in fact, been answered for an agent. This puts some pressure on the otherwise widely held notion that the philosophical analysis of questions and question-meaning can be undertaken exclusively in propositional, and so answer-relative, terms. Perhaps significantly, Ginzburg “remains agnostic” (1997, p.395) as to the proper characterisation of a question itself, leaving room for further investigation and analysis. Both in terms of the logic and semantics of questions, the question of what a question actually is remains, to some extent, an open debate. Nonetheless, attempts to understand and characterise questions and question-meaning, drawing on their propositional nature and underlying logical form, have occupied a significant proportion of the discourse in this field of study throughout the second half of the twentieth century.

The Pragmatics of Questions

A final development in the study of questions from a linguistic perspective is found, again in more recent decades, in the examination of the pragmatics of questions. Just as interest in the semantics of questions emerged out of a concern with their logical analysis, so interest in the pragmatics of questions has emerged naturally out of a concern with question-meaning. This interest can be situated in the discourse within the broader study of the pragmatics of language. In particular, seminal work in this area, by the British philosopher Paul Grice (1913-1988), provides a rich theoretical context for much current work on the pragmatic aspects of questions. While Grice does not focus primarily on questions, much of his work is nonetheless highly relevant to an analysis of their operation within broader linguistic contexts such as conversation. Specifically, Grice (1957, 1968) contends that there are (at least) two different senses of the word ‘meaning’, namely, natural

and non-natural meaning. Focusing primarily on the latter, Grice developed a theory of ‘intention-based semantics’ holding that speaker meaning is determined by the speaker’s intentions. Pertinently, Grice generalises this idea, applying it to questions (and commands), and maintains that these differ from assertions on the basis that they aim to induce an intention rather than a belief. Here the roots of a concern with the significance of pragmatic aspects such as agent and context in the characterisation and comprehension of questions can be seen.

Consideration of these pragmatic aspects provides a further challenge to the dominant philosophical treatment of questions in the exclusively formal, propositional terms of erotetic logic and traditional semantics. Ferenc Kiefer (1988), for example, maintains the centrality of the question-answer relation to an analysis of questions, but argues that answers must be understood, not only in terms of syntactic and semantic adequacy, but also pragmatic adequacy (p.255). He contends that an answer is pragmatically adequate when it is both informative and useful to the questioning agent, and offers a detailed exposition of these notions within the context of his broader argument. Here then, the role of the agent is highlighted as integral to the proper characterisation of answers, and so, according to Kiefer, to the analysis of questions. On this basis, Kiefer maintains:

“none of the current theories pertaining to the question-answer relationship provide an adequate account of the pragmatic aspects of the question-answer relation” (p.277).

Writing in the late 1980s, Kiefer’s target here is undoubtedly the formal logical and semantic work on questions that, certainly at that time, dominated the discourse. In support of this, Maria Aloni (2005), in more recent work, has similarly drawn attention to the significance of non-propositional aspects in the analysis of questions and question-meaning. In particular, she focuses on the role of context in the operation and interpretation of natural language, arguing that, “questions are typical examples of constructions the interpretation of which depends on what perspective is adopted over the individuals in the universe of discourse” (2005, p.506). Thus, the questioning agent, along with associated contextual features of the question-answer dialogue in which she is engaged, are identified as important pragmatic aspects in the analysis of questions.¹¹

¹¹ Notably, this emphasis on the role of context in determining the meaning of a question echoes that same emphasis placed on the role of context in determining the meaning of a word, in virtue of Frege’s context principle, demonstrating the continued influence of the Linguistic Turn in contemporary work on questions.

Significantly, this interest in the pragmatics of questions has extended the study of questions in the latter half of the twentieth century beyond the domain of purely linguistic analysis. This can be observed, in particular, in the work of the influential philosopher of science, Bas van Fraassen (1941-present). Van Fraassen focuses on the role that questions play in scientific inquiry, placing an emphasis on the significance of *why-questions* in understanding the nature of scientific explanation. In his seminal work on the nature and aims of science, *The Scientific Image* (1980), he expounds a theory of why-questions in partial defence of a form of anti-realism which he develops throughout the work, labelled Constructive Empiricism. Van Fraassen claims that central problems regarding the theory of explanation in the philosophy of science, including the apparent asymmetry of certain explanatory relations (whereby A explains B but B does not explain A), can be resolved by understanding explanation in terms of a theory of why-questions. “After-all,” he contends, “a why-question is a request for explanation” (p.126) Thus, he maintains:

“An explanation is not the same as a proposition, or an argument, or list of propositions; it is an answer...An explanation is an answer to a why-question. So, a theory of explanation must be a theory of why-questions.” (1980, p.134)

In developing his theory of explanation, van Fraassen draws centrally on the erotetic logic of Belnap and Steel (1977), thus placing the logical analysis of questions at the centre of philosophical theorising on the nature of scientific inquiry. Nonetheless, his concern is with understanding the nature of why-questions, in particular, in pragmatic terms. In this respect, van Fraassen’s treatment of questions can rightly be viewed as a pragmatically motivated extension of the logical analysis of questions (into the scientific domain). Van Fraassen maintains:

“[A] theory of questions must needs be based on a theory of propositions...A question is an abstract entity; it is expressed by an interrogative (a piece of language) in the same sense that a proposition is expressed by a declarative sentence” (1980, pp.137-138).

The object of analysis for van Fraassen is therefore an explicitly linguistic entity. However, he contends, along with Kiefer and Aloni, that the question-answer relationship should be understood in pragmatic, rather than exclusively formal terms. Highlighting the limitations of exclusively formal analyses, van Fraassen cites, in particular, the widely-held thesis that a question can be identified uniquely through its answers, commenting, “[T]his can be regarded as a simplifying hypothesis of the sort we come across for propositions”, warning that it is “advisable to remain somewhat tentative towards it” (pp.138-139).

Incorporating the logical analysis of questions provided by Belnap and Steel (1977) into a pragmatic theory of explanations, van Fraassen argues that explanations, like questions, must be understood as relative; “[B]eing an explanation is essentially relative, for an explanation is an answer” (p.156). In other words, an explanation cannot be understood *as an explanation* outside of a given context. Van Fraassen thus highlights the pragmatic significance of context in the theory of explanations. It is this pragmatic aspect that extends van Fraassen’s treatment of why-questions beyond their formal linguistic analysis. In order to illustrate the significance of pragmatic features in the analysis of why-questions, and explanation, he offers the example of an omniscient being devoid of any particular interests or concerns, who, while possessing all the information there is, does not reflect on that information in any abstract way. Van Fraassen argues that such a being would not ask why-questions at all and would not, thereby, possess explanations:

“his advantage is that he always has all the information needed to answer any specific explanation request. But that information is, in and by itself, not an explanation; just as a person cannot be said to be older, or a neighbour, except in relation to others” (1980, p.130)

Van Fraassen explicates this essentially relational and context-sensitive nature of explanations by developing a theory of why-questions in which context is seen to play an essential role.

Drawing explicitly on Belnap and Steel (1977), van Fraassen’s theory of why-questions firstly identifies a why-question as containing a proposition, known as its presupposition, which is necessarily taken to be true by the questioner. If one asks ‘why is the sky blue’, for example, one is presupposing precisely ‘that the sky is blue’. One can therefore be taken, on van Fraassen’s account, to be requesting an explanation of the fact that the sky is blue. This explanation, which serves as an answer to the question, is then identified by van Fraassen as exhibiting a ternary relation between a true proposition (the correct answer), a set of propositions (including the true one) known as the ‘contrast class’, and a ‘relation of explanatory relevance’, which identifies why the true proposition, as opposed to any of the others in the contrast class, is the correct answer to the question. The contrast class indicates the context in which the question is asked by signifying which alternative propositions need to be ruled out in order for the question to be satisfactorily answered. One may be asking, for example, why the sky is blue, as opposed to, say, the grass or the clouds. Alternatively, one may be asking why the sky is blue, as opposed to, say, pink or orange or any other colour. Determining which set of contrasting propositions is relevant is key to satisfactorily answering the question. Crucially, this will itself be determined, either implicitly or explicitly, by the context in which the question is asked and the explanation sought. As such, the contrast class indicates the significance of context in the theory of why-questions, and so in the theory of

explanations. Interestingly, here van Fraassen cites Aristotle's theory of the four causes, discussed prominently in *Physics* (Book II, Chapter 3), as an early recognition of the role of context in the study of explanations, demonstrating, van Fraassen comments, "that he [Aristotle] recognized that in different contexts, verbally the same why-question may be a request for different types of explanatory factors" (p.131). In addition, the relation of explanatory relevance picks out why-questions in particular as significant in the theory of explanations. This relation captures the sense in which why-questions demand not only a statement of fact, but a statement of fact that satisfactorily *explains* features of the given context in which the question is asked. Thus, the question 'why is the sky blue' will not be satisfactorily answered by listing light-wave frequencies unless it is also made explicit (or is already understood) that differences in light-wave frequencies *cause* differences in the perception of colours.

With this emphasis placed on the context in which a why-question is asked, and the relationships between the propositions made salient by that context, in any answer to a why-question, van Fraassen's account explicitly incorporates non-propositional features into the analysis of questions. As such he offers a pragmatic characterisation of why-questions, applying this within the broader analysis of scientific inquiry. Here his departure from the exclusively proposition-relative analysis of questions and question-meaning can be observed. As van Fraassen himself notes, "[T]here are several respects in which why-questions introduce genuinely new elements into the theory of questions" (p.141) and we will return to this aspect of van Fraassen's account in Chapter Four. Van Fraassen's account of scientific inquiry in general, has been highly influential in contemporary philosophical discourse, both within the philosophy of science and, perhaps more peripherally, within the study of questions (Koura 1988; Cross 1991; Jaworski 2007). Moreover, this application of the theory of questions within the philosophy of science, while still drawing on a distinctively linguistic heritage, represents a notable departure from the contemporary discourse concerning questions which, as noted, has been overwhelmingly conducted within the philosophy of language and logic. This represents a significant development within the field.¹²

¹² A somewhat divergent, yet notable contribution to the contemporary philosophical study of questions and questioning, extending beyond the philosophy of language, is offered by the Belgian philosopher Michel Meyer (1950-present). Meyer's theory (1995), which he labels in French, 'problématique', addresses issues concerning the role of questioning in social and political contexts. Thus, Meyer's work extends the discourse concerning questions and questioning still further beyond the philosophies of logic and language. In *Of Problematology* (1995), he examines the notion that the question-answer relationship is a fundamental feature of our underlying social, political and scientific structures, and develops an in depth account of this. Notably, the question-answer relationship is still treated as central, although is applied by Meyer in an entirely new setting. A recent exposition of *Of Problematology*, conducted by Nick Turnbull, entitled *Michel Meyer's Problematology*

The present investigation likewise seeks to broaden the study of questions and questioning beyond the influence of the Linguistic Turn. The significance of linguistic analyses notwithstanding, at the very least, the study of questions exclusively from this perspective cannot be expected to tell us the whole story. The investigation of questions within the scientific domain demonstrates this. Similarly, the recent emergence of epistemological interest in questions offers an indication of their relevance in this field, signifying the beginnings of an epistemological turn for questioning.

AN EPISTEMOLOGICAL TURN FOR QUESTIONING (CE C21st)

Epistemological interest in questions has emerged in relatively recent history and is therefore, and unsurprisingly, not yet a topic considered central to epistemological discourse. Nonetheless, there have been a number of original insights and advances made in connection with the study of questions within epistemology in recent years, as well as some explicit recognition of the significance of questions in the epistemic domain. Franck Lihoreau, for example, comments in his introduction to a special volume of the *Grazer Philosophische Studien* (2008), dedicated to the topic of ‘Questions and Knowledge’ (the only volume of its kind to date):

“The topic of the relationships between knowledge and questions is of utmost importance to epistemology, philosophical logic, and the philosophy of language, as it raises a large number of issues in each of these fields and at their intersection” (2008, p.vii).

This represents clear recognition of the potential for fruitful inquiry concerning questions within epistemology. Lihoreau, moreover, observes the interdisciplinary nature of the topic within philosophy and his identification of philosophical logic and the philosophy of language in this regard mirrors those topics which have been covered in the preceding sections of this chapter, and so in the contemporary philosophical field. As a result of this philosophical heritage, the influence of theoretical reflections concerning the question as a linguistic entity continues to influence the

(2014), provides an illuminating English language account of Meyer’s key arguments, ideas and concepts in this regard. In addition, alongside his own significant contributions to the topic, Meyer has produced an edited collection on the topic of ‘Questions and Questioning’ (1988); the only broad-ranging philosophical collection of its kind to date. Here a wide selection of topics connected to the study of questions and questioning within the philosophies of science and language, as well as philosophical methodology are covered. As such Meyer’s work represents a major and highly novel contribution to the contemporary philosophical study of questions and questioning, albeit one that diverges to a significant degree from the tradition with which the present investigation is concerned.

study of questions, albeit now extending beyond the philosophy of language. A linguistic orientation to the study of questions is still dominant in the contemporary field.

In addition, the treatment of questions in epistemology in recent years has predominantly focused on the role of questions, understood from this linguistic perspective, in relation to a range of already established epistemological issues. Contributions to Lihoreau's special volume cover the relationship between questions and contemporary epistemological topics such as knowledge-how (Lihoreau), trivial knowledge (Montminy), the norm of assertion (Engel), the nature of factivity (Egre), epistemic value (Pritchard) and practices of epistemic evaluation (Hookway). The epistemological examination of questions has thus focused on the role that questions can and do play in explicating existing epistemological concepts, defending previously held positions and resolving current debates. Nonetheless, whilst present contributions to the discourse do not take the analysis of questions as their focus, the authors still seek to emphasise the significance of questions in the epistemic domain. This recent attention signifies the emergence of an interest in the topic of questions from an epistemological perspective.

Questions and the Analysis of Knowledge: Schaffer

Perhaps the most substantial attention that has been paid to questions within the context of an established epistemological debate can be found in the work of Jonathan Schaffer (2005, 2007, 2009). Schaffer assigns a central role to questions in his account of the nature of knowledge, placing questions at the heart of the traditional analytical project of defining knowledge. In his account, Schaffer argues that the traditional analysis of knowledge, construed as a binary relation between a subject and a proposition, represented by the logical form Ksp , ('*s* knows that *p*'), is misguided. In particular, he contends that both noun ascriptions, 'Ruby *knows the time*', and declarative ascriptions, 'Ruby *knows that* it is 5pm', encode the same fundamental knowledge relation as interrogative knowledge ascriptions, 'Ruby *knows what* the time is', 'Ruby *knows when* the train is due', 'Ruby *knows where* the train station is', etc. Schaffer argues that disproportionate attention has been paid to declarative ascriptions in the literature, given that they are "perhaps the rarest form in natural language" (2005, p.249), and maintains that interrogative knowledge ascriptions, ("perhaps the most frequent in natural language" (2005, p.250)), offer a more natural reading of the underlying logical relation for knowledge. Schaffer thus proposes a 'contrastive' account of knowledge which construes it as a ternary relation between a subject, a proposition, and a 'contrast proposition'.

The additional contrast proposition stipulated in Schaffer's account identifies the original proposition as standing in contrast to a contextually salient but incompatible contrasting

proposition, or set thereof. Contrastive knowledge is thus represented by the logical form $K_s p q$ ('s knows that p rather than q '). Schaffer argues that this ternary relation stands for all types of knowledge ascription. Thus, while noun and declarative ascriptions appear to have the surface logical form represented by the binary relation $K_s p$, they should in fact be understood in terms of the ternary relation that is more readily observable in interrogative ascriptions. This runs contrary to the prevailing view in the literature whereby instances of knowledge-*wh* (interrogative ascriptions) are reduced to instances of knowledge-*that* (declarative ascriptions) (Hintikka 1975; Higginbotham 1996; Stanley and Williamson 2001). This prevailing view, according to Schaffer, "consigns knowledge-*wh* to the status of the deviant and derivative" (2007, p.284). However, the contrastive account treats interrogative ascriptions as exhibiting a more accurate reflection of the underlying logical form of all knowledge ascriptions, thereby treating noun and declarative ascriptions as derivative instances of the $K_s p q$ relation observed in interrogative ascriptions. It is here then, that the centrality of questions in Schaffer's account can be clearly identified; *all* knowledge ascriptions are understood as operating within the logical framework of *interrogative* ascriptions which encode the $K_s p q$ relation. In order to be said to *know that* it is 5pm, Ruby must know that it is 5pm, *rather than*, say, 5:30pm, when her train is due. In other words, in order to satisfy the declarative ascription, 'Ruby *knows that* it is 5pm', she must be able to answer the question, 'what is the time'. Schaffer thus argues that "knowledge is a *question-relative state*" (2007, p.383, emphasis added). In so doing he places questions at the heart of the traditional analytical project of defining knowledge. This represents a novel and revisionary proposal within the contemporary debate.

Given its revisionary nature, Schaffer dedicates a relatively significant proportion of his writing on contrastive knowledge to motivating the contrastive account and dealing with objections (2004, 2005). In particular, he argues that the account accurately reflects our practices of knowledge ascription; we attribute knowledge of X to a person on the basis that they can provide an answer to our question(s) about X. If a person cannot provide us with an answer, then we do not attribute knowledge. Relatedly, understanding knowledge ascriptions in contrastive terms allows us to make sense of our ability to track and measure progress during an inquiry. The inclusion of the contrast proposition provides us with a fine-grained indicator of which stage of an inquiry has been reached. We can say, for example, 'Ruby knows that the train is leaving after 5pm' (rather than before 5pm), but she doesn't yet know that the train is leaving at 5:30pm' (rather than, say, 5:40pm). Crucially, it is the presence of the contrast proposition that allows us to recognise and mark this kind of distinction as an inquiry progresses. Thus, maintains Schaffer, "differences at q correspond to different stages of inquiry" (2005, p.242).

In addition, Schaffer (2005) argues that differences at q can also affect the *truth-values* of knowledge ascriptions (p.246). This is one of the most compelling features of the contrastive account. Schaffer offers examples of knowledge ascriptions that we would intuitively judge to differ with respect to their truth-values and argues that the traditional binary account of knowledge cannot account for this. He contends, for example, that the ascriptions, ‘Ann knows whether there is a goldfinch or a raven in the garden’, ‘Ann knows whether there is a goldfinch or a canary in the garden’, and ‘Ann knows whether there is a goldfinch in the garden or at the neighbour’s’, can intuitively turn out different truth values (p.247). Ann may be able to tell the difference between a goldfinch and raven easily, but not between a goldfinch and a canary. Alternatively, she may be able to identify the goldfinch, but not know the landscape well enough to know whose garden it is in. Assuming there is indeed a goldfinch in the garden, the binary account looks to be inadequate in this case. The $K_{\mathcal{C}}p$ relation cannot mark a difference in the truth-values of these ascriptions because this difference does not arise from the subject, Ann, or the true proposition, ‘there is a goldfinch in the garden’. Rather it arises, as Schaffer maintains, from the different contrast propositions in play in each case. Without the inclusion of the contrast proposition, each of these distinct knowledge ascriptions comes out as materially equivalent since they are all equivalent to the claim, ‘Ann knows that there is a goldfinch in the garden’. This appears to be the wrong result given their intuitive inequivalence. Schaffer labels this problem for defenders of the binary account, the ‘problem of convergent knowledge’ and refers to it in several places (2005, 2007, 2009) in order to motivate and defend contrastivism.

Despite his pre-emptive defence of contrastive knowledge, Schaffer’s account has nonetheless come under scrutiny in the literature (Baumann 2008; Brogaard 2009; Kallestrup 2009). Perhaps the most notable criticism for the present investigation is offered by Jesper Kallestrup (2009) who targets the problem of convergent knowledge. Kallestrup argues that there is a response to this problem for advocates of a reductive view of knowledge-*wh* ascriptions seeking to preserve the binary knowledge relation. He maintains that cases such as those presented by Schaffer can be understood in terms of the binary relation by including the contrast set within the original proposition, p . So, in the goldfinch case, for example, the claim ‘Ann knows whether there is a goldfinch or a raven in the garden’, reduces to the claim, ‘Ann knows that there is a goldfinch in the garden *and* that there is *not* a raven in the garden’. The proposition, p , thus becomes a conjunctive proposition which includes the negation of the salient incompatible contrasting proposition. This preserves the binary $K_{\mathcal{C}}p$ relation and also accounts for the inequivalence of the propositions in convergent knowledge cases given that the claim, ‘Ann knows that there is a goldfinch in the garden and that there is not a raven in the garden’, is clearly inequivalent to the claim, ‘Ann knows that there is a goldfinch in the garden and that there is not a canary in the garden’, which is what

the claim, ‘Ann knows whether there is a goldfinch or a canary in the garden’, reduces to on this account.

In response to this, Schaffer (2009) argues that Kallestrup’s new interpretation of the binary knowledge relation fails to adequately capture the substantial difference between the knowledge ascriptions in play. The ascriptions used in his examples, Schaffer contends, are intended to represent knowledge that is relatively easy in contrast to knowledge that is substantially more difficult to attain. Due to the fact that Kallestrup’s interpretation includes the contrast proposition within the original proposition as a conjunct, any two instances of convergent knowledge, however far apart intuitively, can be attained relatively simply in virtue of simple logical manoeuvres, for example, by eliminating the negated conjunct; as Schaffer puts it, convergent knowledge claims are separated merely “by a dash of easy knowledge and a splash of trivial reasoning” (p.494). On the contrastive account, argues Schaffer, the substantial difference between knowledge claims is preserved. In addition, this result exposes a further problem for Kallestrup’s account concerning the role that knowledge ascriptions play in our epistemic communities. The contrastive account was partly motivated by the fact that it aligns with our practice of picking out knowers on the basis of their ability to answer relevant questions. By rendering the attainment of knowledge in cases of convergent knowledge relatively easy, this practice appears to be obsolete; there is no need to pick out expert birders as those who will know whether there is a goldfinch in the garden or a canary, if this knowledge is easily accessible to anyone with some basic information and minimal rational competence. These issues for the binary interpretation of convergent knowledge ascriptions suggest that contrastivism continues to offer a compelling account of the knowledge relation. This will be examined further in Chapter Four.

Before moving on, however, it is also worth noting a more general criticism directed towards contrastivism concerning the contextualist nature of the contrastive account. As Schaffer himself notes, contrastivism is a form of contextualism (2009, p.485). As such, it can be seen to inherit some of the issues associated with contextualist views in general. Schaffer acknowledges this and attempts in a number of places to both elucidate the relationship between contrastivism and contextualism and defend the former from challenges faced by the latter (2004, 2008, 2009). With respect to their relationship he contends that it is “a complicated matter and...that these two doctrines are best regarded as independent views of distinct subject matters” (2008, p.355). Thus, according to Schaffer, contrastivism should be understood as a metaphysical thesis concerning the structure of knowledge, while contextualism concerns “the semantics of the word ‘know’” (2008, p.355). This highlights a significant distinction between the two positions providing some buffer for contrastivism against challenges that directly target contextualism.

Further to this, in a collaborative paper with Joshua Knobe (2012), Schaffer examines a number of recent empirical challenges to contextualism and argues that, where standard contextualist theories suffer in light of the empirical evidence, contrastivism successfully predicts the right results. This empirical challenge to contextualism has emerged from several studies (Buckwalter 2010; Feltz and Zarpentine 2010; May et al 2010) designed to test intuitions in standard contextualist scenarios such as Keith DeRose's (1992) famous 'bank cases'. In these cases, the stakes associated with a particular instance of knowledge, for example knowledge that the bank will be open on Saturday, are either relatively low or relatively high. Contextualists typically maintain that when faced with low stakes cases people are intuitively more willing to attribute knowledge than when faced with high stakes cases. Contrary to this, empirical studies appear to show that knowledge ascriptions in these cases do not vary according to the stakes in play. This raises a potent challenge for contextualism which has traditionally relied heavily on claims about intuitive judgements in order to motivate the contextualist position. Schaffer and Knobe, however, maintain that contrastivism can deal with the empirical challenge and moreover, does so more successfully than either standard contextualism or invariantism. They argue that, by adapting the cases in order to manipulate the *salient contrast* in play, either explicitly or implicitly, intuitions regarding knowledge attributions fall into a predictable and unified pattern. Schaffer and Knobe conduct their own empirical studies to support this conclusion demonstrating that there does indeed appear to be a 'contrast effect' and, in addition, a 'salience effect', which was previously missing from the empirical studies. On this basis, they contend that contrastivism succeeds in the face of empirical evidence, where both contextualism and invariantism suffer. In addition, they maintain that the presence of the contrast effect allows contrastivism to recognise more fine-grained or 'local' distinctions between claims to knowledge than those identified by rival theories, highlighting a further distinct advantage of the contrastivist position. While further discussion of this goes some way beyond the scope of the present investigation, it serves usefully to demonstrate subtle but important distinctions between contrastivism and contextualism, and indicates the ability of the former to defend itself independently from challenges raised against the latter.

As noted, I will return to Schaffer's contrastive account in Chapter Four, drawing out the centrality of questions in the contrastivist picture in line with the focus of the present investigation. Whilst the ultimate target of Schaffer's position is an account of knowledge, as opposed to an account of questions, the central role assigned to questions in this account is nevertheless both novel and noteworthy within the field and is thereby of significance for an investigation of questioning in the contemporary context.

Knowledge and the Analysis of Questions: Hintikka

In contrast to Schaffer's treatment of questions in a long-established epistemological debate, an approach which takes questions and questioning as the explicit and central subject of epistemological analysis can be identified by returning to Hintikka and the Interrogative Model of Inquiry (IMI) (1981, 1984, 1985, 1989). As well as combining erotetic logic with deductive logic, Hintikka applies the IMI within a broader range of contexts than has been explored previously in the development of erotetic logic. His work concerns not only the logic of questions and answers but the role of questions in argumentation and scientific inquiry. Here then, the relationship between questions and argumentation arises once more, as a focal point for philosophical interest in questions. Hintikka's contribution is particularly notable within the epistemological context given the novelty of his explicit advocacy of questions and questioning as a central focus of epistemological inquiry. He contends, for example, that "[A]ny satisfactory theory of questions and answers must be based on a good theory of knowledge and knowing" (1983, p.159). For Hintikka then, in direct contrast to the approach taken by other contemporary authors such as Schaffer (2005), a theory of knowledge is sought in order to inform a theory of questions and answers, not the other way around.

As with Schaffer, however, Hintikka's seminal contribution to the contemporary study of questions and questioning is still firmly rooted in the logical analysis of questions and answers. As outlined previously, the IMI provides a context for the examination of questions and questioning strategies within the logical parameters of a combined erotetic and deductive logic. Hintikka then extends this examination beyond the fields of logic and language, applying the IMI within the scientific and, more broadly, epistemic domains. These applications of erotetic logic were also observed in the work of van Fraassen (1980). Like van Fraassen, Hintikka similarly conceives of scientific inquiry as essentially defined by the process of question and answer and employs this notion even more centrally than van Fraassen, when presenting his overall picture of scientific endeavour. Hintikka thus recommends that, "science is considered as a process of information-gathering and problem-solving through questioning" (1981, p.69). Conceiving of scientific inquiry in this way, he argues, makes scientific progress an altogether less mysterious phenomenon and science policy and planning correspondingly more manageable and predictable. This is because, on the questioning model that Hintikka advocates, the progress we make in scientific inquiry is driven and shaped by the questions we choose to ask. It is "by choosing the right questions to ask, and not by trying to anticipate the answers" (p.71) that we can determine and, at least to some extent, predict the path of scientific progress. Hintikka conceives of scientific observations "as answers to questions put to nature" (p.79) and argues that this establishes both the concept- and theory-ladenness of

observations. If observations are answers to questions then they are “automatically relativized to a given conceptual framework” (p.79); the conceptual framework supplied by the questioner in posing the question. This includes most prominently the questioner’s background knowledge which is built into the fundamental presupposition(s) of the question. Hintikka’s questioning model thus provides a way of understanding the subject-relative nature of scientific progress. In doing so, he aims to advocate a broadly Kantian picture of scientific endeavour which emphasises “the active role of our own thinking in science” (p.81).

With this in mind, Hintikka is broadly critical of the approach to the study of questions that has been taken by logicians and philosophers of language. In particular, he argues that exclusively linguistic analyses fail to take account of the epistemological foundations of questions and questioning, and that insight into the logic of questions and answers has been inhibited by this. “One might be tempted”, he contends in reference to stilted progress that he identifies in a number of areas of erotetic logic, “to blame these failures to a neglect of the epistemic character of questions” (2007, p.5). This is clearly demonstrated, for Hintikka, by considering where exclusively logic-based approaches to a central problem in the study of questions, which he calls the ‘answerhood problem’, go wrong. The answerhood problem is the problem of determining when a response to a question can be rightly considered a real or complete answer to it. The solution, Hintikka maintains, depends crucially on the epistemological nature of questioning. A question, he contends, is essentially a request or command by the questioner for a change in their epistemic state. When one asks ‘when does the train leave’, one is looking to change one’s epistemic state in order to be able to truthfully assert, ‘I know when the train leaves’. Exclusive emphasis on the logical form of questions, however, “neatly overlooks the first and foremost function of questions as steps in information-gathering” (1981, p.74). Consequently, according to Hintikka, no satisfying solution to the answerhood problem has been achieved by logicians precisely because the solution requires consideration of the essentially epistemic function of questions. “Because of this essential function of questions”, Hintikka argues, “their answers have to be characterized (partly) by reference to what the questioner knows.” (p.75). In order to determine when a response is a real or complete answer, then, one must take into account the epistemic state of the questioner. It is only by appreciating what will count as an answer *for them*, that one can establish what will count as a real or complete answer at all. Crucially, Hintikka comments;

“one of the most important features of the questioning model of inquiry is the way in which questions determine (partly) their answers” (1981, p.71).

This construal of the question-answer relationship is in many respects in stark contrast to the dominant approach taken by logicians which defines a question as a property of its answers, suggesting that answers determine questions, rather than the other way around. This is crucial, Hintikka argues, to understanding why exclusively logical analyses fail to fully capture the nature of the question-answer relationship; whilst deeply rooted in logical formalisms, the task is also, fundamentally, an epistemological one. This epistemological foundation requires us to recognise that the adequacy or completeness of an answer depends, in important respects, upon the question. When one takes into account the applications of a theory of questions in epistemology or the philosophy of science, Hintikka adds, the significance of this is manifest. However, these applications, for example, for science policy and planning, have not typically been taken into account by logicians or linguists studying questions.

In addition to his criticism of an exclusively logic-based approach to the study of questions, Hintikka similarly criticises epistemology, more generally, for its inattention to the significance of questions and questioning. As such, he seeks to reorient the field towards the study of questioning, even referring, in passing, to the ‘epistemology of questioning’ (for example, 2007, p.6). He maintains that the epistemological enterprise at large suffers from an exclusive and misguided focus on the analysis of ‘contexts of justification’, as opposed to ‘contexts of discovery’ (2007). The former concern what it takes to be justified in one’s beliefs and this issue has indeed received substantial attention in contemporary epistemology. The latter, in contrast, concern what it takes to arrive at new beliefs or uncover new information. These issues have not been addressed in any detail within epistemology, based, according to Hintikka, on the mistaken notion that “no rules can be given for genuine discoveries” (p. 1). However, the contexts of justification, he maintains, cannot be properly examined or elucidated without reference to the process of discovery by means of which the beliefs to be justified were formed and the information on which they are based revealed. Indeed, Hintikka emphatically contends:

“Surely the first order of business in any genuine theory of knowledge – the most important task both theoretically and practically – is how new acquired, not merely how previously obtained information can be evaluated” (2007, p.17)

The logic of questions and answers presented in the IMI is intended to provide a means of explicating the process of discovery by providing a set of rules, based on epistemological foundations, which determine how information is gathered through the asking and answering of questions.

Interestingly, Hintikka also argues that epistemologists should reclaim the notion of information, which he employs throughout his own work, from its current home, in particular, within computational and systems theories. He maintains that this notion, rather than that of knowledge or belief, lies at the heart of epistemological theorising and that its use in a wide variety of other disciplines, from mathematics to psychology, raises important questions regarding the nature of information in the ‘information age’, marking “a most urgent challenge to philosophical analysis” (2007, p.189). This challenge is one that is manifestly fit for epistemology but has not, thus far, been taken up by contemporary epistemologists. As such, Hintikka argues for no less than a paradigm shift within epistemology, based on the central epistemological import of information-seeking by means of questioning. On this basis he can rightly be viewed as one of, if not the foremost contributor to the discourse on questions and questioning emerging at the intersection of epistemology and the philosophies of logic and language. As will become apparent throughout the following investigation, whilst the present discussion does not draw directly (or even indirectly) on Hintikka’s work, the epistemological examination of questioning that is presented aligns closely with many of the core sentiments outlined above, including in the use of information as a central epistemological concept. With this in mind, two important contemporary shifts in the epistemological landscape can now be examined demonstrating a distinct expansion of the field and providing a timely philosophical context for the epistemology of questioning, advocated by Hintikka and advanced in the present investigation.

New Perspectives for the Epistemology of Questioning

The field of epistemology has undergone a number of significant shifts in recent decades. Arising in response to a period of intense focus on the analytical project of defining knowledge, following the publication of Edmund Gettier’s ground-breaking 1963 challenge to the traditional justified true belief formulation, a growing number of authors have sought to broaden the horizons of epistemological inquiry. Notably, this has given rise to increased interest in the analysis of a range of epistemic goods other than knowledge such as understanding (Elgin 1996; Riggs 2007; Grimm 2010), wisdom (Whitcomb 2010; Grimm *forthcoming*) and information (Kerr and Pritchard, 2012; Greco *forthcoming*), in normative questions concerning the value of these goods (Haddock, Millar and Pritchard 2009; Greco 2010b; Grimm 2012), and in epistemic evaluation more broadly (Alston 2005; Hookway 2008). Commenting on this shift, Wayne Riggs (2008), remarks:

“While value-driven epistemology need not deny the importance or even centrality of knowledge and the pursuit of an analysis of knowledge to epistemology, at the very least it argues for a widening of epistemological interest to other cognitive phenomena.” (2008, p.300).

The emergence of both virtue and social epistemology in the contemporary field over the past thirty years aligns closely with these diversified epistemological aspirations. From these two distinct perspectives the traditional analytic project of epistemology, with its exclusive emphasis on knowledge, has become increasingly exposed. As Ben Kotzee (2013) comments, “traditional epistemology...has come under attack” (p.157). Virtue and social epistemology share much in common, providing novel and complementary philosophical perspectives from which the traditional problems of epistemology can be examined, and a variety of fresh challenges emerge. Crucially, these movements offer a valuable theoretical framework for the epistemology of questioning, which in itself represents a further broadening of the epistemological terrain.

Virtue Epistemology

The virtue epistemology movement, as it was first conceived in the 1980s, offers a novel approach to addressing the traditional problems of analytic epistemology. In particular, a number of prominent virtue epistemologists have sought to develop a novel account of the nature of knowledge on the basis of central virtue epistemological commitments (Zagzebski 1996; Sosa 2007; Greco 2010). As such, a ‘virtue-theoretic’ approach to the analysis of knowledge has been advocated. In line with the contemporary broadening of epistemological concerns, a parallel approach has also been developed for the analysis of alternative epistemic goods such as understanding (Riggs 2007; Pritchard 2009). In addition, in recent years the movement has given rise to a number of new and independent projects concerning the analysis of virtue epistemological constructs themselves. There has, thereby, been a move to establish virtue epistemology as an independent or ‘autonomous’ area of epistemological inquiry (Roberts and Wood 2007; Baehr 2011). With this orientation, the movement can be viewed as a departure from traditional epistemology, taking a novel and diverse range of virtue-based concepts as the core objects of analysis. Likewise, a growing interest in the applications of virtue epistemology beyond philosophy represents a further departure from traditional analytic epistemology. This is an area of increasing interest in particular for applied epistemologists and education theorists (Baehr 2011; MacAllister 2012; Kotzee 2013).

The virtue epistemology movement can be characterised by two key notions. Firstly, that the *epistemic agent*, the person who knows or understands, as opposed to epistemic goods, knowledge and understanding themselves, is the primary subject of epistemic evaluation (Code 1984; Zagzebski 1996; Sosa 2007; Greco 2010). This distinguishes virtue epistemology starkly from

traditional epistemology which undeniably places an emphasis on the latter and, in particular on the conditions for knowledge. As Heather Battaly (2008) observes:

“virtue epistemology takes...agent-evaluation – to be more fundamental than justification, knowledge, or any other type of belief-evaluation; whereas belief-based epistemology takes justification and knowledge – types of belief-evaluation – to be more fundamental” (p. 640).

This reorientation from the evaluation of epistemic goods to the evaluation of epistemic agents represents a fundamental shift in epistemological perspectives, drawing as much on virtue ethics, as on traditional epistemology, and reveals close parallels between these corresponding ethical and epistemological standpoints. Secondly, and similarly arising from its close connection to virtue ethics, central to the virtue epistemology movement is the notion of an *intellectual virtue*. Intellectual virtues are understood broadly as the intellectual skills or traits by which a person comes to possess epistemic goods such as knowledge and understanding, and these form the basis for the agent-evaluation that lies at the heart of virtue epistemological theorising. The notion of an intellectual virtue was first revived from its Aristotelian origins in Ernest Sosa’s ground-breaking 1980 paper, ‘The Raft and The Pyramid’, and as such can be identified at the foundations of the virtue epistemology movement. This focus on the skills or traits of the agent once again distinguishes virtue epistemology from traditional epistemology, and provides the impetus for the move towards autonomous virtue epistemology mentioned above. Paradigm intellectual virtues that have received notable attention in the literature to date include traits such as open-mindedness, autonomy, rigour, intellectual honesty and intellectual humility (Riggs 2010; Robert & Wood 2007; Baehr 2011). By assigning a central role to intellectual skills and traits, virtue epistemologists have affected a move away from the exclusive analysis of abstract epistemic goods, towards an examination of the intellectual skills and virtues of the agent involved in acquiring them.

Focusing on the role of the intellectual virtues, and modelling itself on the domain of virtue ethics, virtue epistemology has uncovered fertile ground for the fresh analysis of prominent epistemological concepts. Notably, Wayne Riggs (2002), Ernest Sosa (2007) and John Greco (2010) have all advanced the virtue epistemological project in relation to the traditional analysis of knowledge by developing forms of reliabilism based on the central notions of virtue epistemology. For these theorists the ascription of knowledge is based on its being creditable to the knower; knowledge must come about as a result of the knower’s cognitive agency. Here then, the characteristic virtue epistemological focus on the intellectual skills of the agent is seen and knowledge is defined as intellectually virtuous true belief. This position has subsequently led to a virtue-theoretic account of the value of knowledge which relies on the key premise that knowledge

is a form of intellectual achievement for the knower, as Greco puts it, “a kind of success from ability” (2010, p.3). Here the inherently normative dimension of virtue epistemology is brought to the fore. Greco argues that there is a strong intuitive case for regarding achievements as finally valuable and, if knowledge is a kind of achievement and achievements are finally valuable, knowledge must also be finally valuable. A parallel argument has been offered in accounting for the value of understanding (Pritchard, 2010c). These applications of the virtue-theoretic framework to contemporary epistemological debates demonstrate the prevalence and promise of placing the agent at the centre of the discourse, and employing the language of intellectual abilities and virtues. Furthermore, it is virtue epistemology’s emphasis on the intellectual skills and traits of the agent that offers a rich theoretical context for the epistemology of questioning.

Questioning and Virtue Epistemology

Questioning has a distinctively epistemic orientation; broadly speaking, we ask questions in order to find things out. From the agent’s perspective, questioning plays a central role in the successful navigation of everyday epistemic terrain. This marks questioning out as a prime subject for investigation within the virtue epistemological framework which places an emphasis on the intellectual skills and traits of the agent in their epistemic endeavours. Even on a preliminary glance, questioning looks to be precisely the type of intellectual activity with which the virtue epistemologist is concerned. It forms an integral part of our epistemic lives and constitutes a prominent feature of our epistemic agency.

Thus far, limited attention has been paid to the practice of questioning in virtue epistemology. Perhaps the most explicit support for an investigation of questioning from this perspective can be found in Christopher Hookway’s (1996) contention that questioning plays an integral role in epistemic evaluation, a subject that itself features centrally in the discourse. Hookway claims that “[T]he central focus of epistemic evaluation is also an activity, the activity of inquiry” (p.7) and maintains that:

“[I]gnoring the role of questioning encourages a very static conception of mind and disguises from us the extent to which thinking is an active process of raising questions and trying different ways of answering them” (1996, p.11).

Here, Hookway is drawing overt attention to the active and permeating role that questioning plays in our cognitive lives. Whilst he does not pursue this topic in depth in further work, a case for the epistemological significance of questioning is nonetheless manifest in these remarks, and the appeal for greater attention to be paid to this is clear.

A further subtle impetus for the study of questioning in virtue epistemology can be observed in the suggestive comments of a number of other contributors throughout the discourse. William Alston (2005), for example, remarks, “the study of inquiry provides a rich harvest of objects of epistemic evaluation” (p.4) and, as with Hookway, highlights the distinctively evaluative concerns that accompany this. Similarly, Schaffer (2006) asserts that “[W]hat we should strive for epistemically is to be better at inquiry” (p.99) and here we see an enticing allusion to the skill involved in successful inquiring. Lastly, Mark Kaplan (1985), in a discussion of post-Gettier epistemology during the early stages of the virtue epistemology movement, is seen to comment:

“insight into the phenomenon of inquiry was there to be had for those who looked before 1963, and there is every reason to suspect that it awaits us now” (1985, p. 363).

Whilst all of these comments explicitly concern the significance of *inquiry* in epistemology, as opposed to questioning specifically, they nonetheless demonstrate a characteristic virtue epistemological interest in the processes by which we come to form beliefs and acquire knowledge. It is, after all, the manner in which an agent comes to know which, for the virtue epistemologist, provides the basis for an evaluation of the agent’s knowledge claims. Questioning, as an intellectual skill, plays a prominent, perhaps central role in this process. This draws attention to the significance of questioning within the virtue epistemological framework, and to the salience of virtue epistemological constructs as a basis for the epistemology of questioning.

Social Epistemology

Alongside virtue epistemology, the social epistemology movement likewise first emerged in the 1980s and similarly represents a broadening of epistemological inquiry beyond the traditional analysis of abstract epistemic goods. The origins of the movement can be identified in contemporary epistemology in a special edition of the journal *Synthese* (1987) in which contributors presented a series of papers examining the relationships between knowledge and the social contexts in which it is acquired, disseminated and controlled (Cohen 1987; Kornblith 1987; Schmitt 1987), as well as the nature and status of knowledge within groups of individuals, such as a scientific community (Lehrer 1987; Goldman 1987; Fuller 1987; Gilbert 1987). The social epistemology movement is thus at least in part grounded in a concern with the production and regulation of knowledge, particularly scientific knowledge, within society, revealing the inherently applied nature of the discourse.

Following the *Synthese* special edition, the publication of Steve Fuller's 1988, *Social Epistemology*, and Alvin Goldman's 1999, *Knowledge in a Social World*, over a decade later, have provided two seminal, and at times conflicting visions of the social epistemology movement. On the one hand, Fuller (1987, 1988) presents a radical revisioning of traditional epistemology in response to the notion that knowledge is inherently and inescapably bound to and determined by the operations and systems of the social world. He defines the central question of social epistemology as one concerning how the pursuit of knowledge should be organised given the circumstances in which it is undertaken by groups of individuals with varying degrees of cognitive ability and access to resources (1987). As such, Fuller conceives of social epistemology as providing the impetus for a fundamental reorientation of epistemology towards the practical and normative consideration of how knowledge is best produced, managed and distributed. "As a result," he maintains, "the social epistemologist would be the ideal epistemic policy maker" (1987, p. 145). Fuller's vision of the movement, albeit radical, reflects its broadly sociological and political origins and aspirations. "Indeed", as he contends in a 2002 foreword to the second edition of *Social Epistemology*, "a "truly social epistemology" would be an exercise in constitution making" (p. xix).

In contrast, in *Knowledge in a Social World* (1999) Goldman presents a detailed theoretical model for the social epistemologist, focusing on the role of truth and truth-seeking practices in social contexts. His aim, as he asserts it, is to "widen epistemology's vista" (p. vii) and "construct a unified framework and a more detailed agenda for this epistemological expansion" (p. viii). Having developed such a framework, a significant final portion of *Knowledge in a Social World* is dedicated to exploring the applications of this framework within the non-philosophical domains of law, science, politics and education. The framework itself, however, builds naturally on the traditional epistemological heritage from which it has emerged. Goldman's social epistemology can therefore be characterised as a broadening of epistemological inquiry in order to encompass significant sociological influences on the field, as opposed to the wholesale reorientation of epistemological perspectives advocated by Fuller.

Despite these divergences, Fuller and Goldman, along with their contemporaries in the movement, are united in their concern for the analysis and treatment of epistemic goods and processes in relation to the social contexts in which they exist and function. Social epistemologists advocate a move away from what Goldman (1999) has termed 'individualistic epistemology'. This traditional individualistic approach focuses on the analysis of epistemic goods or agents in isolation from the world which they inhabit. As Kotzee observes:

“‘Individualist epistemology’ amounts to the study of justification—the study of how individual thinkers should gather and use evidence in order to determine what to believe” (2013, p. 158).

Social epistemologists, in contrast to this, argue that the analysis of epistemic goods or agents must take account of the wider social context in which they are embedded. In asserting his motivations for a recent influential contribution to the field, *Relying on Others* (2010), Sanford Goldberg provides a succinct statement of this social epistemological agenda:

“the fact that we rely on others for so much of what we know about the world should prompt a reconsideration of the individualistic orientation of traditional epistemology” (2010, p.1).

The social epistemology movement has thus provided an apt forum for a growing body of literature concerning everyday epistemic interactions and practices, focusing, in particular, as Goldberg does, on the role of testimony in the exchange and production of epistemic goods (see also, Wellbourne 1986; Fricker, E. 1987; Elgin 2002; Fricker, M. 2008). A now well-known distinction regarding the epistemic status of testimony in the social epistemology literature, first coined in 1973 by Cecil Coady, is that between reductionists and anti-reductionists. While reductionists maintain that testimony alone cannot provide sufficient justification for a hearer’s coming to believe, anti-reductionists argue that the social role of testimony provides the hearer with such justification, thereby placing a significantly lighter burden on their part in testimonial exchange. This debate concerns the fundamental conditions under which we should believe what others tell us and, as such, has featured centrally throughout social epistemological discourse since its origins. More recently, the discourse has extended further to consider the nature of disagreement between agents with the same information and reasoning capacities, known as ‘epistemic peers’ (Christensen 2009; Sosa 2010; Ballantyne and Coffman 2012; Christensen and Lackey 2013). This debate similarly concerns our everyday epistemic interactions and thereby sits well within the theoretical context of social epistemology. As with virtue epistemology, debates such as these, at the heart of social epistemology, have informed traditional epistemological discourse, as well as generated independent and novel lines of epistemological inquiry. As yet, however, the inherently social interactions involved in the practice of questioning have not been explored in depth and, once again, in conjunction with virtue epistemology, this contemporary movement provides a ripe theoretical context for the epistemology of questioning.

Questioning and Social Epistemology

Questioning is a common feature of our daily epistemic interactions. It is an inherently social practice, perhaps paradigmatically so. This identifies questioning as a topic of central significance within the social epistemological framework which highlights the epistemic significance of social interactions and advocates, at a minimum, for greater consideration to be paid within epistemology, to the social context in which epistemic encounters take place. The prominent focus on testimony in the social epistemology literature to date demonstrates the centrality and import of this social epistemological agenda for both established and emerging debates within epistemology. Given the key role that questioning often plays in the generation of testimony, a similar focus on this practice is surely nonetheless warranted; a claim that will be explored in further detail in the following chapter. Furthermore, questioning features centrally in the process of determining and defining the parameters of knowledge and information acquisition within a wide range of social settings, including, but not limited to, scientific and political endeavour. As such, the study of questioning, arguably more so than testimony, captures the sociological and political aspirations reflected, at least, in Fuller's original vision of the social epistemology movement.

As with virtue epistemology, limited attention has been paid to the role of questioning in social epistemology thus far. One of the most overt references to the practice can be found in the opening pages of *Knowledge in a Social World* (1999) where Goldman offers an explicit, albeit fleeting suggestion of the significance of questioning in this domain. He comments; “[Q]uestion asking is a universal feature of human communication and the prototype of a truth-seeking practice” (p.3). Goldman's primary aim is an examination of truth within social contexts and interactions, rather than question asking, and as such he does not pursue an in depth treatment of questioning in the remainder of the work. Nevertheless, this remark provides a clear indication of the potential significance of questioning within social epistemological discourse. As Kotzee (2013) notes, “Goldman thinks that epistemology should study the social practices that we engage in to share true information between people” (p.158-159). Goldman's identification of questioning as the ‘prototype of a truth-seeking practice’ is highly therefore significant. On this basis, questioning is a clear candidate for further examination within the social epistemology movement.

A number of other social epistemologists, working in particular within the testimony debate, can be seen to provide an implicit sense of the significance of questioning in this context. Michael Wellbourne, for example, in his influential work *Community of Knowledge* (1986), argues for the essentially communal nature of knowledge based on the transmission of beliefs through testimony. As noted, this transmission is frequently facilitated by questioning and thus questioning can be seen

to play a central, if not explicitly acknowledged role in social epistemological interactions. John Greco (forthcoming) also examines the nature of testimonial knowledge in this regard and maintains “a special role for testimonial knowledge in the distribution of information within a community of knowers” (p.1). Again, the role of questioning in this distribution is arguably central and, although not discussed explicitly by Greco, may be seen to feature implicitly in his account of distinctive roles for knowledge. Lastly, working somewhat outside of mainstream social epistemological discourse, Timothy Kenyon (2013) has recently observed the relevance of questions and questioning for social epistemology in relation to the testimony debate. Kenyon notes:

“[W]e craft questions to elicit answers in useful forms, and we time those questions, and direct them at particular interlocutors, in order to improve the credibility of the answers as well” (p.74).

Kenyon explicitly identifies questions and questioning as playing a central role in our social epistemic interactions, highlighting the relevance of questioning within the social epistemological framework. These authors, alongside others in the testimony debate, can be seen to provide a rich groundwork for the investigation of the relationship between testimony and questioning, once again indicating the relevance of the epistemology of questioning within social epistemology.

Virtue and social epistemology provide a fitting contemporary theoretical context for the epistemology of questioning. Both seek to broaden epistemological inquiry beyond the exclusive analysis of abstract epistemic goods, and to acknowledge these as situated in relation to the people that seek to acquire them, and the world in which they live. In addition, these movements share a more natural affinity with applied philosophical discourses than their post-Gettier predecessors of the past fifty years. The significance of questioning in relation to these movements has been observed. The stage has now been set for the epistemology of questioning.

CHAPTER SUMMARY

Key insights from Chapter Two can now be summarised. Contemporary philosophical interest in questions emerged in the twentieth century, following the significant influence of the Linguistic Turn on Western philosophical discourse. This motivated a body of work concerning the analysis of questions in formal logic, known as erotetic logic. Drawing on the tools and methods of propositional logic, erotetic logicians defined questions in terms of their answers. Following this, philosophers of language extended the study of questions beyond the analysis of their logical structure to analyses of their semantic and pragmatic features. The question-answer relationship was again taken as central in these contexts, reflecting the theoretical heritage of the discourse. In

the latter half of the twentieth century, the study of questions and questioning reached beyond the philosophy of language, with investigations into the role of questions in both scientific and sociological settings. More recently, this diversified philosophical interest in questions has extended to epistemology, suggesting the beginnings of an epistemological turn for questioning. Two contemporary epistemological movements provide a timely theoretical context for the epistemology of questioning. Virtue epistemology draws attention to the significance of the agent in their epistemic endeavours, whilst social epistemology highlights the significance of the social context in which these endeavours take place. The study of questioning, in light of these movements, looks to offer further promising developments for the contemporary philosophical study of questions and questioning.

Chapter Three

What is Questioning

Questioning is ubiquitous. It enters into our daily lives in a wide variety of forms and circumstances and allows us to interact with each other both meaningfully and coherently. This is the case regardless of whether we are strangers, friends, or even speaking the same language. Questioning is an integral part of our everyday lives. Moreover, questioning plays a central role in philosophical, as well as everyday inquiry. Despite this, philosophical attention paid to questioning has been limited. Only in the latter half of the twentieth century has there been any sustained philosophical inquiry into the nature of questions or questioning and much of this work has focused on the formal logical or linguistic analysis of questions. This work has undeniably provided a number of valuable insights into the nature of questions. However, the logical and linguistic analysis of questions captures only one aspect of an expansive philosophical landscape in which questioning is understood as an indispensable epistemic practice.

This chapter will extend the philosophical study of questions and questioning by examining the *nature of questioning* within a contemporary epistemological context. Characterisations of both questioning and questions will be presented. First and foremost, I will investigate what type of thing questioning is, and will argue that it is best understood as a *practice*. The nature of practices will be examined, highlighting their social dimension, and particular attention will be paid to questioning as an *epistemic practice*. This will lead to the second stage in the investigation and an examination of what questioning does. I will argue that questioning has a characteristically epistemic function, identified as that of *eliciting information*. This will lead to an account of questions themselves, identified as the medium through which questioning fulfils its characteristic function. Here the investigation will draw on the results of a large online survey in support of the characterisation of both questions and questioning.

WHAT TYPE OF THING IS QUESTIONING

Questioning has thus far been informally identified as an *epistemic practice*. Having established only a preliminary definition of epistemic practices, it will be instructive to investigate this notion in

greater depth. The investigation will begin by examining the nature of a practice and will then ask what makes a practice characteristically epistemic. Before proceeding with this examination of practices, however, it is worth drawing some initial attention to the philosophical significance of identifying questioning as a practice. This emerges particularly when positioned within the contemporary philosophical field. The identification of questioning as a practice is seen to both diverge from a more traditional philosophical approach, and align itself with the social epistemology movement. As noted, contemporary philosophical attention paid to questioning has been predominantly directed towards the analysis of questions, focusing on the formal structure of questions and placing an emphasis on them as abstract and isolated linguistic entities. If questioning is identified as a practice, however, then there is good reason to broaden the field of study to its examination in these terms. In particular, one may contend that the logical structure of questions is, to some significant degree, dependent on and determined by the practice of questioning. Rather than functioning independently of this practice, questions necessarily operate within, and are therefore also constrained by, the practice of questioning. Questions are embedded within a practice which is itself governed by a set of self-generating and self-referential norms. Isolating questions from the practice of questioning will therefore provide only a limited insight into their operation within a community of questioners. Arguably, however, this social context is essential to developing a deep understanding of the nature of questions.

The identification of questioning as a practice thus draws on the social epistemological context of the investigation. In particular, the suggestion that a characterisation of questions must take into account the broader practice of questioning in which they operate reflects the move from an individualistic to a social epistemology advocated by proponents of this movement. More broadly, identifying questioning as a practice necessarily positions it within a wider social context and, as such, the investigation must encompass an appreciation of this social dimension. Notably, in relation to the treatment of linguistic phenomena in particular, this position is supported by the later work of Wittgenstein (*Philosophical Investigations*, 1953). Wittgenstein argued for the priority of practices in any rule-following system and applied this idea particularly in the case of language use, contending that formal linguistic conventions *arise out of* rather than determine linguistic practices. Identifying questioning as a practice thus represents a significant and principled move away from the more traditional approach of examining questions in their abstract and isolated forms. Rather, in order to gain a rich understanding of questions they must be examined within the broader context of the practice of questioning. Having thus established the philosophical significance of this practice-based approach, it will now be pertinent to establish precisely what a practice is, and in what sense questioning is rightly characterised as such.

WHAT IS A PRACTICE

The notion of practice has become increasingly prevalent in contemporary academic discourse in recent years across a range of disciplines including philosophy (the social epistemology movement being a particularly salient example), sociology, political science, psychology and anthropology. This development has been termed the 'Practice Turn' by some contemporary theorists (Schatzki, Knorr Cetina and von Savigny 2001). Within this literature the notion of a practice has been characterised in a number of different and conflicting ways, exposing the broad nature of the concept and wide variety of perspectives from which it can be approached. Joseph Rouse (2006), commenting on the diverse interpretations to be found in the literature, observes that, "[P]ractices range from ephemeral doings to stable long-term patterns of activity" (p.499). Both within philosophy and across disciplines, the notion of practice has been influenced prominently by the philosophical observations of Wittgenstein, noted above, and Martin Heidegger. Theorists are seen to diverge here particularly with respect to the role that is assigned to language in their theories of practice. Nonetheless, a central feature of most, if not all theories of practice is the identification of practices as activity-based. As Theodore Schatzki (2001) writes, "[M]ost thinkers who theorize practices conceive of them, minimally, as arrays of activity" (p.11). Practices are essentially constituted by activities and it is primarily on this basis that they are distinguished from theories.

To see the sense in which practices are essentially constituted by activities, take an everyday example, say, the practice of holding a door open for the person entering a building behind you. This practice is primarily constituted by the action of holding open the door. Without this action, no amount of theorising about the practice will bring it into existence *as a practice*. Moreover, the notion of a practice extends beyond the performance of an individual action. Practices incorporate the repetition or reiteration of an action or set of actions over a sustained period. If a door is held open only once and the action is never repeated, no practice of holding doors open can be said to exist. Similarly, a practice requires more than the unreflectively coordinated actions of groups of individuals. Rather the individuals must be acting together or cooperating in some meaningful sense. If doors were held open at random by individuals without the basic aim of easing the passage of those behind them into a building, then the holding open of doors could not be called a practice. Thus, while a practice may incorporate or be akin to a custom or habit, practice theorists typically extend the notion beyond that of a custom or habit arguing, in particular, that practices are defined to an extent by the common goals towards which the actions involved are directed (Barnes 2001; Turner 2001). A set of coordinated actions with no common goal, such as the aimless holding open of doors, will not amount to a practice (although it may amount to a custom or habit). Practices are sets of activities developed and established among groups of individuals with common goals.

In addition, practices are established and nurtured within a society and involve cooperation between members of that society. They are, therefore, importantly social. The practice of holding doors open is a prime example; it serves as a means of structuring and coordinating interactions between members of a society. Alasdair MacIntyre (1981), in his influential work on moral and political practices states, “[B]y a 'practice' I am going to mean any coherent and complex form of socially established cooperative human activity” (p.175). Central to this, I think, plausible account is the role that the social context plays as a basis for establishing a practice. Practices serve as a means of organising or structuring social spaces and interactions. Without this social context, the notion of a practice makes little sense. If one has ever visited a country in which the practice of holding doors open does not exist, and has nonetheless attempted to engage in it, this will be apparent. Significantly, this is not to say that practices cannot be engaged with on an individual level. Many practices are performed by individuals operating outside of an explicitly social context. Spiritual practices, such as meditation or prayer, offer a clear illustration of this. These practices nonetheless arise out of and in response to a social context which supplies the parameters for their performance at the individual level. While ostensibly operating in relative isolation, individuals engaging in a practice such as meditation or prayer are still operating under, and are therefore constrained by the social context in which the practice originally emerged. Practices are inherently social.

Several key notions put forward in the practice theory literature can thus be brought together to arrive at a broadly uncontentious account of practices. A practice is a *socially established set of activities directed towards common goals*. With this characterisation in place the claim that questioning is a practice can be further scrutinised. Notably, the inherently social dimension of practices will emerge as particularly important, highlighting the significance of identifying questioning as a practice. Before proceeding however, it is necessary to account for the informal identification that has been made thus far, of questioning as a particular type of practice, that is, an epistemic practice. In his discussion of practices, MacIntyre lists football, chess, architecture and farming as practices as well as “the enquiries of physics, chemistry and biology, and...the work of the historian” (p.175). The latter will be taken as paradigm examples of epistemic practices. An examination of what makes practices such as these, and more importantly questioning, characteristically epistemic, will here be constructive.

WHAT IS AN EPISTEMIC PRACTICE

In order to determine what makes a practice epistemic, an account must first be given of the epistemic in general terms. Characterising the epistemic has, however, proved to be a notoriously

elusive task within epistemology. Commentators typically offer characterisations in terms of a particular set of goods including, at least minimally, true belief, justification, knowledge and understanding. This characterisation demonstrates a somewhat intuitive understanding of the epistemic amongst contemporary epistemologists. Nonetheless, this understanding does serve to pick out an intuitively coherent set of goods allowing epistemologists to set certain parameters around their domain of inquiry. Jason Baehr (2011) for example, comments, “[W]hile more could be said to demarcate epistemic ends from other kinds of ends, the basic distinction should be intuitive enough” (p.209). In line with this intuitive understanding of the epistemic, I will adopt a similarly broad characterisation which treats the epistemic as pertaining to the goods, at least minimally, of true belief, justification, knowledge and understanding. As has been the case so far, I will refer to these as epistemic goods. This is intended, however, as a minimum rather than exhaustive list of epistemic goods. In particular, two further epistemic goods, which are beginning to receive some attention within epistemological discourse and are therefore worth mentioning explicitly, are wisdom and information. The latter will play a central role in our examination of questioning.¹³

In the previous section, a practice was characterised as a socially established set of activities directed towards common goals. Taking into account the above notion of the epistemic, the idea of an epistemic practice can be elucidated. In particular, central to the idea of a practice is its goal-directedness. A practice can therefore be demarcated in terms of the goals at which it aims. Spiritual practices, for example, aim at distinctively spiritual goals such as enlightenment or communication with the divine. Likewise, an epistemic practice has distinctively epistemic goals. An epistemic practice aims at epistemic goods such as the ones listed above; true belief, justification, knowledge, understanding, wisdom and information. In order to illustrate this, take an example from MacIntyre’s list of practices, say, physics. The physicist’s time is spent in the laboratory testing and examining the physical properties of a substance and making calculations on the basis of experimental data. Her aim in these undertakings is to uncover new *information* about the nature of the substance in order to better *understand* it. She is thus engaging paradigmatically in an epistemic practice. In order to further elucidate this it will be useful to introduce one further notion. This is the notion of *epistemic standing*. An individual’s epistemic standing is taken to encompass all the epistemic goods that she possesses. The physicist is looking to acquire new epistemic goods and on this basis she can be viewed as looking to *improve* her epistemic standing. Improving epistemic

¹³ For the rise of wisdom in epistemology see, for example, Grimm *forthcoming*, Miscevic 2012; Maxwell 2010; Whitcomb 2010. On the growing relevance of information for epistemology, see Kerr and Pritchard 2012.

standing is a principal epistemic goal and thus a principal goal in terms of which epistemic practices can be characterised.

This strategy of demarcating practices in terms of their distinctive goals has been adopted throughout the contemporary literature on the subject. William Alston (1989), for example, comments, “[A] doxastic practice can be thought of as a system or constellation of dispositions or habits...each of which yields a belief as output” (p.5). Here, a doxastic practice is characterised in terms of the goal of beliefs. Similarly, Robert Roberts and Jay Wood (2007) maintain, “[I]ntellectual practices aim intrinsically at such goods as understanding... acquaintance, and confirmation of beliefs” as well as “the justification and warrant of beliefs” (p.117). Once again, intellectual practices are characterised in terms of the intellectual goals at which they aim. An epistemic practice aims at epistemic goals and can be distinguished from other practices on this basis.

Interestingly, Roberts and Wood (2007) expand the list of potential goods at which an intellectual practice may aim by arguing that this also includes the ‘powers and skills’ by which a person acquires epistemic goods. This is indicative of their virtue epistemological approach which places an emphasis on the intellectual abilities of the agent. Thus a person may engage in an intellectual practice, not only in order to acquire epistemic goods, but in order to improve their *ability* to acquire such goods. Take the case of the physicist once again. Imagine however, that after a morning of dedicated laboratory research she heads out to a nearby coffee shop for lunch. As she does every day, she takes a Sudoku puzzle with her and completes it during her lunch break. In completing the Sudoku puzzle, the physicist is no longer in search of epistemic goods themselves; she is not primarily concerned with knowing the specific arrangement of the numbers in the puzzle upon completion. Rather she believes that by completing Sudoku puzzles regularly she will enhance certain aspects of her intellectual capacity and it is this enhancement which motivates her. Once back in the laboratory she hopes that her mind will be sharper or more discerning in some valuable, albeit perhaps minimal respect, and that this will improve her ability over time to uncover the epistemic goods which she is seeking in the laboratory context. Thus, as Roberts and Wood suggest, an epistemic practice may aim at epistemic goods themselves, or at the abilities required in order to acquire these goods. The latter can therefore also be understood as a distinctively epistemic goal. Both during the course of her laboratory research and while completing her lunchtime Sudoku, the physicist is pursuing epistemic goals. In both cases she is engaging in an epistemic practice. An epistemic practice can now be fully characterised as *a socially established set of activities directed towards common epistemic goals.*

Two Objections Considered

Having offered a substantive characterisation of an epistemic practice it is worth briefly pausing to consider and resolve two potential objections before examining questioning as an epistemic practice.

First Objection: Epistemic practices do not always have *epistemic* goals

It may be objected that epistemic practices do not *always* have epistemic goals. Return once again to the physicist. It is possible that, rather than aiming to enhance her intellectual capacities, she completes her lunchtime Sudoku each day simply because she enjoys seeing all the boxes neatly filled in at the end. Alternatively, she may believe that other people in the coffee shop will view her as intelligent and sophisticated if they see her accurately completing a Sudoku and so she does it for this reason. In either case, and in many others that we can imagine, her goal is explicitly not epistemic. As such, on the basis of the characterisation given, she is not engaging in an epistemic practice.

This objection, however, draws attention once again to the underlying social basis of a practice. It was noted earlier, for example, that one instance of holding a door open could not amount on its own to a practice. Rather door opening must be embedded within a society whose members are familiar with the actions and aims associated with it as a form of societal cooperation. Similarly, the practice of completing Sudoku puzzles must be embedded within a social context in order for it to be rightly considered a practice. In order for it to be considered an epistemic practice, completing Sudoku puzzles must be viewed as having a distinctively epistemic goal; the goal of enhancing intellectual capacities, for example. While this may not be the only goal associated with completing Sudoku puzzles, it must be at least one commonly recognised goal of doing so in order for completing Sudoku puzzles to be an epistemic practice. If people only ever completed Sudoku puzzles because they believed it made them look sophisticated in coffee shops then it would not be an epistemic practice. Significantly, however, the fact that some people may do it for this reason does not preclude it from being an epistemic practice so long as the completing of Sudoku puzzles is viewed in the broader social context as having an epistemic goal. In order for an action or behaviour to be considered an epistemic practice, it must have an epistemic goal. Epistemic practices always have epistemic goals.

Second Objection: Epistemic practices do not always have *common* goals

Even if epistemic practices always have epistemic goals, it may still be objected that these are not always or necessarily *common* goals. The completing of Sudoku puzzles in order to enhance one's intellectual capacities may appear, for example, to be a markedly individualistic, albeit epistemic, goal. This objection arises naturally alongside the first in that it brings into question the underlying social basis of epistemic practices. Why think that epistemic practices are social in nature at all.

This objection draws attention to the original characterisation of a practice. A practice was characterised as a socially established set of activities directed towards common goals. A set of activities established outside of a social context cannot be considered a practice. Thus, while the person completing Sudoku puzzles may have an individual epistemic goal, this goal is itself an instance of the common epistemic goal associated with the practice. This common epistemic goal is entirely determined by the social context in which the practice of completing Sudoku puzzles has emerged. If enhancing one's intellectual capacities was not considered valuable in the broader social context, then completing Sudoku puzzles would likewise be considered a somewhat trivial or pointless exercise amounting, perhaps to a habit, but not to a practice. It is therefore only in virtue of the common nature of their goal that a set of activities can be considered a practice. This is as true for epistemic practices as for any other form of practice. This necessarily social conception of epistemic practices is well-supported in the literature. As Roberts and Wood (2007) comment:

“even solo epistemic practices have a social dimension: the laboratory scientist will belong to a tradition of experimentation; Descartes's thoughts are responses to a historical intellectual and political situation” (p.114).

Likewise, Bloor (2001) notes, “social practices are an integral part of any other cognitive practices” (p.113). In order for an action or behaviour to be considered an epistemic practice, it must have a common goal. In virtue of their status as practices, epistemic practices always have common goals.

Having thus examined and resolved two important objections, the notion of an epistemic practice can be reiterated. An epistemic practice is *a socially established set of activities directed towards common epistemic goals*. With this characterisation in place, the credibility and significance of identifying questioning as an epistemic practice can be interrogated.

WHAT MAKES QUESTIONING AN EPISTEMIC PRACTICE

Central to the characterisation of a practice was the social foundation from which practices emerge. They are developed, established and nurtured within social contexts. In order to investigate questioning as a practice then, the social foundations upon which it is built must be examined. Crucially, by examining questioning as a practice, the investigation is moving beyond the analysis of a linguistic expression and moreover, beyond the examination of individual epistemic agents. The investigation of questioning as a practice must also take seriously the role that questioning plays within society.

The Social Nature of Questioning

Questioning is a familiar and pervasive activity within human societies. It spans cultural and linguistic boundaries and operates within a wide variety of diverse and distinct social contexts. Questioning has, moreover, been a feature of human social interactions since the beginning of recorded history and, one may well imagine, extending into prehistory. As with the practice of, say, holding open doors, questioning serves to structure and organise interactions between individuals in a social setting. It serves a characteristic function in this regard and employs a particular means in order to realise the goals associated with this function. Both the function and the medium of questioning will be examined in due course. At present, however, the investigation will focus on the social context in which questioning takes place.

It is not difficult to see that questioning arises in the social domain. Just venture into the world and observe the wide variety of circumstances in which you yourself ask questions of others or respond to those that are asked of you. In particular, questioning arises between members of a society understood as an *epistemic community*. Specifically, an epistemic community can be characterised as a group of individuals that produces, shares and consumes epistemic goods such as knowledge, understanding and information. Epistemic communities are, and have always been, a central feature of human life and intellectual progress. As observed by Goldman (1999), “[A] hallmark of human culture...is to enhance the social fund of knowledge by sharing discovered facts with one another” (p.103). Throughout history, epistemic communities have arisen and flourished on increasingly grander scales. The epistemic communities of ancient Athens and Rome, for example, produced and nurtured intellectual advancement through the structured exchange of ideas and innovations by means of oratory and written records. Over a thousand years later, the fifteenth century epistemic community of Europe expanded dramatically as a result of the Printing Revolution. In its contemporary manifestation, the epistemic community is, in essence, a global one with the advent

of the World Wide Web taking centre stage in the rapid and ongoing expansion of information exchange. Notably, it is the *exchange* of information, over and above the information itself that plays a central role in the formation and moulding of an epistemic community. Significantly, this exchange is frequently facilitated through the asking and answering of questions. It is within this social context then, that questioning emerges as a practice. To say that questioning is built on social foundations is simply to say that it has arisen and is employed within communities as a means of structuring the interactions between members of those communities. In this respect, questioning can be thought of as the glue that binds an epistemic community together.¹⁴

Importantly, as in the case of practices in general, the social foundations of questioning do not preclude its performance at the level of the individual. One need only observe oneself alone for a short time in order to appreciate the frequency with which questioning occurs as an individual activity. Questioning is nonetheless embedded in ‘a social world’. Goldman (1999) usefully clarifies the sense in which individual activities, such as questioning, are rightly viewed as essentially social by introducing a distinction between direct and indirect social contexts. In particular, he maintains:

“truth seeking...is indirectly social when one's current activity, albeit autonomous, exploits intellectual skills acquired from others, through formal or informal education” (p.3).

Questioning at the individual level is both modelled on and derived from questioning in the wider world and as such exploits the intellectual skills of others in precisely this manner. While there is no need to adopt Goldman’s terminology here, the distinction to which he is referring is nonetheless salient. Even individual questioning can rightly be viewed as essentially social in virtue of its identification as a practice.

Notably, even when ostensibly performed outside of a social setting, individual questioning is still governed by the norms under which it operates in explicitly social contexts. Just as meditation and prayer are frequently performed alone by individuals and yet still adhere to the norms of their practice within a wider community, so too does individual questioning adhere to the norms of questioning in its social role. These norms are established and determined by the use of questioning in society. Crucially, if one diverges from these norms then one cannot be said to be engaging in the practice at all. If one believes one is meditating, for example, by going to the pub and enjoying a bottle of wine with friends, then one is simply mistaken about the practice of meditation. Similarly, if one believes one is questioning by asserting all of one’s beliefs out loud to an empty room then

¹⁴ The cohesive nature of questioning within epistemic communities will be explored in depth in Chapter Four.

one is mistaken about the practice of questioning. The inherently social nature of questioning, even when performed by individuals outside of an explicitly social context, is thus established. This social nature is an essential component in the identification of questioning as a practice. In order to develop the characterisation of questioning further, and to identify questioning specifically as an *epistemic* practice, it is now necessary to turn to the second stage in the investigation and ask what questioning *does*. Here the characteristically epistemic function that questioning performs within an epistemic community will be exposed.

WHAT DOES QUESTIONING DO

The Epistemic Function of Questioning

In order to identify questioning as an epistemic practice it will be constructive to ask what role or function questioning serves in the social context. Why, essentially, do people ask questions. Answering this is integral to identifying questioning as a practice and thus to developing a substantive characterisation of questioning. Examining the nature of a thing in terms of its function, moreover, is an approach familiar across both philosophical and scientific disciplines. Biologists, for example, typically identify the heart in terms of its function of pumping blood around the body. Functionalists, within the philosophy of mind, argue for the same approach to identifying and examining the mind. This function-based approach to the analysis of philosophical concepts within the epistemological domain was similarly advanced by Edward Craig in his influential book *Knowledge and the State of Nature* (1999). Here Craig proposed that an investigation into the role that the concept knowledge plays under ordinary circumstances could yield important insights into the nature of knowledge itself, a topic of sustained epistemological interest. He argues:

“There seems to be no known language in which sentences using ‘know’ do not find a comfortable and colloquial equivalent. The implication is that it answers to some very general needs of human life and thought, and it would surely be interesting to know which and how” (Craig, 1999, p.2).

Craig proposed a genealogical account of knowledge in which he examines why the concept emerged in human societies and what purpose it serves. Notably, this approach is naturally embedded within both the social and virtue epistemological frameworks that the present investigation also draws upon, given its starting point in the community within which the concept of knowledge is used, and its focus on the role of the agent in that context. As such, it provides a useful theoretical basis on which to draw by adopting an equivalent approach to the characterisation of questioning.

The Genealogy of Questioning

Craig (1999) begins his genealogical analysis of knowledge by imagining a society in which the concept does not yet exist. He then asks why such a society would develop the concept and what function it would have. In order to develop a genealogy of questioning, an equivalent question can be posed, namely, why would the practice of questioning emerge in a society in which it did not yet exist, and what function would it have. In his account, Craig focuses on the role that knowledge ascriptions play in identifying members of a community that possess information. He maintains that a key concern for members of any community is the possession of true beliefs which will in turn allow them to make informed decisions about how to act. As a result, communities require sources of information that will allow them to form true beliefs. Craig acknowledges the first-person sources of information that people have at their disposal, such as their perceptual and mental faculties, and then highlights the advantages that come with also being able to consult the faculties of others. Thus, he notes, “the tiger that Fred can see and I can't may be after me and not Fred” (p.11). Craig proposes then, that “the concept of knowledge is used to flag approved sources of information” (p.11). The concept of knowledge would therefore emerge in Craig’s imagined society precisely as a means of identifying other people as useful sources of information within a community. The Craigian account of knowledge places an emphasis on the notion of good sources of information; knowledge ascriptions are akin to identifying good informants.

This radical, genealogical account of knowledge has not been without criticism in the literature. In particular, commentators have focused on the concept of objectivisation which Craig introduces some way into the account (see, for example, Shapin 1994; Kelp 2011). Nonetheless, the account in general offers, I believe, an intuitively plausible explanation of the role that knowledge plays in epistemic communities. By shifting perspectives with respect to Craig’s account an equally compelling genealogical account of questioning can be given, once again, by asking why the practice of questioning would emerge in a society in which it did not yet exist, and what function it would have. Rather than focusing on good informants and thus directing attention towards the *results* of information-seeking, however, in order to develop a genealogy of questioning, the *process* of information-seeking itself must be emphasised.

As with Craig’s original account, the genealogy of questioning begins with the grounding notion that a key concern for members of any community is the possession of true beliefs. Crucially, however, the perspective shifts when one notices that one highly effective way of coming to possess true beliefs is by seeking them out. Information-seeking is an essential activity in the successful functioning of a community. As Goldman (1999) observes, “[I]nformation seeking is a

pervasive activity of human life” (p.3). We seek out information on an extremely regular basis throughout our daily lives and use it in all manner of different ways in order to determine how to act. It is difficult, in fact, to see what our lives would look like if we did not. One may imagine, for example, a community in which information-seeking did not take place. In this community information is simply acquired passively if and when it arises. Such a community would surely suffer by not having a means of accessing the most salient or valuable information in a given circumstance. It is no good, for example, simply possessing the information that Fred is up in his tree admiring the sunset, if one is concerned that there may be a tiger on one’s tail. The ability to access the relevant information in one’s circumstances is essential to making the right decisions about how to act, and, at least in this case, to ensuring one’s survival. On this basis, a community in which information-seeking did not take place would plausibly not last long.

Crucially, the process of information-seeking itself requires some sort of mechanism or facilitation. Craig acknowledges the role that first-person perceptual and mental faculties play as *sources* of information in his imagined society. Likewise, however, they play a role as mechanisms for *information-seeking*. In addition, the significant information-seeking advantages that come from being able to consult the faculties of others are significant. It is here that questioning enters the spotlight by performing precisely this function. Questioning is a vital means of seeking out the information that we need in order to form true beliefs and decide how to act. How am I to discern whether there is a tiger after me or not. I *ask* Fred, up in his tree, if he can see a tiger. If Fred has already seen the tiger, he can let me know, if not, he can look out into the distance to find out. It is, of course, possible that he will provide me with the information I need without me having to ask for it, assuming that he notices me. Nonetheless, my ability to ask for the precise information that I need, at the precise moment that I need it, significantly improves my chances of making an informed decision about how to act. Questioning provides an effective and efficient means of accessing the information-seeking faculties of others, as well as the information that is already at their disposal. A society that did not engage in questioning would thus plausibly be at a significant disadvantage. This provides an answer to the Craigan-style question of why the practice of questioning would emerge in a society in which it did not yet exist. Simply put, questioning enables us to seek out information. Information-seeking is thus a promising candidate for the epistemic function of questioning.

With this genealogical analysis of questioning in place, a small qualification is required in order to more precisely establish the characteristic epistemic function of questioning. Specifically, an important, albeit subtle, distinction is required, between *seeking* information and *eliciting* information. Whilst seeking information refers to the process of searching for it, eliciting information captures

the sense in which the information itself is in fact acquired. Information-eliciting is a success concept; if one elicits information then one acquires it. Information-seeking does not imply success in this way; if one merely seeks information, one may coherently fail to acquire it. As such, the characteristic *function* of questioning should be characterised as information-elicitation, as opposed to information-seeking. The function of questioning is to elicit information; it is to search for *and* acquire it. The significance of this subtle distinction will emerge more conspicuously in due course. Its introduction at this stage will serve to smooth the road ahead. The characteristic epistemic function of questioning is thus *to elicit information*.

Questioning and Testimony

In order to further elucidate the characteristic epistemic function of questioning it will be constructive to contrast this with the closely related epistemic practice of testimony. Testimony has received a great deal of attention in recent epistemological discourse and has, in particular, occupied a significant portion of the social epistemology literature (Coady 1992; Burge 1993; Chakrabarti and Matilal 1994; Lackey 1999). The pervasive nature of testimonial practices and their apparently central role in our epistemic communities make this a topic of pivotal concern for social epistemologists and the debate in particular focuses on the role that testimony plays in the transmission of information or knowledge, as manifested in the reductionism/anti-reductionism debate. It has been suggested in the literature, moreover, that the very project of social epistemology rests on the outcome of this debate (Goldberg 2010). If testimony is indeed seen to play a central role in the transmission of epistemic goods, as the anti-reductionist holds, then the traditional individualistic approach to the analysis of these goods looks to be fundamentally flawed. Alternatively, if testimony does not occupy such a pivotal position in our epistemic endeavours, as the reductionist maintains, the underlying motivations for social epistemology can be brought into question. In *Relying on Others*, Goldberg (2010) emphasises the centrality of testimony in the debate remarking:

“[I]t should come as no surprise that a project aimed at examining the anti-individualistic implications of our epistemic reliance on others should begin by taking an extended look at testimonial belief” (Goldberg, 2010, p.11).

He goes on to quote Fred Schmitt as claiming that testimony is “the most fundamental test of epistemological individualism” (Schmitt 1994, p.4 quoted in Goldberg 2010, p.11). As such, testimony has emerged as a practice of principal epistemological import.

A discussion of the role of testimony itself lies outside of the scope of the present investigation. What is significant to note, however, is the focus that is placed on the role or *function* of testimonial exchange, in the literature. Likewise, the role or function of questioning arguably merits a similar degree of attention in social epistemological discourse. According to the genealogical analysis presented above, questioning, like testimony, occupies a central role in our social epistemic interactions. It provides us with an essential means by which to elicit information. If the function of testimony is viewed as the transmission of information then it forms one significant part of the exchange of information. Frequently in our everyday lives, however, this exchange of information is induced and indeed made possible by questioning. As such questioning and testimony exhibit a close relationship performing complementary roles in our epistemic communities. While testimony functions to transmit information, questioning functions to elicit it. It is tempting, and I think plausible, on the basis of this close relationship, to view testimony and questioning as interdependent. Perhaps, somewhat more provocatively, questioning might be viewed as the more fundamental practice given its facilitating role. At any rate, the significant common ground that questioning shares alongside testimony as a fundamentally social epistemic practice is evident. Moreover, both questioning and testimony are fruitfully characterised in terms of their epistemic functions. These distinctive functions serve to highlight the close relationship between questioning and testimony, and at the same time, to individuate them from one another as distinct epistemic practices.

With the close relationship between questioning and testimony thus established, and a genealogical account of questioning in place, the characteristic epistemic goal of questioning has been identified as that of eliciting information. Questioning has therefore been identified as an epistemic practice. Understood as a practice, questioning can be characterised as *a socially established set of activities directed towards the common goal of eliciting information*.¹⁵

An Objection Considered: Questioning is not *always* employed to elicit information

A substantive characterisation of questioning as a practice is now in place. As such, it is worth pausing once again in order to consider an objection to the account presented thus far. This objection concerns the goal of eliciting information. In particular, it could be argued that the purpose of questioning is not always or necessarily to elicit information. Indeed, one may imagine a number of scenarios in which questioning plausibly takes place with some other, perhaps explicitly

¹⁵ Given that information is an epistemic good, the goal of eliciting information can be rightly viewed as an epistemic goal. Explicit mention of the 'epistemic' from the characterisation can therefore be dropped.

non-epistemic goal in mind. We may, for example, question in order to demonstrate care or concern for another, or to provoke a response such as surprise or embarrassment. If so, then the suggestion that questioning should be identified as an epistemic practice on the basis that it exhibits the characteristic goal of eliciting information will come under threat. Even more critically, the notion that questioning should be characterised exclusively in terms of this goal will be subject to serious scrutiny. This poses an important challenge for the characterisation presented above.

In addition, one may also level the criticism that the characterisation as it stands is still underdeveloped. In particular, whilst the social nature of questioning and its common epistemic goal have been examined in some detail, nothing so far has been said about the ‘set of activities’ associated with questioning, and mentioned explicitly in the characterisation. As such, the characterisation is in need of further development in order to identify the distinctive activity associated with questioning. Developing the characterisation in order to answer to this criticism provides the next stage in the investigation which will proceed to identify and examine the distinctive activity associated with questioning; it’s medium so to speak. In doing so, not only will a more substantive and satisfactory characterisation of questioning be achieved, but this will provide the basis for responding to the deeper objection raised above.

WHAT IS A QUESTION

Having established first and foremost the nature of questioning as a practice, the nature of questions themselves can now be scrutinised. Significantly, rather than isolating questions from the practice of questioning, I will focus on their role within that practice. Questions are the medium through which questioning takes place. They are both embedded in the practice and essential to it. Little argument is required in order to recognise the central and necessary role that questions play as the medium of questioning. In order to provide a substantial characterisation of questioning, an examination of its medium is required.

Methodological Digression I: Online Survey

Before proceeding, it will be useful to give some details of the online survey that was conducted as part of this research. The results of this survey will be referred to in the forthcoming discussion in order to enrich the analysis of questions and, in places, provide support for the conclusions drawn. Significantly, the results of the survey are not employed in order to provide direct evidence for the account of questions that emerges from the philosophical analysis itself but rather, they reveal something about how we use this concept in our daily lives in order to identify questions. This

information, insofar as it accords with the philosophical analysis, provides some indirect, albeit fallible support for the plausibility of the account. This support is particularly valuable in the present context given the aim of developing an intuitively plausible, as well as philosophically rigorous, characterisation of questions and questioning. The large-scale consultation of intuitions made possible by the survey offers an appropriate method for achieving this. Moreover, this experimental methodology contrasts with methods employed in the logical and linguistic analysis of questions which have been prevalent in the discourse concerning questions over the past fifty years. This contrasting methodology reflects the explicit move away from the study of questions in abstract linguistic terms, towards their role in the social practice of questioning.

The survey, entitled ‘What is a Question’, aims to examine an intuitive and everyday understanding of questions. This is done through the presentation of ten commonplace scenarios in which the survey’s protagonist, a primary school teacher named Sarah, finds herself throughout the course of her day. Participants taking the survey are asked to read the descriptions and make a judgement as to whether or not there is a question in each scenario. The scenarios describe a range of situations in which questions may be seen to arise, but are at the same time intended to capture some uncertainty or ambiguity making the potential questions harder to discern and the judgements more challenging. Each of these scenarios will be examined throughout the following discussion in order to evaluate these challenging cases and enrich the discussion of them. At present, the survey (which is still live) has been running for just over a year and has received over five thousand responses. Full details of the survey and further discussion of the method can be found in Appendix One.

WHAT TYPE OF THING IS A QUESTION

Questions as Interrogative Sentences

When considering what type of thing a question is, one natural response is to think that a question is a type of linguistic expression, perhaps more specifically, an interrogative sentence. This response is both natural and plausible given our familiarity with the written and spoken form of a question in everyday language and the distinctive grammatical symbol, the question-mark, with which it is commonly associated. An examination of several formal definitions offered in reference sources such as dictionaries and reference websites, moreover, demonstrates the prevalence of this approach to the definition of questions. The Oxford English Dictionary (3rd edition, 2010), defines a question as “*a sentence worded or expressed so as to elicit information*” (p.1455, emphasis added). The same definition is to be found when typing the phrase ‘what is a question’ into Google (as of

5th August, 2014).¹⁶ Several other key contemporary reference sources offer similar definitions. Wikipedia defines a question as “a *linguistic expression* used to make a request for information, or the request made using such an expression” (as of 5th August, 2014, emphasis added). Dictionary.com defines a question as “[A] *sentence* in an interrogative form, addressed to someone in order to get information in reply” (as of 5th August, 2014, emphasis added). Likewise, the Merriam-Webster Online Dictionary defines a question as “a *sentence, phrase, or word* that asks for information or is used to test someone's knowledge” (as of 5th August, 2014, emphasis added). Finally, the Collins Concise English Dictionary (8th edition, 2012) defines a question as “a *form of words* addressed to a person in order to elicit information or evoke a response; *interrogative sentence*” (p.1359, emphasis added). In all of these the question is defined explicitly in terms of its manifestation as a linguistic expression.

This linguistic orientation to the definition of questions is not only prevalent in the context of reference sources such as those listed above, but has featured centrally in the philosophical analysis of questions. As discussed in detail in the previous chapter, this analysis has advanced the field of study significantly within the philosophy of language and logic, and has also been employed within the philosophy of science and epistemology. Importantly however, the present investigation is concerned with broadening the study of questions beyond their analysis as a linguistic expression. In particular, with examining questioning as an epistemic practice and, therefore, the role that questions play in the social context. As such, while, in one sense, a question can indeed be rightly characterised as an interrogative sentence, this is not the sense which will be examined in the following analysis of questions. It is however, important to recognise this sense of a question, in its purely linguistic manifestation, in order to distinguish it from the sense in which a question extends beyond this manifestation. Specifically, an account of questions as the medium of questioning will be developed. Examining questions in this context allows and indeed requires us to move beyond an account of questions that treats them exclusively in linguistic terms. Focusing exclusively on their linguistic manifestation excludes a vast range of actions that we would intuitively regard as questions. Having acknowledged the sense in which a question can be characterised as an interrogative sentence, this will be left to one side in order to examine the sense in which a question can be characterised as an *act*.

¹⁶ This is, presumably, because Google draws on the online version of the Oxford English Dictionary in order to respond to searches such as this. Nonetheless, as a key source of information in our global epistemic community, the fact that Google defines a question as a sentence is significant in its own right.

Questions as Acts

A characterisation of questions looking to capture their role within everyday life must take into account a wide range of real-life situations in which questions familiarly arise. In particular, when viewed within the context of questioning, understood as a practice, there is a clear sense in which questions extend beyond the confines of their manifestation as a linguistic expression. This arises in particular from the observation that questions are *asked* by an information-seeking agent, implying an active or performative component. This suggests that a question is not only a form of words but simultaneously, an *act*. Conceiving of questions as acts distances them from their logical and linguistic form and recognises their active role in the practice of questioning.

The sense in which a question is an act can be most usefully elucidated initially by construing a question as a particular kind of act, namely, a *speech act*. Central to the idea of a speech act is the thought that certain kinds of utterances are more than mere sentences but are in themselves acts. This notion is prominently associated with the British philosopher of language, J. L. Austin, who advanced a theory of speech acts in the 1950s and 60s. As Austin remarks in his influential work, *How To Do Things With Words* (1962), compiled from a series of lectures given in Harvard in 1955, in the case of speech acts, “to utter the sentence...is not to *describe* my doing of what I should be said in so uttering to be doing or to state that I am doing it: it is to do it” (p.6, emphasis original). Here the fundamental idea underlying the notion of a speech act is succinctly expressed. Speech acts differ essentially from what Austin refers to as ‘statements’, or propositions, in the crucial sense that the latter are used to *describe* or *refer to* states of affairs in the world whilst the former are ways of *doing* or *acting* in the world. Austin introduced the term ‘performative’ to describe a speech act in which, as he explains, “the issuing of the utterance is the performance of an action” (p.6). A familiar instance of a performative utterance can be seen, for example, in the civil ceremony proclamation, ‘I now pronounce you husband and husband’. Contrast this with the statement ‘Peter is my husband’. The statement describes a state of affairs whilst the performative, in virtue of its utterance, performs an act.

The active nature of a large proportion of linguistic expressions was in the main unrecognised until the introduction of speech act theory. However, as Barry Smith (1990) recounts in his historical overview of speech act theory, prior to the work of Austin, the seeds of this idea can be found in the much earlier work of Thomas Reid who first discussed the notion of acts in language use in the late eighteenth century. Reid (1788) referred to acts such as testifying a fact, giving a command and making a promise, as well as the act of asking a question, as ‘social acts of mind’. Following this, the first origins of a more full-bodied speech act theory can be identified in the early twentieth century

works of prominent German phenomenologists including Edmund Husserl and Adolf Reinach. Likewise, the notion is captured by the German philosopher and psychologist Franz Brentano who, as observed by Smith, noted down in lecture notes in 1885 that “speaking is itself an acting” (1885, quoted in Smith, 1990, p.38). These origins in phenomenological and psychological discourse emphasise the distinctive nature of speech act theory as a theory concerning the operations of language and linguistic devices *in the world*.

This illustrates the relevance of speech act theory to the characterisation of questions. Given the nature of speech acts as both active and embedded in the social world, questions, as the medium of questioning, can be rightly thought of as speech acts. As noted, Reid classified asking questions as one of his ‘social acts’. Similarly, Husserl (1900) and Brentano (1885) both refer explicitly to questions as acts of this kind. In particular, Husserl introduced the idea of ‘objectifying acts’, construed as a linguistic expression that represents or communicates an underlying non-linguistic act. Questioning, for Husserl, is a clear example of an objectifying act. Its linguistic manifestation attaches to and represents the underlying non-linguistic act. Thus, questions do not merely arise as a form of words, but as an act. More recently, the American philosopher of language, John Searle, another key contributor to the contemporary discourse on speech acts, has developed the notion of the indirect speech act. An indirect speech act occurs when the content of a speech act is different from the meaning of the words contained within it. Searle gives the example of the question ‘can you reach the salt’ in order to illustrate the nature of an indirect speech act. Here the content the speaker intends to communicate is that she would like someone to pass her the salt. The meanings of her words, however, do not directly convey this, but only indirectly. Searle (1975) explains that “the speaker’s utterance meaning and the sentence meaning come apart in various ways” (p.59). Questions can thus also be manifested as indirect speech acts offering a particularly clear example of the question as an objectifying act.

As in the case of identifying questioning as a practice, identifying questions as acts forces us to move beyond the characterisation of questions as a purely linguistic expression. This idea is eloquently highlighted by Smith in relation to social acts in general:

“They are part of the stock of the world, and not, as many analytic philosophers have been wont to assume, mere reflections of our ways of speaking about other, more humdrum entities” (Smith, 1990, p.42).

This sentiment aptly reflects the present concern with characterising questions as acts within the context of the social practice of questioning. A number of everyday scenarios in which questions

arise can thus now be examined in order to further refine the characterisation of questions as acts. This examination will draw on the cases presented in the online survey.

Case 1: How many countries are there

Support for the characterisation of questions as acts can be gained from examining everyday cases in which questions are intuitively thought to occur. Imagine then, that our protagonist, Sarah, is listening to a colleague describing a lesson he has just given on countries of the world. During the discussion Sarah realises that she doesn't know how many countries there are and, as she is interested to know, she interjects saying 'how many countries are there'. In response to this, several of her colleagues suggest a number of different figures. In this case, I think, it is clear that a question has been asked. Specifically, Sarah asks the question 'how many countries are there'. In the online survey, this scenario was by some margin the least contentious with 95% of the respondents (a total of 4144 participants) judging there to have been a question. This majority is not, I think, surprising (indeed, I find it somewhat surprising that 132 respondents judged there to be no question in this case). Intuitively then, we judge there to be a question in this case.

Significantly, however, the sense in which Sarah's question extends beyond its manifestation as a sentence in the interrogative form can be observed here. By asking the question 'how many countries are there', Sarah is stating her desire for information about how many countries there are, and requesting that her colleagues respond by providing the information if they have it. As such, by asking this question, Sarah is not merely making a statement, she is performing an act. To see this more clearly, imagine that one of Sarah's colleagues is recounting the staffroom conversation with a friend later in the day. During the course of his retelling he states, 'Sarah doesn't know how many countries there are'. Here, in contrast to Sarah's utterance in the original case, her colleague is making a statement. He is describing a state of affairs rather than performing an action. The contrast between these cases is clear. An assertion of the kind uttered by Sarah's colleague is not an act in the sense provided by speech act theory. A question is an act in precisely this sense.

Case 2: Local Edinburgh butchers

A second case further exposes the sense in which a question extends beyond its manifestation as an interrogative sentence, and can be rightly characterised as an act. In this case Sarah is attempting to find where the nearest butchers to her house is on behalf of a friend. As she is a vegetarian she has no interest in this herself but, nevertheless, she types 'local Edinburgh butchers' into Google and notes down the information. It looks in this case, like Sarah has once again asked a question.

Specifically, she has asked for information about the location of butchers shops in Edinburgh. In response to this scenario, 72% of the survey participants judged there to have been a question in this case (3115 participants in total). This figure once again represents a significant majority, albeit lower than the previous case, suggesting that intuitively we do judge there to be a question represented by the phrase 'local Edinburgh butchers' in this context.

Significantly, in this case the phrase Sarah searches with does not take the interrogative form. Nonetheless, we judge her to have asked a question. Sarah could have chosen to type 'where are local Edinburgh butchers' thereby adopting the interrogative and, notably, both searches produce the same results in Google. Crucially, this is because both searches are assumed by Google to be (and are in fact) conducted with the same purpose, that of locating butchers in Edinburgh. As such, despite it having no formal linguistic structure, Sarah's original search can be identified as a question. According to this result, a form of words need not be expressed in the interrogative in order to be rightly considered a question. This further highlights the distinction between a question as an interrogative sentence and a question as an act. A question cannot be defined exclusively in terms of its linguistic form.¹⁷ A question is therefore rightly characterised as an act, one which may take the interrogative, but not necessarily or always.

This characterisation can be further developed by examining two additional cases. These differ importantly from cases 1 and 2 in that they contain no linguistic expressions at all. As such, these cases demonstrate the sense in which a question can occur as an act entirely without a manifestation in language, further emphasising the need to give an account of questions that moves beyond their linguistic form. Before examining these cases, it is worth briefly noting that a select number of reference sources recognise this in their definition of questions. Thefreedictionary.com, for example, offers the definition of a question as "[A]n interrogative sentence, phrase, *or gesture*" (as of 5th August, 2014, emphasis added). This provides one important sense in which a question may have no manifestation in language but rather be expressed as a gesture. Examples of this are easy to come by in daily life. Think, for example, of the gestures one makes through one's car window in a car park in order to establish whether a fellow driver has just occupied the space they are filling or is about to vacate it. Likewise, the following two cases present everyday scenarios in which we intuitively judge there to be non-language based questions.

¹⁷ Likewise, as can also be deduced from the example discussed, while a written question is often accompanied by a question-mark, it is not defined by the use of this grammatical symbol.

Case 3: Checking the dictionary

Sarah has arrived in her classroom one morning and is checking through her teaching resources for the day. In doing so she notices a word that she is not familiar with and, in order to find out what it means, she looks it up in the Dictionary. Rather than producing an utterance, Sarah simply acts in order to find out the information she is after. As with the previous cases, this act can, I think, intuitively be construed as a question. Specifically, Sarah is checking the dictionary to find out the meaning of a word she is not familiar with. This is again a conclusion with which the survey results accord. In fact, a relatively sizeable majority, 80% of the participants, also judged there to be a question in this case (3690 participants in total). This case supports the claim that a question can occur as an entirely non-linguistic act.

Case 4: Crossing the road

In case 4, Sarah is trying out a new route to work. Along the route she comes to the side of a busy, unfamiliar road with no pedestrian crossing. She looks both up and down the road before crossing to check if there are any vehicles coming and then proceeds to cross safely. As above, I would contend that there is a question in this case. Specifically, Sarah is checking both up and down the road to see if there are any vehicles coming and so, determining whether it is safe to cross. Again, as above, Sarah's question is manifested in an entirely non-linguistic act. Furthermore, this is again a conclusion with which the survey results accord, albeit more narrowly. In the survey, 66% of the participants judged there to be a question in this case (3240 participants in total). This provides further support for the claim that a question can occur as an entirely non-linguistic act. The investigation thus far has thereby identified what type of thing a question is; a question *is an act*.

An Objection Considered: The characterisation is too permissive

Having determined what type of thing a question is, an initial objection to the account can be considered. In particular, with respect to the final case presented (case 4), one may argue that further support is required. It may seem counter-intuitive or simply too permissive to allow the act of looking both ways before crossing the road to count as a question. Indeed, it is worth here reiterating the lower majority of positive responses that this case received from the survey participants than for any of the other cases; just 66%, compared with 95% in case 1, 72% in case 2, and 80% in case 3. This lower majority represents the particularly challenging and contentious nature of the case. As such, the road-crossing case stands out as the least compelling and so is plausibly in need of further elaboration.

Significantly, however, it is worth noting that the more contentious nature of case 4 does not itself threaten the account of questions as it currently stands. In particular, even if the road-crossing case is discounted, or we concur with the 1361 survey participants who judged there to be no question in this case, the characterisation of questions as acts is still well-supported. This is so in virtue of the much less contentious identification of questions as acts demonstrated by the other three scenarios. This, moreover, is supported by the consensus previously observed among speech act theorists, also identifying questions as acts. Nonetheless, the contentious nature of case 4 is still a point of interest in the ongoing analysis and raises the legitimate concern that it is overly permissive. As such it is worth investigating what reasons there are for thinking that the road-crossing case does indeed contain a question by contrasting this scenario with a number of other similarly challenging scenarios. This provides an opportunity to further refine the account of questions and establish appropriate parameters for their identification.

WHAT DOES A QUESTION DO

The Epistemic Function of Questions

This stage in the investigation signifies a return to the concern that prompted the present attempt to offer an account of questions. Questions are the distinctive activity associated with the practice of questioning and, in this capacity, comprise the means by which questioning achieves its characteristic epistemic goal; the goal of eliciting information. This goal can therefore be identified as the function of a question itself. The role of information-elicitation in our account of questions can now be examined in order to respond to the original objection that not all questioning has the function of eliciting information. If questions are characterised in terms of the goal of eliciting information, and they are the medium of questioning, then questioning is also accurately characterised in these terms.

Before proceeding to examine the goal of information-elicitation, it is worth initially considering a number of plausible alternatives. These may include the goals of eliciting knowledge, eliciting a response or eliciting an answer. In the first instance, the goal of eliciting knowledge appears to be too demanding and therefore notably restrictive. If all questions were asked in order to bring the questioner to a state of knowing, the range and even possible number of questions would plausibly be too limited. On the other hand, if the goal of a question is to elicit a response the account of questions would plausibly be too permissive. There are a large number of actions and behaviours performed in order to elicit a response that we would not want to count as questions. Think of the child presenting a prized school painting to his parents or the rude gestures directed towards the

referee on a football pitch. We do not intuitively count these actions as questions despite the fact that they are performed in order to elicit a response.

This leaves the goal of eliciting an answer, perhaps the most immediately plausible of all the suggestions above. Indeed, the relationship between questions and answers was a key feature in the logical and linguistic analysis of questions. Significantly, however, these analyses focus exclusively on questions in their linguistic manifestation. As such, they concern the propositional features of the question-answer relationship, capturing the sense in which a question can be defined in terms of the propositions that comprise its (direct) answers. The investigation here is pursuing a broader characterisation of questions, construed as acts, and not exclusively focusing on their linguistic manifestation as propositions. As such, this propositional approach will be too restrictive. That being said, one may still contend that answer-elicitation serves as a plausible candidate for the goal of questions. Goldman (1999), for example, in his passing remarks on the topic asserts, “[T]he primary purpose of asking a question is to learn the answer, the true answer, from the respondent” (p.3). In order to develop a comprehensive account of questions however, this option must be considered carefully. Notably, whilst the intimate connection between questions and answers is indisputable, defining the one in terms of the other in the present context is likely to be ultimately uninformative, or worse, worryingly circular. If the latter, an account of answers will be required that makes no reference to questions. This too, however, raises immediate concerns given the intimate connection just stated. In order to avoid this kind of worrying circularity an independent goal that will not be subject to it, is required; the goal of eliciting information.

Revisiting Case 1: How many countries are there

In order to identify information-elicitation as the characteristic function of a question, return to case 1 above. Here our protagonist, Sarah, realises during the course of a conversation with her colleagues that she doesn't know how many countries there are. Motivated by a desire to find out, she says 'how many countries are there'. As observed, the presence of a question in this case looks to be highly plausible. Indeed, this appears to be a paradigm instance of question-asking. Significantly, however, whilst Sarah's question is framed in the interrogative, this is not what determines its status as a question. If Sarah was sitting in front of a computer, rather than having a conversation with colleagues, she might type a phrase such as 'number of countries' into Google, in order to find the information she is looking for. As demonstrated by case 2, a search such as this still qualifies, intuitively, as a question. The interrogative form of Sarah's utterance does not serve to identify it as a question, at least not in the sense required by the present investigation. What then does.

It is here that the function of information-elicitation becomes salient. With respect to case 1, it is Sarah's desire to know and her intention to find out that determines that a question has been asked. In other words, it is the fact that Sarah's words are expressed *in order to elicit information* that identifies her utterance as a question. Interestingly, this remains the case regardless of whether or not the information sought is in fact acquired. Note that in the scenario Sarah does not receive a determinate figure in answer to her question. Rather several of her colleagues offer a number of different figures. On this basis Sarah may not feel that she has acquired the information she was looking for. Arguably, moreover, there is in fact no correct answer to this question given the general lack of consensus that even the most official sources report (the sources I have consulted range between 189 and 196 countries, most acknowledging the contentious nature of the topic). However, despite Sarah's failure to receive the information she is looking for, she still asks her question in order to acquire it. Her utterance is a question as long as its function is that of eliciting information. As such, a question is identified by its function, that of eliciting information. With this conclusion in place, a more comprehensive characterisation of questions can be given. A question is *an act performed in order to elicit information*.

An Objection Considered: Not *all* questions are asked in order to elicit information

One may well agree with the conclusions derived from case 1 and yet still not be convinced that a question should be characterised in terms of the function of eliciting information. This reflects the original objection that was raised in response to the identification of information-elicitation as the goal of questioning. The two objections are, essentially, one and the same. It may be argued that, whilst it is true of some questions that they are asked in order to elicit information, not *all* questions are like this. As noted, a question may be asked in order to demonstrate concern or care for another person, or to provoke a response such as surprise or embarrassment. This objection is especially pertinent when recalling the paradigmatic nature of case 1. The scenario explicitly describes Sarah as being 'interested to know' how many countries there are. As such, her information-eliciting motivations are explicit. In this case, it seems particularly appropriate to identify Sarah's utterance as a question on the basis of these motivations. Despite this, one may reasonably argue that not all questions arise in this way, or, indeed, out of any information-eliciting motivation. The present characterisation would seemingly exclude these cases where our intuitive judgements would not. Given that an intuitively plausible account of questions and questioning is being sought, this appears problematic.

The characterisation of questioning as an epistemic practice, and of questions as the medium of questioning, provides the basis for a preliminary response to this objection. This response serves as

an answer, both to the objection as it stands with respect to the goal of questions, and, in virtue of this, with respect to the goal of questioning. The specific nature of the claim in question must therefore be made explicit. Namely, that the *characteristic* goal of questions, and thereby questioning, is to elicit information. Crucially, I am concerned with providing a characterisation of questions and questioning. As such, the claim is that these can be identified in terms of their *characteristic function*, and that this function is information-elicitation. The fact that a characteristic, as opposed to necessary function, is being proposed provides a defence against the current objection.

The notion of a characteristic function can be explicated with reference to an analogous example. The characteristic function of wings, say, is to enable birds to fly. Nevertheless, there are flightless birds with wings, for example, penguins. A penguin's wings do not cease to be wings on the basis that they do not enable a penguin to fly. Likewise, the characteristic function of wings is not brought into question by the existence of penguins. A penguin's wings can be identified as wings precisely by the identification of the characteristic function of wings in general, even if they do not themselves manifest this function. This is what is meant by a characteristic function. Analogously, questions can be characterised in terms of their function. In fact, they must be. Given that questions cannot be identified purely by their linguistic form, or characterised simply as acts, the function of a question is ultimately what allows us to identify it as a question. Thus, the characteristic function of questions, and thereby questioning, is to elicit information, even if not all questions manifest this function. Understood from this perspective, the current objection misses its target. It has been conceded that not all questions are asked in order to elicit information. Despite this, on the basis of the explication provided above, the characteristic function of questions is still that of eliciting information.

One might worry that this response is too quick. To serve as a characteristic function, the function of information-elicitation should plausibly be the goal in at least most cases of question-asking. If it is only occasionally the goal, then it seems wrong to identify information-elicitation as a characteristic function at all. If this is so, then one could maintain that information-elicitation is only one function among many and therefore does not qualify as the characteristic function of questions. Further to this, it is not wholly satisfying simply to concede the point that not all questions are asked in order to elicit information. In order to offer a more substantive response some account of the means by which we can identify genuine questions that do not have this as their goal is required. How are these questions related to the goal of information-elicitation, whilst not themselves directly motivated by it. In order to respond to these further concerns, several more cases taken from the online survey can be considered, in particular, those in which the motivation

of information-elicitation is not clear. These will provide a basis for further defending and refining the characterisation of questions.

Case 5: What did you think of Julia's suggestion

To begin, take the following case. Sarah is attending a staff meeting in which a colleague she doesn't particularly like is being unhelpfully rude and obstructive regarding a particular issue. Sarah knows that he has not read the minutes from last week's meeting, which he did not attend, and in order to expose this she interjects at the end of his comments, saying, 'what did you think of the suggestion Julia made last week to address this issue'. Here Sarah is attempting to expose the colleague's absence from the meeting last week and failure to catch up on the minutes in order, one might imagine, to embarrass him into dropping the subject about which he is being rude and obstructive or to at least in some constructive way, modify his behaviour. As such, Sarah's motivation for making her utterance is explicitly not information-elicitation. If information-elicitation was a necessary requirement for identifying questions, we would be forced to conclude that her utterance is not a question. It seems intuitively plausible however, that Sarah's utterance should be construed as a question in this sense. In response to this scenario, 61% of the survey participants responded that there was a question in this case (2628 participants in total). This is the smallest majority seen so far illustrating, as with the road-crossing example, the challenging nature of the case. Nonetheless, it is plausible, I think, to maintain, along with the majority, that there is a question in this case. Specifically, Sarah asks her colleague what he thinks of a suggestion made by Julia in last week's staff meeting. Significantly, this type of case is familiar and relatively commonplace so cannot plausibly be dismissed as an unusual outlier. Excluding cases such as this will exclude a large number of utterances that an intuitive account of questions should include.

Given that information-elicitation has been identified as the characteristic, as opposed to necessary, function of questions, this unappealing result can be avoided. In particular, Sarah's question can still be *characterised* in terms of the goal of eliciting information, even while her explicit intention in asking it is to embarrass her colleague. This explicit intention can be viewed as the *subsidiary* goal of the question. While Sarah's intention is to expose her colleague's absence from the previous meeting, she has still chosen to do this by attempting to elicit information from him. The goal of embarrassment is achieved *in virtue of* the goal of information-elicitation. She could have chosen an alternative medium, an assertion for example, in which case the colleague's absence would have been exposed in a different manner. If Sarah had simply interjected with the statement 'you were not at the last staff meeting and haven't read the minutes' she would have achieved the desired effect. By asking a question, Sarah is employing the characteristic goal of questions, information-

elicitation, in order to achieve this effect. In fact, it is precisely the attempted elicitation of information from her colleague that *does the work* of embarrassing him. It is by attempting to elicit information from him about what he thought of Julia's suggestion in last week's staff meeting that Sarah aims to achieve her goal of embarrassing him. On this basis, it can be maintained that Sarah has asked a genuine question in this case and so preserve this intuitive result. Moreover, this goes some way towards elucidating the relationship between questions that do not have information-elicitation as their explicit goal, and the characterisation of questions in terms of this goal. Questions are characterised by the goal of information-elicitation.

Case 6: The disinterested 'how are you'

A useful second case can also be examined in order to provide further support. Imagine that the morning after the staff meeting, Sarah is walking to her classroom down a long corridor and spots the same disliked colleague approaching from the other end. As they pass, despite having no interest whatsoever in his wellbeing, she glances up and mutters 'morning, how are you'. Once again, the ultimate objective of Sarah's utterance is not to elicit information, this time about her colleague's wellbeing. Rather, in this case, Sarah is acting in accordance with social etiquette and expressing politeness. Significantly though, as with the previous case, Sarah chooses to express this politeness in the form of a question. Her explicit intention can once again be viewed as the *subsidiary* goal of her question. The goal of politeness is achieved *in virtue of* the goal of information-elicitation. Sarah could have chosen a different means of expressing politeness. She could, for example, simply have uttered 'good morning', or offered a polite nod of the head in order to achieve the desired effect. By asking a question, Sarah is employing the characteristic goal of questions, information-elicitation, in order to achieve this effect. Although Sarah has no actual interest in the information she is requesting, it is the fact that she is requesting information at all that *does the work* of expressing politeness. Information-elicitation is the *characteristic* goal of the question in virtue of which Sarah aims to achieve the *subsidiary* goal of polite social engagement. Sarah has still asked a genuine question and the characterisation of questions in terms of the goal of information-elicitation is further elucidated.

This last case, it should be noted, may produce divergent intuitions. One might in fact be inclined to think that no genuine question has been asked. While Sarah's utterance does take the interrogative form, and so can be superficially characterised as a question in this sense, it does not constitute an act in the sense with which the present investigation is concerned. The question of how this utterance relates to the characteristic goal of information-elicitation is therefore a moot point. These divergent intuitions can be observed by noting the results of the online survey. The

case in fact provoked a very close split among the participants and was one of only two scenarios in which the respondents judged there to be *no* question, by a 55% majority (2520 participants in total). The conclusion drawn above, that Sarah does ask a genuine question, therefore conflicts with the intuitions of over half of the survey participants. The very small margin in this case demonstrates its particularly challenging nature. For present purposes, it will be constructive to maintain that the case does contain a genuine question in order to examine a contrasting case in which, it will be argued, no question occurs, and so further define the parameters for the identification of questions.

Rhetorical Questions

One explanation for the divergent intuitions represented by the survey results in response to case 6 is that many of the participants judged Sarah's utterance to be a rhetorical question. An examination of rhetorical questions will allow us to distinguish these from genuine questions and so further explicate the characterisation of the latter. Most significantly, rhetorical questions diverge from genuine questions on the basis that they are explicitly not asked in order to elicit information. This is the *defining* feature of rhetorical questions. Despite the fact that they typically take the interrogative form they are not asked in order to elicit information and are employed for precisely this reason. In order to see this more clearly, consider the following case.

Case 7: Will it ever stop raining

Sarah has just woken up and opened the curtains to discover that it is raining again, as it has been for the past two weeks. On seeing this she exclaims out loud 'will it ever stop raining'. Her partner, who is still in the bed behind her, shrugs. In this case, I would contend that there is no genuine question (excluding the sense in which the utterance can be characterised as a question based on its interrogative form). Sarah's utterance should be viewed as just that, an utterance, and not as an information-eliciting act. In response to this scenario, 59% of the survey participants also judged there to be *no* question in this case (3065 participants in total). This is still a relatively small majority, albeit marginally higher than the no vote observed in the previous case. Significantly, in this case the present account of questions once again accords with the majority judging there to be no question.

Rather than expressing a genuine question, Sarah's utterance should be viewed as a rhetorical question. This is precisely because it is not characterised by the goal of information-elicitation. Sarah's intention, to express disdain at the weather say, is not achieved in any respect in virtue of an

attempt to elicit information. Information-elicitation is doing *no work* in this case in order for Sarah to achieve her goal. It is on this basis that case 7 can be distinguished from case 6 (and, indeed, all the previous cases). A very similar scenario can be imagined in which this distinction could not be made. Say Sarah looks out of her window, discovers that it is raining and then turns to her partner saying ‘do you know if it will stop raining today’. In this altered case, it seems intuitively plausible that Sarah has asked a question. This is because she is more plausibly attempting to elicit information. In the unaltered case, Sarah is not attempting to elicit information about the weather and, crucially, her utterance is not employing information-elicitation as a means of achieving a subsidiary goal. This is what leads to the intuitive judgement that there is no question in this case. Information-elicitation is not the characteristic function of a rhetorical question. A rhetorical question may employ the linguistic form of a question, but not its function. This is what distinguishes a genuine question from a rhetorical question. Moreover, without a distinction such as this, it is hard to see what principled basis there could be for distinguishing genuine questions from rhetorical questions. As such, this distinction helps to further refine the characterisation of questions.

Good reason has therefore been established for identifying information-elicitation as the characteristic function of questions, and thereby, of questioning itself. Returning to the road-crossing scenario of case 4, which sparked the present investigation into the function of questions, it should now be easier to see how this case contains a genuine question. In particular, the case describes a situation in which Sarah is on the side of a busy and unfamiliar road, looking both ways to determine if it is safe to cross. It seems highly plausible that she is attempting to elicit information about the vehicles coming her way. On this basis, her act should be judged a question. In contrast, if she were looking both ways on the side of a deserted and familiar road, one might be less inclined to judge her act a question. This is precisely because it is less plausible that Sarah is attempting to elicit information from her surroundings. Rather her action might be regarded as the manifestation of a habit. A habit is distinct from a practice. Insofar as Sarah is attempting to elicit information in case 4, she is engaging, not in a habitual action, but in a practice. A practice characterised by the function of information-elicitation; the practice of questioning.

A Final Objection Considered: Questions with known answers

One final objection to the characterisation of questions can now be considered. This concerns questions to which the questioner already has the information requested. In these cases, once again, the function of eliciting information may appear to come into question. Case 8 will help to demonstrate this.

Case 8: How many pencils are there

Sarah is teaching her students some basic arithmetic. One student shows her his answer to a question and she sees that it is wrong. In order to correct him, rather than telling him the answer, Sarah counts out ten pencils on the table in front of him, removes two and says 'how many pencils are left on the table'. The utterance 'how many pencils are on the table' should, I think intuitively be judged a question. Indeed 83% of the survey participants said that there was a question in this case (3689 participants in total). Sarah, however, knows the answer to this question very well. In other words, this looks like a question which contains no missing information. If it is a genuine question then this would appear to run counter to the claim that questions are characterised by the goal of information-elicitation, given that there is apparently no information to elicit in this case.

This case once again draws attention to the social dimension of questioning. Questions often form part of an interaction between people in the context of a dialogue or communicative exchange. The distribution of known and missing information in a question can therefore extend beyond the information that is known or missing for the person who in fact asks the question. In case 8 this is easy to see. The interaction taking place when the question is asked is between Sarah and her pupil. The information is *spread out*, so to speak, between the two parties. The known information is supplied by Sarah and the missing information is 'supplied' by the pupil. Sarah's utterance can be rightly described as a question because it is performed in order to elicit information from her pupil; information that *he* is missing. This may also be viewed as a subsidiary goal.

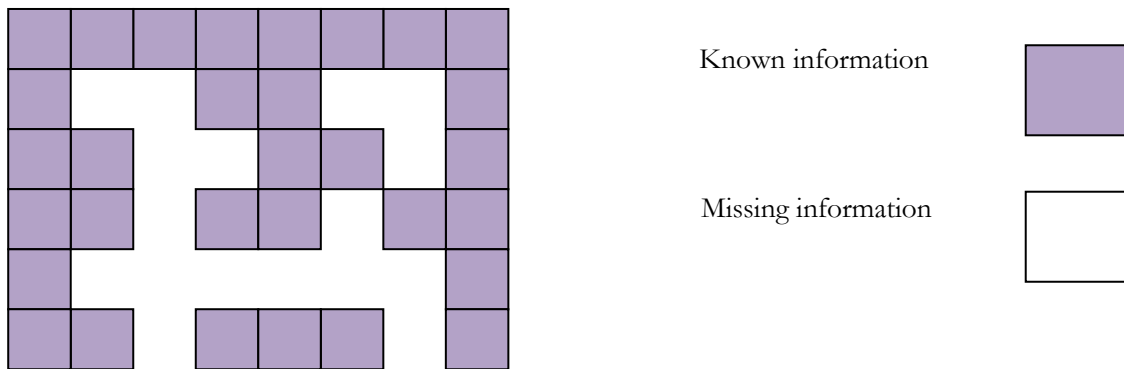
This objection highlights a final insight concerning the nature of both questions and questioning. If a question is necessarily performed in order to elicit information then questions themselves must represent both known and missing information. In order to elicit information, some information must be missing when a question is asked (whether for the questioner, or for another). In addition, some information must be present in order for a question to be formed at all. This insight gives rise to a useful analogy.

The Puzzle Analogy

The following simple analogy construes a question as a *puzzle*. There is a sense in which the terms 'question' and 'puzzle' can be used synonymously but it will be helpful to extend this notion somewhat and think of a question as being like a physical puzzle consisting of a number of pieces that fit together to make an image. Say that the puzzle has one hundred pieces in total with seventy

of the pieces already fitted into place and gaps for the remaining thirty. This amounts to a partial image with gaps in it. The pieces already in place represent information that is known with respect to the question. The gaps represent the missing information that will form its answer. As such a question represents an *informational state*, one necessarily comprised of some known information and some missing information. If there are no pieces of the puzzle already fitted into place and thus no information that is already known, then there is no question. Equally, if there are no gaps to fill with the remaining pieces and thus no missing information, then there is no question. Every question represents an informational state comprising some known information and some missing information.

The Puzzle Analogy:



Questions are characterised by the goal of eliciting information. It is precisely this feature of questions that determines their structure in terms of this informational state. A question must contain the missing information that forms its answer in order for it to function as an attempt to elicit information. Just as there must be gaps in a puzzle in order for it to remain a puzzle as opposed to an image, there must be missing information in a question in order for it to remain a question as opposed to, say, knowledge. What determines that an utterance is a genuine question is the fact that it functions as an attempt to fill in the gaps and so to elicit the information that is missing. The puzzle analogy captures this characteristic feature of questions and will serve as a useful tool in the following chapters.

Grey Area Cases

Before concluding, it is worth noting that there are expected to be a wide range of cases occupying a 'grey area' when it comes to determining whether or not a question has arisen. In order to

demonstrate this two further cases can be briefly acknowledged, in which the judgement as to whether or not a question arises is particularly challenging.

Case 9: The absent receptionist

Sarah walks past the reception desk in her school and notes that the regular receptionist has not been in for several days. She briefly considers his whereabouts, although she has no reason to think that she knows where he is, and is then immediately distracted by another thought. In this case, I would contend, it is difficult to judge whether or not a question has been asked. The fleeting nature of the thought and the unclear motivations behind it make it hard to discern whether Sarah is attempting to elicit information or achieve some other subsidiary goal in virtue of information-elicitation. This lack of clarity is also reflected in the relatively high number of participants in the survey who ticked 'unsure' in response to this scenario (10%, 447 participants in total). Overall the participants judged that there was a question in this case with a reasonable 65% majority (3052 participants in total). However, I think this case nonetheless represents a grey area case for our analysis.

Case 10: How big is the universe

Sarah is leaving work for the day and night has already fallen. She pauses at one point on her walk home and looks up to the clear, dark sky above. Marvelling at the scale and beauty of the scene she says silently inside her head 'how big is the universe'. She considers this for several minutes and then continues home. Once again, I would contend, this case is difficult to judge. Unlike the previous case, Sarah does spend some time considering the thought. However, it is at least plausible that there is no possibility of her eliciting any information whatsoever about the size of the universe in this manner. As such, whether or not she is engaging in an attempt to elicit information in this case is unclear. The survey results again reflect this. In fact, this case received the highest number of 'unsure' responses to any of the scenarios, at 12%. It also received the smallest margin, with just 52% of the participants judging there to be a question in this case (2240 participants in total). As such, this case again falls into a grey area for the identification of questions. Importantly, grey area cases do not themselves indicate a problem with the characterisation of questions presented in the preceding discussion. Rather these serve to demonstrate the significant complexity associated with developing such a characterisation.

CHAPTER SUMMARY

Key insights from Chapter Three can now be summarised. Questioning, I have argued, is a practice. A practice is *a socially established set of activities directed towards a common goal*. Questioning is therefore inherently social. Furthermore, questioning is an epistemic practice meaning that it is a socially established set of activities directed towards a common epistemic goal. The common epistemic goal of questioning is *information-elicitation*. Importantly, this is taken to be the characteristic, as opposed to necessary, goal of questioning. On this basis, questioning is characterised as *a socially established set of activities directed towards the common goal of eliciting information*. The ‘set of activities’ that constitute the practice of questioning are questions. A question can be understood both as an interrogative sentence and as an *act*. The latter is the form in which questions feature in the practice of questioning. In this capacity, questions serve the characteristic function of questioning. A question is therefore *an act performed in order to elicit information*. A substantive characterisation of both questioning and questions has been presented.

Chapter Four

What is the Value of Questioning

We question in order to find things out. More formally, we question in order to elicit information. When you ask a passing stranger for directions you are looking for information about how to get to your destination. When you ask a colleague if they are free after work, you are looking for information that may lead to you spending a pleasant evening in the pub. You don't need to be out in the world to be doing this. When you ask yourself whether it is time for another cup of tea, you are looking for information, either about the time itself, or about an internal state of tea-desiring in that moment. We can engage in this private questioning without any utterance or indication to the world outside that we are doing so. However we engage in it, questioning leads us to information that we don't already have and allows us to act on the basis of this. For this reason, questioning is useful and this tells us something about its value.

This chapter will investigate the *value of questioning*. The investigation will focus primarily on the characteristic epistemic function of questioning, that of eliciting information, and examine its relationship to two principal epistemic goods, knowledge and understanding. I will argue that questioning plays an instrumental role in the acquisition of both knowledge and understanding, and is partly constitutive of their value. On this basis, the instrumental and constitutive value of questioning will be established. A third value for questioning, labelled essential constitutive value, will also be proposed and explored. Finally, I will argue that questioning plays a valuable, perhaps essential role in the generation and dissemination of epistemic goods within epistemic communities. It is thus a significant and valuable source of epistemic cohesion. This investigation of value will advance the epistemology of questioning in line with the recent wave of interest in epistemological discourse concerning the evaluative domain, characterised as a 'value turn' in epistemology (Riggs 2008).¹⁸

¹⁸ The discussion of Chapter Four draws on and develops the argument advanced in my MSc by research dissertation entitled 'The Value of Questions', submitted and passed with Distinction at the University of Edinburgh in 2011.

WHAT MAKES QUESTIONING VALUABLE

The Value of the Function

Questioning is a practice with a characteristic function in our epistemic communities. In order to determine the value of questioning, the value of the function that it has must be examined. What does questioning achieve, obtain or make possible. It will be useful here to think of questioning as akin to a tool with a particular function, a wrench for example. In order to determine the value of wrenches we look to their function, that of tightening and untightening very tight screws. If the ability to tighten and untighten very tight screws is something that we value, say because we value having furniture that doesn't fall apart when we use it, then wrenches themselves accrue value. If we instead prefer the unpredictability of not knowing when furniture is liable to fall apart, then wrenches would have little or no value. Thus, wrenches get their value from their function. Likewise, questioning is a practice, a tool if you like, characterised by and bound to its function. As such, questioning gets its value from its function.

Questioning has now been identified as a practice with the characteristic epistemic function of eliciting information. By identifying the function of questioning a substantive account of the practice was made possible. By examining this function the investigation can now move beyond an account of the nature of questioning, to an appreciation of its value. In particular, the function of questioning exposes its goal. Indeed, the function and the goal, for the most part, can be treated interchangeably. The value of questioning can therefore be revealed by examining its goal. Goals represent the things that we strive towards or desire. They tell us what it is that we value. As Kvanvig (2005) remarks in his discussion of epistemic goals, "[A]sking about goals is asking about values or goods" (p.285). Identifying the goal of questioning as that of eliciting information provides the foundations for a discussion of what makes questioning valuable.

The Value of Eliciting Information

Information, along with truth, justification, knowledge, understanding and wisdom, is an epistemic good. What is meant by this. There is a sense in which, by calling these goods, they can be thought of as simply, say, products; the products of cognitive effort perhaps. This is the sense in which one refers to the goods coming out of a factory for example and is primarily descriptive. To employ a useful distinction introduced by Bernard Williams (1985), this is the *thin* sense of the term goods. There is also a sense in which, by calling all of these epistemic states or processes, goods, something of value is ascribed to them. In this instance the term signals the evaluable dimension of these

states or processes. It is *good* to have truth, knowledge, understanding etc. In Williams' terminology, this is the *thick* sense. This thick sense is the sense in which we are primarily interested when speaking of eliciting information as the goal or function of questioning. Information is the epistemic good, the thing of value, which we strive towards when we ask questions. Questioning therefore has a distinctive value, namely, the value it derives from that thing which we strive towards when we engage in it; the value of eliciting information.¹⁹

Eliciting information itself is valuable in virtue of its relationship to the more traditional epistemic goods. In particular, information-elicitation plays a central role in the acquisition of knowledge and understanding. It is, for example, largely on the basis of eliciting information that we come to form beliefs and justify them. Without eliciting information, it is arguably unclear how we would come to know or understand much, if anything, at all. On what would any purported knowledge or understanding be based in the absence of information. At any rate, information-elicitation is a central feature in the acquisition of knowledge and understanding. Given that questioning is characterised by the function of eliciting information, questioning can therefore be seen to play a key role in the acquisition of these goods. Much as the wrench plays a key role in securing furniture in virtue of its function, that of tightening and untightening very tight screws. Just as the value of the wrench is in essence one and the same as the value of its function, so the value of questioning is in essence one and the same as the value of eliciting information. Having determined that the value of questioning is derived from the function of eliciting information, the basis for a more in depth examination has been established. The investigation will therefore now turn to an examination of the goods which questioning, in virtue of its function, allows us to obtain, and explicate its value in relation to these.

QUESTIONING AND KNOWLEDGE

The Value of Knowledge

The history of epistemology bears testament to a decisive focus on the project of defining knowledge. However, in recent decades, inspired at least in part by the emphasis in virtue epistemology on evaluative concerns, there has emerged an interest in questions concerning epistemic value. This has led, in particular, to a notable discussion in the recent literature regarding

¹⁹ Not all information-elicitation is necessarily valuable. Examples of trivial or disvaluable information can be found throughout the contemporary literature concerning epistemic value (see for example, Treanor 2012; Baril, 2010; Grimm 2008). The claim that eliciting information is valuable in general, however, is not affected by this.

the value of knowledge (Kvanvig 2003; Riggs 2008; Pritchard 2010a; Greco 2010). Riggs (2008) describes the movement as bringing “new resources to bear on old questions” (2008, p.301) stressing its complementary role to the project of defining knowledge. The significance of this focus on value for epistemology is highlighted notably by Kvanvig (2003, pp. ix-x) who argues that an account of the value of knowledge is as central to any adequate theory of knowledge as the question of its nature. Moreover, Kvanvig argues that our strong instinct to assign value to knowledge indicates that a theory of knowledge which lacks a satisfactory account of this is necessarily inadequate. Similarly, Timothy Williamson (2000) writes, “knowing matters; the difference between knowing and not knowing is very important to us” (p.31) likewise stressing that an account of the value of knowledge should be integral to any epistemological inquiry concerning knowledge. On this basis, the question of the value of knowledge is arguably of concern to epistemologists across the board.

Much of the debate concerning the value of knowledge has focused on a problem that has become known in the literature as the *Meno* problem, so called due to its original statement in Plato’s *Meno* (97d). In the dialogue Socrates attempts to demonstrate that we cannot account for the value of knowledge over and above the value of true belief on the basis of its role in guiding our actions as both knowledge and true belief are equally valuable on this score. However, Socrates continues, given that knowledge is intuitively more valuable than true belief, we must account for its value in some other way and he proceeds with an attempt to do just that. In its original formulation, the principle question regarding the value of knowledge is the question of how to account for its value over and above the value of true belief. This is the question at the heart of the contemporary debate. In addition, two further related problems concerning the value of knowledge have also been identified in the contemporary discourse. The first, taking into account post-Gettier attempts to find a definition of the nature of knowledge, asks why knowledge is more valuable than *any* combination of its purported component parts, as opposed to true belief alone. The second addresses the idea that knowledge is not only more valuable than its constituent parts but possessing of a *distinctive* kind of value. If this is the case then this distinctive value must also be accounted for (see in particular Pritchard 2010 for a discussion of this). The value of knowledge has thus been at the centre of lively debate in recent epistemological discourse.

A number of different approaches have been taken in response to the various value problems for knowledge. One approach is to identify the value of knowledge in terms of its relation to external things. In its original formulation both Meno, who offers the initial practical solution, and Socrates, who appeals to the permanence and stability of knowledge, take this approach. A third and related response, explored by Williamson (1996, 2002), appeals to the value of knowledge in terms of its

capacity for guiding right actions. An alternative and more widely considered approach, however, identifies the value of knowledge in some internal feature of the structure or nature of knowledge. Advocates of a standard reliabilist account of knowledge, for example, argue that the value of knowledge over true belief can be identified in the reliable belief-forming processes that, on this view, are required for its ascription. It is the fact that knowledge is true belief *reliably formed* that accounts for its additional value over true belief alone. In a similar vein, several prominent virtue epistemologists have argued that the value of knowledge arises from the intellectual skills and virtues required in order to obtain it. Greco (2010), Riggs (2002) and Sosa (2007) have all advanced this approach, developing forms of reliabilism based on the principles of virtue epistemology. The key idea is that the ascription of knowledge is based on that knowledge being creditable to the knower. Knowledge is defined as *intellectually virtuous* true belief and, by drawing an analogy between epistemic success and moral action, proponents of this account argue that knowledge is a state creditable to the intellectual virtues of the knowing agent. On this basis, it is the fact that knowledge is true belief *virtuously formed* that accounts for its additional value over true belief alone. Both this virtue-theoretic solution and its standard reliabilist forerunner thereby account for the value of knowledge over that of true belief in terms of the manner in which a person comes to know. It is in the acquisition of knowledge that its value is identified. I will call this the *acquisition-based* approach to the value problem for knowledge.

Instrumental Role of Questioning

On the above picture, knowledge is seen to have a distinctive value over and above true belief. This acquisition-based approach to the value problem for knowledge provides a useful framework for explicating the role that questioning plays in relation to knowledge. Given its distinctive function of eliciting information, questioning plays a central role in the acquisition of knowledge. With the above discussion in mind this role can be characterised more precisely. Understood as a tool for eliciting information, questioning is both a skilled and reliable means of acquiring knowledge. Questioning can therefore be viewed as a key intellectual skill in virtue of which we come to have knowledge. As such, on the acquisition-based account, questioning can be identified as at least one of the key skills in virtue of which knowledge comes to have value over and above true belief. This draws attention to the significance of questioning in the value of knowledge debate. Moreover, this allows us to identify a distinctive value characteristic of questioning. Questioning, understood as an intellectual skill, is instrumental in the acquisition of knowledge, a thing itself of value. Questioning therefore exhibits *instrumental value* in relation to knowledge.

An Objection Considered: Components of knowledge cannot account for its value

Due to its prominence in the debate, the virtue-theoretic response to the value problem for knowledge has come under some scrutiny. Kvanvig (2003, p.107), in particular, argues that by attributing the value of knowledge to the intellectual virtues of the knower and defining knowledge in terms of this, the virtue epistemologist is still subject to the problem concerned with accounting for the value of knowledge over and above the value of its component parts. Furthermore, Kvanvig argues that any account of the value of knowledge that appeals to the value of its component parts is subject to an additional and ultimately insurmountable difficulty presented by the Gettier problem. He argues that the increasingly complex sets of conditions for knowledge that have emerged in the post-Gettier literature, stand in direct conflict with attempts to account for the value of knowledge which appears by contrast to be simple and intuitive. This juxtaposition leads Kvanvig to claim that there is an unacceptable “tension between the desiderata of the nature and value of knowledge” and that “no component-based account of the value of knowledge will be successful” (p.117). If this is the case, then the role that questioning plays in the acquisition of knowledge may not be seen to contribute anything in accounting for its value.

Greco (2010) is one commentator however, who denies the force of this last objection. He argues that, by suggesting that an additional anti-Gettier condition is required in order to get a virtue-theoretic account off the ground, Kvanvig has failed to fully appreciate the nature of the virtue-theoretic solution. In fact, Greco argues, no additional anti-Gettier condition is offered or required and thus Kvanvig’s objection misses the crucial point. This response rests on the distinction, which Greco claims Kvanvig has missed, between “(a) a belief’s being true *and* virtuously formed and (b) a belief’s being true *because* virtuously formed” (p.100, emphasis added). The former suggests an additional component for knowledge whilst the latter does not. Thus, while a true belief can be formed as a result of the intellectual skills of the agent and yet still be subject to knowledge undermining luck, the virtue-theoretic solution builds in to knowledge a ‘because of’ relation meaning that only in situations where the formation of true beliefs is creditable to the intellectual skills of the agent, can knowledge be ascribed. Hence why the virtue-theoretic solution is more accurately described as an acquisition, as opposed to component-based approach. It is on this basis that Greco argues knowledge should be thought of as a kind of cognitive achievement. As such, Gettier-style cases are written out of the picture from the outset. Greco maintains that virtue epistemology offers a promising solution to the value problems for knowledge. On this basis, the instrumental value of questioning, as a key intellectual skill in the acquisition of knowledge, remains intact.

Constitutive Role of Questioning

Significantly, this important clarification, brought to the fore by Greco, allows us to further explicate the role that questioning plays in the acquisition of knowledge and so deepen the account of its value. Specifically, knowledge is not merely acquired alongside questioning but *as a result* of it. Questioning is one of the key intellectual skills involved in the acquisition of knowledge. This demonstrates its instrumental value. In addition, on the virtue-theoretic acquisition-based account, knowledge itself is valuable in virtue of the intellectual skills by means of which an agent comes to know. It is because of these intellectual skills that knowledge is valuable. It is therefore in part *because of* questioning that we come to value knowledge. Put another way, questioning, at least in part, amounts to or constitutes the value of knowing. In addition to instrumental value, questioning exhibits *constitutive value* in relation to knowledge. Questioning plays a key role in accounting for the value of knowledge itself.

This identification of constitutive value highlights a subtle but important distinction. A thing has instrumental value when it *leads to* or is the *cause of* something that we value. A thing has constitutive value when it, at least partly, *amounts to* or *constitutes* something that we value. Of course, the two are not mutually exclusive and in both cases, the value of the thing is in some sense derived from the value of something else. For this reason, constitutive value is often treated simply as instrumental value in value theory literature. The distinction, however, is worth maintaining and making explicit in the present context. As such, questioning has instrumental value because it *leads to* or *causes* us to have knowledge (which we value) and it has constitutive value because it partly *amounts to* or *constitutes* the value of knowledge itself. Both the instrumental and constitutive value of questioning have thereby been identified in relation to knowledge.

Essential Role of Questioning

So far the value of questioning has been identified in terms of the central role that it plays in the acquisition of knowledge; questioning is one of the key intellectual skills in virtue of which we come to know and, on this basis, exhibits both instrumental and constitutive value. This provides a substantive account of the value of questioning. With this in place, however, a stronger claim is also worth exploring. This is the more speculative, but nevertheless significant claim that questioning plays an *essential* role in the acquisition of knowledge. On this basis questioning would be *necessary* for knowledge and thus knowledge would not be possible in the absence of questioning. If this were the case then the value of questioning would take on a further and even deeper significance. It

should, however, be emphasised that the instrumental and constitutive value of questioning already identified remain unaffected, regardless of the outcome of this more speculative exploration.

In order to investigate the stronger claim that questioning plays an essential role in the acquisition of knowledge, it will be constructive to draw on the work of Schaffer (2005, 2007, 2009), outlined in Chapter Two. As observed, Schaffer presents an account of knowledge, labelled ‘contrastive knowledge’, in which he argues that the traditional analysis of knowledge, construed as a binary relation between a subject and a proposition ($K_s p$), should be abandoned in favour of an analysis based on the ternary relation between a subject, a proposition, and a contrast proposition ($K_s p q$). Based on this contrastive account, Schaffer contends that “knowledge is a question-relative state” (2007, p.383). As such the ascription of knowledge depends on the purported knower’s ability to answer relevant questions with regard to any knowledge claim they make. If one claims to know when the next bus is due, for example, one must be able to satisfactorily answer the question ‘when is the next bus due’. Schaffer thus proposes an account of knowledge in which its relationship to questions is an intrinsic feature. This provides the foundations for an account of knowledge acquisition in which questioning plays an essential role.

As discussed in Chapter Two, Schaffer’s contrastive account has faced criticism in the literature (Baumann 2008; Brogaard 2009; Kallestrup 2009), much of which has been addressed by Schaffer directly in subsequent work. Nonetheless, while Schaffer’s defence of contrastivism is in many respects compelling, scepticism regarding the contrastive account remains, particularly given its revisionary, even radical nature. With this in mind, a modification, or perhaps more accurately, recasting of the contrastive account, in light of the virtue-theoretic framework, may be of some value. This version of contrastivism draws out the centrality of questions in the contrastive account and interprets this in terms of the virtue-theoretic emphasis on the intellectual skills and abilities of the agent in coming to know. In particular, the ability to engage in questioning. Cast in these terms, the virtue-theoretic contrastive account treats knowledge not merely as question-relative, but as *questioning*-relative. This account highlights several key advantages of the contrastivist approach and provides a more robust account of knowledge ascription than is advanced by Schaffer. Moreover, with this view in place, the essential role that questioning plays in the acquisition of knowledge becomes manifest. Simply put, if knowledge is a questioning-relative state then the ability to question is an essential constitutive feature of knowledge.

In his presentation of contrastive knowledge, Schaffer regularly appeals to the *ability* to answer a question as the signifier of knowledge attributions. Thus he states, “[K]nowledge ascriptions certify that the subject *is able* to answer the question” (2005, p.236, emphasis added). One’s claim to know

when the bus is due is assessed on the basis of one's ability to answer the relevant question. Schaffer does not, however, focus on the role that the ability itself plays in sanctioning knowledge ascriptions, but rather on the logical form underlying these ascriptions, if the ability to answer a question is indeed requisite. Despite this, the ability itself does play an essential role. Knowledge ascription, as it operates in our epistemic communities, is not primarily a matter of determining the abstract logical form underlying a given claim to know. That is not to say that determining this logical form is not a matter of philosophical interest in its own right. This is indeed the aim of Schaffer's contrastive account. However, a more robust, normative account of knowledge ascription can be achieved by taking note of the virtue-theoretic emphasis on the skills and abilities of the knowing agent, and rooting these in the underlying ternary knowledge relation proposed by contrastivism. Under a virtue-theoretic construal ability itself plays a constitutive role in the analysis of knowledge. By highlighting the essential role that the *ability to question*, which is central to Schaffer's account, plays in coming to know, the virtue theoretic-approach thereby shifts the emphasis of the analysis from the abstract logical relation, to the agent-centred state of knowing, and identifies questioning as essential in the attainment of this state.

In order to demonstrate the value and feasibility of combining the virtue-theoretic and contrastive accounts of knowledge, it will be useful to further examine the role that questioning plays in the acquisition of knowledge. This will in turn, provide theoretical impetus for the claim that questioning plays an essential role in the acquisition of knowledge. Initial support for this can be invoked by examining an everyday example of knowledge acquisition. In fact, it will be constructive to adapt a well-known case first put forward by Jennifer Lackey (2009) in the testimony literature. In Lackey's case Morris, a tourist, arrives in Chicago and wants to get to the Sears Tower. In order to do so he asks a passer-by for directions. Adapting this case, we can imagine that Sarah (a familiar face), has just arrived in Seoul, a city she is not familiar with, and wants to get to Seoul Tower. In these circumstances, Sarah has a number of options in order to find her way to the tower. Like Morris, she can stop a passer-by and simply ask for directions. If there are no passers-by she can ask herself, 'where is Seoul Tower', and perhaps consult a map for the answer. Alternatively, she can simply consult a map without having articulated the question at all. All of these methods of finding out where the tower is involve questioning. They all involve an act performed in order to elicit information, specifically, concerning the location of Seoul Tower. More importantly, all of these methods involve questioning as an *essential* part of acquiring the relevant information. It is only on the basis of the information that Sarah acquires through questioning that she comes to know where Seoul Tower is. Questioning is an essential part of Sarah coming to know where Seoul Tower is. In the absence of questioning, it is hard to see how she would ever find her way to the

tower and enjoy the magnificent views. This provides some initial support for the claim that questioning plays an essential role in knowledge acquisition.

An Objection Considered: Not *all* knowledge-acquisition requires questioning

The argument presented here may seem to be moving a little fast, however. In particular, one may object that not all cases of knowledge acquisition are like the Seoul Tower case. In this scenario Sarah is unfamiliar with the city she has just arrived in, and in need of a specific piece of information regarding it. These are arguably paradigmatic circumstances under which one is likely to go seeking the required information by means of questioning. However, there are of course numerous and frequent instances of knowledge acquisition that do not exhibit these features, and therefore do not obviously lend themselves to explicit or overt questioning. Nonetheless in these instances, knowledge is acquired. Whilst one may then agree with the claim that questioning plays a *central* role in many cases of knowledge acquisition, one may still maintain that it is not required in all cases of coming to know, and is therefore not *essential* to knowledge acquisition.

In order to see this objection clearly, it will be useful to construct a further variation of the Seoul Tower case. In this case, a second tourist, Raj, also unfamiliar with the city, is walking past just as Sarah asks a passer-by for directions to Seoul Tower. As Raj passes he overhears the answer that is given, 'Seoul Tower is three stops west on Metro line six'. As such, Raj also acquires a piece of information that he didn't previously have and comes to know where Seoul Tower is. Crucially, no explicit or overt questioning has taken place on his part. This provides an apparent counter-example to the claim that questioning plays an essential role in knowledge-acquisition. Raj comes to know where Seoul Tower is without engaging in questioning at all. In fact Lackey's original Sears Tower case was introduced to demonstrate precisely this kind of problem in the case of testimony. In the context of that debate, Lackey argues that the knowledge Morris ends up with regarding the location of the Sears Tower is simply acquired too easily to be attributable to his intellectual skills. In this way she puts pressure on the virtue-theoretic contention that knowledge is true belief virtuously-formed. In the adapted Seoul Tower case, the worry is that the knowledge acquired by Raj is gained without him engaging in the specific intellectual skill of questioning. This puts pressure on the claim that knowledge is necessarily acquired by questioning.

In response to this objection, however, I think it is plausible to bite the bullet and maintain that the knowledge acquired by Raj is, in fact, attributable to questioning. This is despite that fact that he does not engage in any explicit or overt questioning concerning the location of Seoul Tower. Crucially, it is not any particular instance of question-asking that is required in order for his

knowledge to be attributable to questioning. Rather, it is his *ability to question* that enables him to acquire knowledge. Specifically, it is Raj's ability to question that allows him to recognise the answer that is given as standing in response to a question, and it is this that leads him to knowledge. In order for him to come to know that Seoul Tower is three stops west on Metro line six, he must have the ability to recognise the utterance 'Seoul Tower is three stops west on Metro line six' as the answer to a question concerning the location of Seoul Tower. Without this ability, Raj would not come to know where Seoul Tower is.

Here we can return to Schaffer's (2005) contrastive account of knowledge and once again observe the central role that he assigns to the ability to question in that account. Crucially, this ability is encoded in the underlying logical form assigned to knowledge. The ability to question is a constitutive feature of this logical form. It lies at the heart of the contrastive account. The examples discussed above expose this logical form as it manifests within everyday cases of knowledge acquisition. This virtue-theoretic approach places the emphasis on the abilities of the agents in coming to know, specifically, their ability to engage in questioning. As Schaffer notes, this account aligns with our practices of knowledge ascription. One must be able to answer the question 'when is the next bus due' in order to be said to know when the next bus is due. If one cannot answer this question, one cannot be said to know. Crucially, it is one's ability to answer this question that determines the attribution. One may stand at the bus-stop alone quite happily and know when the next bus is due. However, if asked, one must *be able* to answer. As with Raj, no particular instance of question-asking is required in order for it to be the case that one's knowledge be attributable to one's ability to engage in questioning. On this basis, Raj must have the ability to ask questions concerning the location of Seoul Tower, in order for him to be able to acquire knowledge about it. This is the case, even when he simply overhears someone stating that it is three stops west on Metro line six. It is the ability to engage in questioning on a given subject matter that enables one to acquire information, and therefore come to know. Questioning plays an essential role in the acquisition of knowledge.

Interestingly, I think that this response also provides some traction for a more general response to the concern Lackey raises in the original Sears Tower case. Here the objection was that Morris' coming to know where the Sears Tower is, is not attributable to his intellectual skills. If however, questioning is an essential intellectual skill required in all cases of knowledge acquisition then Morris' coming to know is necessarily attributable to his intellectual skills, specifically, his skill in questioning. Tim Kenyon (2013), in a recent paper contributing to the testimony debate, highlights the import of questioning in this regard, in the formation of what he calls rich testimonial contexts. He asserts:

“[W]e craft questions to elicit answers in useful forms, and we time those questions, and direct them at particular interlocutors, in order to improve the credibility of the answers as well” (2013, p.17).

Kenyon is drawing attention to the notable cognitive effort that is required in the case of formulating and posing questions in order to get the information we seek when we ask them. Questioning emerges from this picture as a crucial and noteworthy intellectual skill in cases of knowledge acquisition, including those targeted by Lackey as too easy. If this is so then, once again, the central significance of questioning in the testimony literature can be observed. More importantly, this lends further credence to the claim that questioning plays an essential role in the acquisition of knowledge.

Despite this response, one may still contend that in the second Seoul Tower case, it is simply too far-fetched to maintain that Raj must be able to ask questions concerning the location of Seoul Tower in order to acquire knowledge about where it is upon overhearing the exchange. A diagnosis of why this may be the case will therefore be useful. In particular, it is plausible that this response can be explained by the fact that our ability to ask questions about such simple matters is already a deeply embedded feature of our epistemic lives. The ability to question is so integral to our knowing anything at all, that it does not feature overtly in many, if not most, everyday instances of knowledge acquisition. As such, we may quite naturally be tempted to overlook its significance in this regard. But this only serves to emphasise precisely the point that is being made. Without the ability to question we cannot come to know. Think of the knowledge one is willing to ascribe to a baby. It is plausibly only when babies begin to explore the world around them, and engage in a pre-linguistic form of questioning, that we begin to think of them as epistemic agents. A similar case is made by Schaffer (2005) when he asserts, “animals may be thought to have the *ability* to answer, which is all that (1) [the claim that knowledge ascriptions certify that the subject is able to the answer the question] requires” (2005, p.238, emphasis original). The essential role of questioning in our epistemic lives thus emerges in our earliest encounters with the world, and it is for this reason that we do not always recognise it explicitly in our daily epistemic interactions as adults.

To see this, take a third case involving a significantly more complicated subject matter than the location of Seoul Tower. Imagine that Sarah, whilst on her travels, has unexpectedly been invited to dinner with two prominent Korean astrophysicists, Soo-jin and Young-sup. She knows very little astrophysics herself, so is happy to simply listen in and absorb the dinner party conversation. At one point, in the midst of a heated debate, Soo-jin says to Young-sup, ‘but magnetohydrodynamic turbulence is encountered in a wide variety of astrophysical plasmas!’ Having overheard this, does

Sarah thereby come to know that magnetohydrodynamic turbulence is encountered in a wide variety of astrophysical plasmas. I think the intuition here is not clear. Our willingness to ascribe knowledge to Sarah in this case is plausibly at least less strong than our inclination to ascribe knowledge to Raj in the Seoul Tower case. Conceivably this is because Sarah would not be able to formulate relevant questions concerning the subject matter, nor recognise relevant questions if they were to arise. Her ability to engage in questioning on the subject is essential to her acquiring knowledge about it. The same is true of Raj but it is easier to overlook this in his case. A defence of the claim that questioning is essential to knowledge acquisition has thus been offered, and a diagnostic explanation for why our initial response may be to deny this suggested.

Essential Constitutive Value of Questioning

If the above discussion is compelling then there is good reason to think that questioning plays an essential role in knowledge acquisition. Knowledge is not possible in the absence of questioning. This has been supported in part by the construction of modified virtue-theoretic version of Schaffer's (2005) contrastive account of knowledge which assigns a central role to the ability to question. On the basis of this, a further and perhaps even deeper value for questioning has been identified, beyond that of instrumental and constitutive value. Questioning not only leads to and constitutes knowledge, it is an essential constituent of knowledge. Given this constitutive role, I will label the value of questioning in this regard *essential constitutive value*. The essential constitutive value of questioning places it at the heart of epistemological inquiry into the nature and value of knowledge. It is however, worth reiterating once again that this discussion concerning essential constitutive value is speculative and, crucially, the claim that questioning plays a central role in knowledge acquisition is still intact regardless of one's intuitions with respect to the stronger claim that it is essential for coming to know. As such, the significant value of questioning in relation to knowledge has been established.

QUESTIONING AND UNDERSTANDING

The Value of Understanding

In addition to the relatively extensive literature concerning the value of knowledge, a growing number of epistemologists over the past two decades have argued for a broadening of epistemological inquiry beyond the examination of knowledge alone. This impetus for a shifting focus in contemporary epistemology can be seen in part to arise out of the more general evaluative concerns highlighted by the value of knowledge debate. Kvanvig (2003), for example, a key

proponent in the debate, asserts, “[W]hat I lament is a lack of diversity in epistemology” (p.188). It is here that we find a clear indication of the drive for a move away from the exclusive study of knowledge in contemporary epistemology, motivated by the consideration of broader evaluative concerns. This has, in particular, resulted in a significant and growing body of literature concerning the nature and value of understanding (Zagzebski 2001; Kvanvig 2003; Elgin 2007; Pritchard 2010d; Grimm 2012; Riggs *forthcoming*). Aspirations for a revival of the study of understanding in epistemology can be found in particular among virtue epistemologists, reflecting the natural overlap between these areas. Zagzebski (2001), for example, comments, “virtue epistemology has the greatest promise of giving us a new and useful way to approach the neglected value of understanding” (p.237). Similarly, Riggs (2000) contends that, “epistemologists should pay much more attention to “understanding” than we have in recent times” (p.103). These views represent a general consensus in support of the increased study of understanding in epistemology. A brief examination of this literature will further elucidate the present account of the value of questioning in the epistemic domain.

Debates regarding the nature and value of understanding have gained attention in contemporary epistemology through a variety of distinct but related concerns. The issues of how to characterise or define understanding and the associated question of whether understanding is a species or form of knowledge have been central to this emerging discourse. Comparisons between knowledge and understanding have thus played an important part in the debate. This has given rise to questions concerning the factivity of understanding and its internalist or externalist status (Elgin 1996, 2007; Pritchard 2010d), as well as debates regarding different kinds of understanding, notably propositional and objectual understanding, the latter of which picks out understanding of non-propositional objects such as a subject matter or a person (see Zagzebski 2001 for a detailed discussion of this). As such, the discourse concerning understanding has adopted and advanced traditional epistemological themes.

In addition, the study of understanding has uncovered new epistemological terrain and brought novel epistemological concepts to the fore. One notable example is a regular appeal to the notion of *grasping* that has emerged in the literature. Several commentators maintain that a distinctive feature of understanding, especially when contrasted with knowledge, is the notion that in order to understand one must somehow grasp the connections within a network of propositions or information. Kvanvig (2003) for example, states that:

“[U]nderstanding requires the grasping of explanatory and other coherence-making relationships in a large and comprehensive body of information” (2003, p.192).

Riggs (2007), similarly, comments, “[T]he kind of understanding I have in mind is the appreciation or grasp of order, pattern, and how things ‘hang together’” (p.217). Zagzebski (2001) also argues that understanding, as opposed to knowledge, is concerned with the relations in a body of information and claims that it “deepens our cognitive grasp of that which is already known” (p.244). Finally, Catherine Elgin (2007) employs the concept of grasping in her description of what is required to understand:

“I understand that Athens defeated Persia in the battle of Marathon, *because I grasp* how the proposition stating that fact fits into, contributes to, and is justified by reference to a more comprehensive understanding that embeds it.” (2007, p.35, emphasis added).

The notion of grasping is employed regularly at the heart of the contemporary debate concerning understanding. This has in turn, led to some independent analysis of the notion of grasping itself (Grimm 2010). Significantly, grasping is predominantly used in the literature in order to distinguish understanding from an exclusively propositional state. In most contemporary accounts, understanding does not simply consist of *knowing* a large number of related, inter-connected propositions. It is the non-propositional features, in particular, the grasping of relations between propositions, and of how they can be integrated into other propositional networks, that is cited as distinctive of understanding. Grasping is therefore considered an integral and distinctive feature of understanding. Just as most accounts of knowledge require a person to have, at least, true belief, in order to count as knowing, so most accounts of understanding require a person to have, at least, some kind of grasp, in order to count as understanding.

Instrumental Role of Questioning

As in the case of knowledge, questioning plays a central role in the acquisition of understanding. Once again, the virtue-theoretic framework, in which the discourse concerning understanding has largely taken place, provides a natural context for this. Construed as a tool for eliciting information, questioning can be viewed as a key intellectual skill in virtue of which we come to understand. Questioning once again exhibits instrumental value in the epistemic domain. The requirement of grasping in the contemporary analysis of understanding allows for a further elucidation of the instrumental value of questioning in the case of understanding, and in particular, its distinctive role in the acquisition of this epistemic good.

In order to appreciate this most clearly, the nature of grasping itself must be considered. Whilst an extensive examination of this interesting notion is not possible here, an appreciation of the

connection between grasping and questioning in broad terms can be established. Notably, it seems to be in the nature of successful grasping that it involves the skill of questioning. Imagine, for example, a child, Amber, who *knows* two individual propositions, say, ‘that wet floors are slippery’ and ‘that poolsides have wet floors’. However, she fails to *grasp* the connection between these propositions. In this case Amber could not be said to *understand* the further notion that one shouldn’t run along the side of a pool. Here the integral role of grasping in understanding can be seen. Without being able to grasp the connections between these individual propositions, Amber cannot be said to understand the further proposition that results from the relationship between them. On this basis, she will naturally fail to appreciate the significance of a parent’s command to stop running along the side of the pool. Crucially, however, Amber can resolve this by simply asking why. In doing so she opens the door to an explanation which will eventually enable her to grasp the connection between the individual propositions that she already knows, and so to understand the dangers associated with running on wet floors, particularly along poolsides. It is Amber’s questioning that allows her to move further on the path to successfully grasping the relevant connections, and brings her closer to understanding. It is in this sense that questioning is in the nature of grasping and plays a key role in the acquisition of understanding. Questioning exhibits distinctive instrumental value in relation to understanding.

An Objection Considered: Not *all* grasping requires questioning

One may object that we are once again moving too fast. The sense in which grasping requires questioning and so exhibits a distinctive instrumental value in the case of understanding needs further explication. One may argue, for example, that it is not Amber’s questioning in the above case that enhances her likelihood of understanding but the explanation that she receives. Imagine, for example, a case in which the adult recognises that Amber has failed to successfully grasp the connection between slipping and poolsides and so proceeds, unprompted, to offer a careful and detailed explanation of the connection and the associated dangers, until they are satisfied that she has understood. In this case no actual questioning has taken place. Amber’s grasp of the situation, insofar as this constitutes her understanding of it, does not involve questioning. Not all grasping requires questioning. If this is the case then the distinctive instrumental value that questioning accrues in relation to understanding, in virtue of its role in grasping, comes under threat.

In response to this objection, the claim in question should be made more explicit. Specifically, the suggestion at this stage is merely that it is in the *nature* of grasping that it involves questioning. While this is a substantive claim with respect to the nature of grasping itself, it does not entail that all grasping requires questioning. Analogously, one can claim that it is in the nature of physical

grasping that the grasper exhibits spatial awareness. However, it is not the case that all instances of physical grasping actually do feature spatial awareness. I may be plunged into pitch darkness and spun around several times and yet still manage to grasp the door handle of the room I am in by the sheer chance of where I reach out with my hand. Similarly, mental grasping is the kind of thing that, in its nature, involves questioning, even though it may be possible to grasp in the absence of questioning. Importantly, questioning not only sometimes but often plays a key role in facilitating a successful mental grasp, just as spatial awareness often plays a key role in facilitating a successful physical grasp. It is easier for me to grasp the door handle unspun and with the lights on, just as it is easier to grasp the connections in a network of propositions if one engages in questioning. In the second case Amber relies on the conscientious and attentive nature of the adult. However, no such dependence is required in the first case where she simply asks for an explanation. A successful grasp, although arguably possible, is less likely in the absence of questioning. On this basis, questioning is in the nature of grasping. As such, given the integral role of grasping in understanding that has been identified in the literature, the distinctive instrumental role that questioning plays in the acquisition of understanding, can be restated. If questioning is in the nature of grasping, and grasping is an integral feature of understanding, then questioning plays a distinctive role in the acquisition of understanding. Questioning exhibits distinctive instrumental value in virtue of the central role that it plays in the acquisition of an epistemic good that we value; understanding.

Constitutive Role of Questioning

The distinctive role that questioning plays in the acquisition of understanding allows us, as in the case of knowledge, to deepen the account of its value. Given its relationship to grasping, questioning is one of the key intellectual skills involved in coming to understand. This demonstrates its distinctive instrumental value. In addition, however, as we saw in the case of knowledge, on the virtue-theoretic acquisition-based account, understanding itself is valuable in virtue of the intellectual skills by means of which an agent acquires it. It is because of these intellectual skills that understanding is valuable. It is in part *because of* questioning that we come to value understanding. As such, questioning, at least in part, amounts to or constitutes the value of understanding. In addition to instrumental value, questioning also exhibits *constitutive value* in relation to understanding.

This constitutive role can be seen by once again examining the treatment of grasping in the literature. As well as its recognition as a distinguishing feature in the analysis of understanding, grasping is also thought to account, at least in part, for the distinctive value of understanding. Kvanvig (2003), for example, asserts that the value of understanding consists in the “grasped

coherence relations” (p.202) that he cites as integral to understanding over and above the presence of true beliefs. Thus, he maintains that grasping adds something to true belief that can be identified as a distinctive source of value contending therefore, that understanding is valuable:

“not only because it involves the finding of new truths but also because finding such relationships organizes and systematizes our thinking on a subject matter in a way beyond the mere addition of more true beliefs.” (2003, p.202).

This organization, Kvanvig maintains, has pragmatic value because it allows us to make inferences that provide a basis for action and beyond this pragmatic value, the distinctive or intrinsic value of understanding lies in the cognitive and epistemic satisfaction that the act of grasping brings. This satisfaction is derived, not from the mere possession of a set of inter-connected true beliefs but from the recognition of the *relations* between those true beliefs and how they are connected, namely, from grasping.

A similar appeal to the value inherent in the non-propositional features of understanding can be identified in Elgin’s (2007) account, and it is these aspects of understanding over and above the propositional features that, as Kvanvig argues, gives us something of distinctive value. Similarly, Zagzebski (2001) draws heavily on the non-propositional features of understanding in her account claiming that the objects of understanding are the “nonpropositional (sic) structures of reality” (p.242). Grasping the relations in these structures, according to Zagzebski, is what allows us to understand and moreover, appreciate “a piece of music, a work of art...the layout of a city...or reality itself” (p.242). The value of this appreciation often goes beyond the merely pragmatic or instrumental. Here grasping is once again cited as a source of value distinctive to understanding. Finally, Grimm (2009), in his detailed treatment of grasping, comments that, “there is some sort of competence in play here” (p.85). This identification of a competence involved in grasping provides a further indication of the value of grasping in the acquisition of understanding. The value of recognising the relations in structures, systems or, more generally, bodies of information, and the competence required in order to do so, are key elements involved in a contemporary account of the distinctive value of understanding.

On the basis of this identification of grasping as a distinctive source of value, and the relationship between questioning and grasping that has been established, one can further appreciate how questioning also plays a constitutive role the value of understanding. If the value of understanding is accounted for in terms of grasping, and questioning is in the nature of grasping, then questioning not only facilitates the acquisition of understanding but partly constitutes its value. Questioning, at least in part, amounts to or constitutes the value of understanding. In addition to its instrumental

value, questioning exhibits *constitutive value* in relation to understanding. It plays a key role in accounting for the value of understanding itself.

Essential Role of Questioning

The central and distinctive role that questioning plays in the acquisition of understanding has been established and both its instrumental and constitutive value identified in relation to this. This serves to further demonstrate the significant value of questioning in the epistemic domain. Further to this, it is once again worth exploring a stronger claim concerning the value of questioning in relation to understanding. As in the case of knowledge, one may argue that questioning not only plays a central role in the acquisition of understanding but is *essential* to it. Questioning would thus be considered necessary for understanding and understanding would not be possible in the absence of questioning. If this is the case then an *essential constitutive value* for questioning could be identified in relation to understanding. Once again, it should be noted, the discussion here is speculative and, importantly, the claim that questioning exhibits both instrumental and constitutive value in relation to understanding is not affected by the outcome of this further examination.

That being said, the case in favour of the essential role of questioning in the acquisition of understanding is plausibly, I think, even stronger than in the case of knowledge. To see this one needs only to reconsider the nature of grasping, and take seriously the intimate connection between questioning and grasping that was argued for in the previous section. Rather than maintaining the weaker claim that questioning is in the nature of grasping, however, the possibility that questioning is essential to grasping can be defended. Grasping the connections between features or propositions in a body of information, in these terms, not only typically involves the ability to ask and answer questions about that body of information, but in fact requires it. Given that grasping has been identified as a distinctive and integral feature of understanding, questioning would thus emerge as a necessary constituent of understanding itself.

Significantly, it is once again the *ability* to engage in questioning in relation to a subject matter that both facilitates and demonstrates an understanding of that subject matter, as opposed to any explicit instance of question-asking. On this picture, the ability to ask questions is construed as an essential skill involved in the activity of grasping. Grasping itself must therefore be construed as a skilled activity. Grimm (2010) notably draws attention to the skilled nature of grasping in his discussion of the notion:

““Grasping” a structure would...seem to bring into play something like a modal sense or ability—that is, an ability not just to register how things are, but also to anticipate how certain elements of the system would behave, were other elements different in one way or another” (2010, p.89).

By identifying this modal ability, Grimm further elucidates the nature of grasping. His own example of a coffee spill caused by a knee jostling provides a useful illustration. Grimm argues that one’s understanding of why the coffee spilled is vitally connected with an “ability to identify the jostling as the cause of the spill” (2010, p.87). One can only understand why the coffee spilled if one grasps the causal connection between the knee jostling and the coffee spilling. If one fails to grasp this connection, then one fails to understand why the coffee spilled. In these terms, without the ability to question, it is hard to see how one could successfully come to grasp.

It is the identification of grasping as a skill involving the appreciation of the modal features in a given situation, or of a given subject matter, that is strongly suggestive of the essential role that questioning plays. To see this we can usefully draw on the theory of explanations offered by van Fraassen (1980) in his examination of scientific inquiry, outlined in Chapter Two. It was observed there that van Fraassen identifies why-questions as playing an essential role in the theory of explanations, maintaining that, “[A]n explanation is an answer to a why-question” (p.134). Significantly, van Fraassen contends that any satisfactory answer to a why-question must *necessarily* take into account both the context in which the question is asked, identified by the contrast class, and the sense in which the answer serves *as an answer*, within that context i.e. the sense in which the answer is relevant to the question, identified by the relation of explanatory relevance. Without the contrast class and the relevance relation, one simply does not have an explanation. In other words, one does not have an answer. Recall van Fraassen’s omniscient being who lacks both the contrast class and the relevance relation, despite, or perhaps in virtue of, his almighty information set. According to van Fraassen, such a being would never seek or possess an explanation; he would never ask why. On this account, one’s understanding of an explanation is dependent on one’s understanding it as an answer to a why-question. Van Fraassen thus continues, “[S]ince an explanation is an answer, it is evaluated vis-à-vis a question, which is a request for information” (p.156).

Take the coffee spill example once again. Grimm (2010) argues that one’s understanding of why the coffee spilled is vitally connected with an “ability to identify the jostling as the cause of the spill” (p.87). One can only understand why the coffee spilled if one grasps the causal connection between the knee jostling and the coffee spilling. In van Fraassen’s terms, understanding an explanation of why the coffee spilled requires, firstly, that the questioner believes the presupposition, ‘that the

coffee spilled', to be true. Secondly, that the context in which the question is asked determines the relevant alternative propositions to be ruled out i.e. why the coffee spilled rather than didn't spill, as opposed to why the coffee spilled rather than the milk jug. And finally, that the explanation picks out which of the relevant alternative propositions is the correct answer by exhibiting a relation of explanatory relevance. This relation captures the sense in which the question demands not only a statement of fact, but a statement of fact that satisfactorily *explains* features of the given context in which the question is asked. The question 'why did the coffee spill' will not be satisfactorily answered by noting the knee jostling unless it is made explicit (or is already understood) that knee jostling can cause coffee spills. The relation of explanatory relevance, combined with the context in which the question is asked, are thus integral to being able to grasp the modal features of the situation and so, to understanding why the coffee spilled. It is precisely the ability to request an explanation and to recognise that explanation as picking out the correct answer within the context that amounts to grasping, and so, to understanding. It is, therefore, the ability to engage in questioning that constitutes coming to understand.

Understanding requires grasping the non-propositional, modal features of a situation by means of the ability to ask and answer questions about it. Crucially, both the context and relevance relation central to van Fraassen's account are non-propositional features of the question-answer relation. One must be able to ask what caused the coffee to spill and recognise the explanation 'because of the knee jostling' as a satisfactory explanation, and so the correct answer to this question, in order to understand that the knee jostling caused the coffee to spill. One could indeed contend that grasping is no more than this ability. As such, understanding, like knowledge, can be construed as a *questioning-relative state*. One understands when one is able to ask and answer questions regarding the modal features of a situation or subject matter.

Return to the case of the child running along a poolside. Amber's understanding of the connection between the propositions 'wet floors are slippery' and 'poolsides have wet floors' consists in her grasp of the modal features of the situation at large. One should not run along the side of pools *because* the slipperiness of the poolside may *cause* you to fall in. In order to attain this grasp Amber must be able to ask and answer the relevant questions. Specifically, her understanding will be most naturally enabled in this case by asking a why-question in response to the instruction not to run along the poolside. In this way, following van Fraassen, Amber requests an explanation and so opens up a window into the modal features of her situation. In doing so she makes her grasp of these features and so her understanding of the instruction itself possible. Likewise, if we wanted to find out whether Amber had understood the instruction, we would likely ask her a question about it. If she couldn't answer, we would conclude that she hadn't understood. The ability to ask and

answer questions appears to be essential to Amber's grasp of the situation and so to her understanding. Notably, if this is the case then, even in the second example where Amber does not ask for an explanation but receives one from a conscientious parent, she must be able to recognise this *as an explanation* and so as an answer to the relevant question, and be able to answer relevant questions if asked. Without the ability to ask and answers questions, the explanation itself would plausibly make little sense. This is so even if this ability is not overtly manifested. As such, questioning can be seen to play an essential role in the acquisition of understanding and, as with knowledge, exhibits essential constitutive value. This further deepens the account of the value of questioning in the epistemic domain.

A substantive account of the value of questioning in relation to both knowledge and understanding has now been offered. This focuses primarily on its instrumental and constitutive role in the acquisition of these epistemic goods. The value of questioning in the epistemic domain has thereby been established. Thus far, however, the investigation has drawn predominantly on the virtue-epistemological context of the discussion, focusing on the role of the individual agent and on questioning as an intellectual skill. Given that questioning has been identified as a practice however, it will also be edifying to examine the value of questioning from a social perspective drawing on the social-epistemological framework.

QUESTIONING AND THE EPISTEMIC COMMUNITY

Questioning occupies a vital place in our epistemic communities. It plays a central role in our social epistemic interactions, providing us with an essential means by which to elicit information, both from the environment around us and from others within it. Likewise it facilitates the effective and efficient dissemination of epistemic goods. We explored this social dimension of questioning in Chapter Three. Furthermore, the centrality of questioning in the acquisition of epistemic goods has been observed throughout the present chapter. On this basis, the value of questioning from the social perspective is not hard to see. Questioning allows us to both generate and disseminate goods that we value within our epistemic communities. The value of an epistemic community itself is similarly not hard to appreciate. Such a community allows us to share the epistemic goods at our disposal and, more importantly, to benefit from those that others share with us. If I want information about where the train I have just boarded is stopping, I ask the train guard standing at the door or my fellow passengers in the nearest carriage. If Sarah wants to know how to get to Seoul Tower, she asks a passer-by, or consults a map. Likewise, if I want to understand the basic principles of special relativity, I will phone my friend Simon, a quantum physicist, and ask him to

explain it to me (again). All of these routes to the acquisition of valuable epistemic goods, such as information, knowledge and understanding, require interaction with other members of the epistemic community and rely on their cooperation. Without this interaction and cooperation, I may well end up in Aberdeen, clueless as to the basic principles of special relativity, and Sarah will be lost in Seoul.

The value of an epistemic community, and the role of questioning within it, can be emphasised by returning to Craig's (1990) genealogical account of knowledge. Craig highlighted the significance of knowledge as a label for identifying reliable informants. Fred, up in his tree, has knowledge regarding the tiger chasing me, that I can benefit from. This is precisely the type of thing that makes being part of an epistemic community valuable. We can draw on the epistemic resources of others in order to improve our lives (and chances of survival) in myriad ways. Moreover, questioning plays a central role in this story. It is because I am able to ask Fred whether he can see a tiger chasing me, that I can benefit from the knowledge that he has and I don't. Likewise, it is my ability to ask for information about where the train is stopping, or for an explanation of special relativity, and Sarah's ability to ask about the location of Seoul Tower, that facilitates the acquisition of these epistemic goods. If we value these goods, then we also value the role that questioning plays in their generation and dissemination.

Notably, this vital role draws attention to the close connection between the practices of questioning and testimony. Both of these serve crucial functions in the proliferation and exchange of epistemic goods. In a recent paper examining the practice and function of testimonial exchange, Greco (forthcoming) emphasises precisely this point in the case of testimony, identifying two distinct roles for testimony in our epistemic communities. The first of these concerns the origination or generation of knowledge, the second concerns its distribution or dissemination. Thus he maintains that, "testimonial knowledge sometimes serves the distributing function of the concept of knowledge, and sometimes the originating function" (p.225). Greco argues that different norms govern the distinct functions of testimony and maintains that several key debates in the testimony literature, including that between reductionists and anti-reductionists, can be addressed by the recognition of this fact. Importantly, identifying these two roles or functions for testimony highlights the pervasiveness and significance of the practice of testimony in our epistemic communities. These two roles are also regularly manifested in the practice of questioning. As such, questioning also plays a pervasive and valuable social role. On this basis, questioning can be viewed as a form of epistemic *cohesion*.

The naturally cohesive nature of questioning is particularly worth highlighting in the context of an evaluation of the practice. Questioning is predominantly an inclusive practice facilitating the exchange of epistemic goods among those who partake, and requiring a degree of coordination and cooperation between members of an epistemic community. Questioning allows us to communicate our desire for specific information, and to direct this desire at an appropriate source. In a vast array of situations in everyday life questioning thereby serves to ease the passage of information between members of an epistemic community. Much as the holding open of doors, to draw on the previous analogy, eases their passage in and out of buildings. Furthermore, the societal benefits of questioning extend beyond the direct interactions of questioners and answerers. Questioning also benefits the passive recipients of epistemic goods that have been acquired through the questioning of others. Much of the information gleaned from a news report is acquired through the skilful and selective questioning of journalists. My knowledge of Wittgenstein's early life can be credited to the insightful questioning of his biographer. One's belief that the Earth orbits the sun is the product of, among other things, the astute questioning of Nicolaus Copernicus in the thirteenth century. Questioning brings the members of a community together to share epistemic goods and establishes common ground between individuals, as well as between distinct communities. Questioning is not only socially embedded as a practice but is a form of social cohesion.

Value of Questioning within Epistemic Communities

The value of questioning within our epistemic communities can once again be identified as both instrumental and constitutive. Questioning both leads to or causes cohesion within an epistemic community, and is partly constitutive of that cohesion. That this is the case should be evident from the discussion above. Questioning allows us to both generate and disseminate epistemic goods, bringing us together to share common goals and establish common ground. A society in which questioning did not take place would plausibly be significantly more unstructured and fragmented than one in which it does, at the very least, with respect to the exchange of information among its members. Questioning exhibits significant instrumental and constitutive value within our epistemic communities.

In addition, the identification of an essential constitutive value for questioning is perhaps most plausible in the case of the cohesive role that questioning plays in our epistemic communities. Indeed, it is hard to see how the smooth and efficient exchange of information would be possible in the absence of questioning. How would one go about signifying a desire for information or identifying it in others, without the use of questioning. The claim here is not that the exchange of information would be impossible in the absence of questioning. Simply that questioning plays an

essential constitutive role in facilitating the smooth progress of this exchange within our epistemic communities. It is plausibly for precisely this reason that it does feature so prominently and pervasively in our daily lives, successfully transcending otherwise deep-seated cultural and linguistic boundaries. Questioning is an indispensable form of epistemic cohesion. As such, alongside the instrumental and constitutive value noted above, an essential constitutive value for questioning can be identified in this regard. Questioning exhibits significant value in the epistemic domain in virtue of its cohesive role in our epistemic communities.

It is here that particular attention can be drawn to the significance of both instrumental and constitutive value. Doing so enables a more nuanced appreciation of the value of questioning. This in turn, provides an ongoing impetus for the epistemology of questioning currently underway. Indeed, one may well accept the significant instrumental and constitutive value of questioning, and yet fail to appreciate the central import of this for epistemological inquiry. Exploring the significance of instrumental and constitutive value themselves will help to shed further light on this.

Why Instrumental and Constitutive Value Matter

Instrumental and constitutive value are derivative forms of value. To say that something has instrumental or constitutive value is to say that that thing derives its value from something else. In the above discussion the instrumental and constitutive value of questioning have been identified in relation to three distinct goods, namely, knowledge, understanding and epistemic cohesion. It is in virtue of the value of these goods that questioning derives its own instrumental and constitutive value.

With this in mind, one may contend that in any case of instrumental and constitutive value, the noteworthy subject for philosophical examination is to be found in the original thing of value, rather than in derivative forms of value, however they are manifested. Thus, in the present case, one may argue that it is knowledge, understanding and epistemic cohesion that present rich philosophical subject matter for a discussion of value, as opposed to questioning, which merely derives its value from these. If the value of questioning is derived from the value of knowledge, understanding and epistemic cohesion, one might conclude that there is little, if any reason to highlight its value independently of these.

For this reason it is worth drawing attention to the significance of the instrumental and constitutive value of questioning, before concluding the discussion. To appreciate this, take at a case of derivative value outside of the epistemic domain; money. Typically, money is understood as a good

of paradigmatically instrumental value. Money derives its value entirely from the instrumental role that it plays in the acquisition of other goods. This might suggest that a more compelling and noteworthy subject matter for examination than money itself would be, for example, the diamonds, designer shoes and luxury yachts which it affords to those who wield it. This would, however, be misguided. Our daily lives and the world around us are significantly affected and determined by money. Not, for most of us, by designer shoes and luxury yachts. In this case, it is surely the former to which we should be paying attention in our normative discourse. Indeed, this remains the case regardless of the value of the goods that money affords, be they food, security, health or even happiness. The fact that money exhibits exclusively instrumental value does nothing to reduce its significance as a subject of normative evaluation.

Likewise, our daily epistemic lives and the world in which we live them, are significantly affected, and determined, by the practice of questioning. As such, even if the value of questioning derives exclusively from the role that it plays in the acquisition of goods such as knowledge, understanding and epistemic cohesion, it nonetheless provides a rich and important subject for normative analysis in its own right. The example of a reliable coffee-machine, originally employed by Zagzebski (1996) as a challenge to the reliabilist's account of the value of knowledge, provides a pertinent illustration of the significance of instrumental value. Whilst the reliability of a coffee-machine may confer no extra value on the coffee it produces, as Zagzebski maintains, it does not follow from this that the coffee-machine itself deserves no further attention. In fact, quite to the contrary, the fact that the coffee-machine produces coffee, something that we value, suggests that we should pay close attention to its proper functioning and maintenance. This is precisely so as to ensure that it continues to produce the thing that we value, the thing from which it derives its own instrumental value, namely, coffee. Moreover, if it is not simply coffee that we are after, but *good* coffee, then we ought to pay extra attention to the machine that produces it in order to ensure that it produces just this. This is precisely because, in the absence of a reliable coffee machine, we would regularly have no good coffee. Analogously, the significant instrumental and constitutive value of questioning signifies precisely why we should pay close attention to this practice. Questioning often leads us to knowledge and understanding and facilitates the efficient exchange of these goods between us. Without it, our epistemic lives would be significantly less rich, less informed and less interesting. Far from focusing exclusively on the nature and value of these epistemic goods themselves, we must also recognise and pay attention to the central, perhaps essential role that questioning plays in our having them. Drawing attention to the role that questioning plays in our epistemic communities, and our epistemic lives, provides significant ongoing motivation for an epistemology of questioning.

The instrumental and constitutive value of questioning in relation to knowledge, understanding and the epistemic community, have thus been established, and the stronger claim that questioning plays an essential role in the acquisition or operation of these and so exhibits essential constitutive value has been explored. Notably, even this final and more contentious form of value, falls short of the much more radical notion that questioning exhibits final or intrinsic value. This notion will not be explored in the thesis although represents, I believe, a compelling prospect for future research.

CHAPTER SUMMARY

Key insights from Chapter Four can now be summarised. Questioning is valuable because it enables us to gather information. As such, it plays a pervasive and central role in the process of coming to know and understand. Knowledge and understanding are widely and plausibly regarded as valuable. Questioning exhibits *instrumental value* by facilitating the acquisition of these goods. It also enables the generation and dissemination of these goods within our epistemic communities, and so exhibits further instrumental value as a significant source of epistemic cohesion, between individuals and groups. In addition, questioning is partly constitutive of the value of knowledge, understanding and epistemic cohesion. As such, it exhibits *constitutive value* in the epistemic domain. Finally, I have argued that questioning plays an essential role in the process of coming to know and understand, and in the facilitation of epistemic cohesion. It not only leads us to these goods and contributes to their value, but is a constitutive feature of the goods themselves. Without questioning, knowledge, understanding and epistemic cohesion would not be possible. If this stronger claim is plausible then questioning exhibits an *essential constitutive value*. The value of questioning has been elucidated.

Chapter Five

What is Good Questioning

The practice of questioning is valuable to us. Much, if not all, of what we know and understand is arrived at through questioning and it forms an integral part of our daily epistemic interactions. The valuable role that questioning plays in our epistemic lives identifies it as a practice and skill of significant worth. This leads us naturally to a further subject worthy of careful and astute consideration; the subject of *good* questioning. The fact that questioning is a practice we engage in on a daily basis, and one that leads us to epistemic goods that we value, provides compelling motivation for an examination of good questioning. What does good questioning involve and how can we be better at it. What skills or circumstances are required in order to engage in good questioning. How can we seek to improve our questions, or, through education, the questions of others. In order to answer these questions, an account of good questioning is required.

This chapter will investigate the *nature and practice of good questioning*. As such, an account of good questioning will be developed. I will first examine what makes questioning good through further analysis of the information-elicitation function of questioning. Subsequently, I will turn to the substantial and challenging issue of what it takes to *be* a good questioner. In this context, good questioning will be examined as an intellectual skill, and the abilities required in order to manifest this skill, outlined. These will be defined in terms of three distinct components, resulting in a component-based account of good questioning. This stage in the investigation draws on the results of an original empirical study conducted with schoolchildren, allowing for an authentic account of good questioning to arise from the perspective of real-life questioners.

WHAT MAKES QUESTIONING GOOD

The Good of the Function

The investigation will begin by turning first of all to the function of questioning. Before proceeding, however, it is worth highlighting a distinction between the subject of present chapter and that of the previous one, which may, at first glance, appear to be one and the same. The value of

questioning and the question of what makes it good can, in one sense, be taken as more or less synonymous. This is not the sense intended by the present investigation. Rather, asking what makes questioning good in this context should be understood as akin to asking of any particular thing, what does or would make it a good version of its kind. Returning to the analogy of the wrench, asking what makes wrenches valuable is a question concerning their function as a tool for tightening and untightening very tight screws. Asking what makes wrenches good, or any particular wrench a good version of its kind, is a question concerned with features of the wrench itself. Is it made of the right materials, is it the right length, does it grip well and so on. Likewise, asking what makes questioning valuable is a question concerning the value of its function for eliciting information. Asking what makes questioning good, in any particular instance or in general, is a question concerned with the internal or inherent features of questioning itself. These internal features will be examined in due course. For now it is useful to recognise the distinction between an examination of the value of questioning, as seen in the previous chapter, and an examination of what makes questioning good, in the sense intended by the present one.

With this in mind, the value of questioning and the nature of good questioning are nevertheless and unsurprisingly, closely related. An appreciation of what makes questioning good *qua* questioning, will be best advanced by reference to its function. This is, after all, the internal standard set by the nature of questioning itself. If questioning is a practice characterised by the function of eliciting information, then good questioning, is primarily questioning that successfully fulfils this function. Questioning that successfully elicits information. So far, so good. In order to provide a more substantive account of the nature of good questioning, the investigation must explore what successfully fulfilling the function of questioning amounts to. What does it mean to successfully elicit information in the case of good questioning.

Successfully Eliciting Information

In many respects, the notion of successfully eliciting information is intuitive and may therefore seem in little need of elaboration. To successfully elicit information, in the case of questioning, is simply to ask for a particular piece of information and receive it as an answer. We do this all the time of course. Crucially, however, the intention is to provide a rich normative account of good questioning. Not every case of successful information-elicitation should be treated as a case of *good* questioning in the normative sense. To see this, recall the useful thick/thin distinction introduced by Williams (1985) and employed in the previous chapter in reference to epistemic goods. The thin sense of the term goods was employed purely descriptively, whilst the thick sense incorporated an evaluative dimension. Likewise, this distinction can be employed in the case of good questioning.

Good questioning, in the thin sense, is questioning that, as a matter of fact, successfully elicits information. This amounts to something like a descriptive account of good questioning. Good questioning, in the thick sense, must do more than this. It is this thick sense with which I am concerned in the present investigation; with providing not merely a description of good questioning, but a normative account of the practice.

Questioning is here being examined as an intellectual skill. This focus on intellectual abilities reflects the virtue-epistemological perspective of the investigation. Construing questioning as a skill, moreover, captures the sense in which I am concerned with examining a richer or thicker notion of good questioning than that provided merely by understanding good questioning as successful information-elicitation. Rather, I am concerned with the skill involved in some, but not all cases of successful information-elicitation. It is this narrower range of cases involving skill that qualify as cases of good questioning in the thick normative sense. The question, what is good questioning, is therefore synonymous in this context with the question, what is skilled questioning. As such, an account of the skill of questioning will be developed. The phrase 'good questioning' should be taken henceforth to refer to this skill. Two key features of good questioning will be examined. In cases of good questioning we do not simply want to elicit information, rather we want to 1) *competently* elicit information that is 2) *worth having*.

Competently Eliciting Information

Good questioning requires *competent* information-elicitation. The notion of competently eliciting information is, in many respects, a close cousin of successfully doing so. However, for the purposes of the present characterisation, the term competent must be kept distinct from the term successful along two important dimensions. Firstly, competent information-elicitation is, in one respect, a more restrictive notion than successful information-elicitation. Secondly, in an alternative light, it is more permissive.

To see the sense in which competently eliciting information is the more restrictive notion than successfully doing so, imagine a case in which information is elicited through questioning by sheer fortune on the part of the questioner. Say, for example, our protagonist Sarah, having returned from her holiday in Seoul, is back at school getting ready for the start of the coming school year. Having been on holiday she has missed a number of meetings and realises that she doesn't know the name of her new classroom assistant who will be arriving at any moment. In a panic she rushes to the school receptionist and asks (rather bluntly), 'what is the name of the new assistant'. The receptionist checks his records and replies 'Alice'. A minute later, Sarah's new classroom assistant,

Alice, walks through the door and is greeted by Sarah. Seeing this, the receptionist realises privately that when Sarah asked for the name of the new assistant, she was referring to her new classroom assistant rather than, as the receptionist had assumed when checking his records, the new assistant to the head teacher, who will also be starting at the school that year. Fortunately for everyone involved, both assistants share the name Alice. In this, albeit rather protracted scenario, Sarah did in fact find out the correct name of her new assistant in time and so can be said to have *successfully* elicited the information she was after by means of questioning. However, unbeknownst to Sarah, it was pure luck that she managed to do so, given the all too vague question that she actually asked. As such she did not elicit the information *competently*. Sarah's questioning in this regard will be examined in due course. For now this case serves to illustrate the first key distinction between successful and competent information-elicitation. Competent information-elicitation does not permit information that is acquired by luck or chance on the part of the questioner. As such, it is a more restrictive notion.

The second key distinction between these two notions reveals the sense in which competently eliciting information is a more permissive notion than successfully doing so. In particular, whilst successful information-elicitation requires that the information sought is in fact acquired, competent information-elicitation does not necessarily incorporate this high standard. Rather, in certain circumstances one may competently engage in information-elicitation without actually acquiring the information sought. Once again this can be elucidated with the use of an example. Imagine that Sarah's new classroom assistant Alice is meeting her new class for the first time. She turns to the pupil nearest her and says 'Hello, what is your name' to which the pupil replies 'I haven't got a name, I'm a dinosaur'. In this case we do not want to accuse Alice of having failed to engage in good questioning despite the fact that she doesn't get the information she is after. Once again, the reason why will be examined in due course. For the time being, this case serves to illustrate that one can engage in competent information-elicitation without in fact acquiring the information sought. Again, this contrasts with successful information-elicitation in which the questioner is required to end up with the information. Competent information-elicitation is a more permissive notion. A key feature of good questioning has thus been explicated. Good questioning requires competent information-elicitation.

Eliciting Worthwhile Information

In addition to competent information-elicitation, a second constraint is also required for an account of good questioning. Namely, that the information elicited is *worthwhile*. This second constraint draws particular attention to the evaluative dimension of the investigation. When engaging in good

questioning, in the thick sense, we do not merely want to elicit any information, however competently. The aim is to elicit information that is worthwhile, relevant or significant in some sense. The account of good questioning should therefore exclude cases of trivial or disvaluable information-elicitation. Examples of trivial or disvaluable information occur throughout contemporary epistemology in discussions concerning knowledge, truth and epistemic value. Counting blades of grass (Kvanvig, 2014) or motes of dust (Sosa, 2003), or memorising all the entries in the Kansas phonebook (Grimm, 2008), are three examples from the literature. Similarly, an example of questioning that aims at trivial or disvaluable information can be easily constructed. Imagine that Sarah's gossiping colleague, Alfred, asks her how many brownies Alan ate during the last staff meeting. The question is competent, Alfred can reasonably expect to elicit the information he is after, but is nevertheless intuitively not an example of good questioning in the thick sense. One might contend that the question simply fails to be good on the basis of some kind of moral criteria; the desire to know how many brownies another person has consumed when you are not their doctor seems to be indicative of some kind of moral failure. However, it is not a stretch, I think, to maintain that it also intuitively fails with respect to the goal of eliciting worthwhile information. Knowing how many brownies another person has consumed when you are not their doctor is not going to improve your store of epistemic goods in any particularly valuable way.

That a case such as this represents trivial or disvaluable information-elicitation is, I think, intuitively unobjectionable. Determining precisely why this is the case is a more complex and contentious issue. Establishing the criteria by which information is judged to be worthwhile or significant is a difficulty faced by epistemologists across the board and, in particular, has emerged as a key issue in contemporary debates concerning the aim or goal of inquiry (see, for example Lynch 2004; Grimm 2008; Treanor 2012). The question of what makes any epistemic good 'worthy' is one that epistemologists have not yet established a clear consensus on. In their discussion of 'love of knowledge', for example, Roberts and Wood (2007) comment:

“[T]he criterion of the intrinsic value of a potential object of knowledge is vague, and we have certainly not developed it significantly here” (2007, p.159).

This sentiment reflects the nature of the debate more generally. There is however, a broad consensus that some information is indeed trivial, at least in the sense that we do not generally consider it worthwhile to seek or possess it. As such, it is also broadly uncontroversial to maintain that one can attempt to elicit trivial information by means of questioning and, furthermore, that doing so is not something we generally consider to be worthwhile.

With this in mind, the significance of eliciting worthwhile information as a feature of good questioning can be further elucidated by returning to the genealogical account of questioning developed in Chapter Three. It was suggested here that within an imagined society in which questioning did not take place the practice would emerge as a means of enabling members of the society to elicit information from one another, and from their environment. In Chapter Four this idea provided additional support for establishing the valuable social role that questioning plays within an epistemic community as a form of epistemic cohesion. This genealogical narrative can now also be seen to shed light on the nature and practice of good questioning. Indeed, the notion that good questioning requires worthwhile information-elicitation, and so excludes cases of trivial information-elicitation, follows naturally from the genealogical story. If the practice of questioning plays a valuable cohesive role within our epistemic communities, allowing members to easily generate and disseminate epistemic goods to their mutual advantage, then it is simply within the nature of the practice that the information on which these epistemic goods is based should not itself be trivial or, worse, disvaluable. Instances of trivial information-elicitation would fail to deliver the advantages for which the practice of questioning is distinctively valued and employed. If I ask Fred, up in his tree, if there is a tiger after me, and he replies that he doesn't know but that there are 3236 leaves on the tree, I am likely to conclude that I shouldn't have stopped to ask. Likewise, if I am worried that there is a tiger after me, and I stop to ask Fred how many leaves there are on his tree, I am doing something wrong. From a societal perspective, it is not difficult to see that the practice of questioning requires worthwhile information-elicitation. This requirement follows directly from the function of questioning itself and provides further support for the claim that the skill of good questioning requires worthwhile information-elicitation.

An answer to the initial question, what makes questioning good, has now been given. Questioning is good *qua* questioning in virtue of competent and worthwhile information-elicitation. A good questioner *competently elicits worthwhile information*.

WHAT DOES IT TAKE TO BE A GOOD QUESTIONER

Questioning is a practice. Good questioning is a skilled practice. Specifically, it is a practice that involves the intellectual skill of asking questions; a skill of significant value in relation to both personal and communal epistemic endeavours. Good questioning, moreover, requires the competent elicitation of worthwhile information. With these parameters in place, the investigation will now examine precisely what good questioning involves on the part of the questioner. How does one engage in good questioning and how does one become better at asking questions. What

does it take to be a good questioner. Notably, this question brings the contemporary epistemological context of the thesis prominently to the fore. As Kotzee (2013) observes:

“[N]ot simply interested in what knowledge *is*, both social and virtue epistemology regard it as epistemology’s task to understand how to *further* knowledge or how to be a good knower.” (p.158, emphasis original).

Of central concern within these domains is the agent themselves, and their capacity for leading a successful and fulfilling intellectual life. The salience of this orientation with respect to the epistemology of questioning is evident in the treatment of questioning as both a valuable social practice, and an intellectual skill. The case for establishing, not just what good questioning is and why it is valuable, but how one can *be* a good questioner, is thus naturally endorsed by both virtue and social epistemology.

In order to determine what it takes to be a good questioner, the features of questioning that contribute to competent and worthwhile information-elicitation must be scrutinised. For this purpose it will be constructive once again to regard questioning as akin to a tool. If a wrench successfully fulfils the function of tightening and untightening very tight screws then it is a good wrench. If we want to understand precisely how it fulfils this function we must examine individual aspects of the wrench itself. What material is it made of and why is this an appropriate material for performing the function of tightening and untightening very tight screws. What size and weight is it and why are these conducive to that same function. Most importantly, if we are in the business of producing wrenches then we need to understand these features in order to determine how to go about making *good* wrenches. Such is the case if we want to produce good questioning, in ourselves or, as will be ventured in Chapter Seven, in others. The component features of good questioning will therefore be examined in order to see how each of these contributes to competent and worthwhile information-elicitation.

Methodological Digression II: School Experiments

Before proceeding, the second methodological digression of the investigation is required. The present task is to determine what it takes to be a good questioner and, as noted, I believe this requires detailed scrutiny of the practice of questioning. Consequently, rather than working with imagined scenarios in the following discussion, I will instead examine some examples of real-life questioning, extracted from a series of experiments conducted with a group of school pupils. Some details of the experiment will be worth describing here in order to provide a context for the analysis

that follows. Full details of the experiment and a discussion of this experimental method can be found in Appendix Two.

The school experiment was conducted with thirty pupils aged between seven and nine in a primary school in Edinburgh. Each experiment consisted of two games, played by the researcher (myself) and a participant, in which hidden coins had to be located on maps with the help of clues. In the first game, the participant was given two clues to read out and the researcher followed these in order to uncover coins hidden in a map of 'Treasure Town'. In the second game, the participant followed ten clues read out by the researcher to uncover coins hidden in a map of 'Treasure Island'. Images of the maps can be found in Appendix Two. The number of clues corresponded to the number of coins hidden on each of the maps so participants could collect a maximum of ten coins during their role as 'coin-seeker' in the second game. In both games the coin-seeker was permitted to ask up to three yes/no questions after each clue in order to help determine the location of the coins and these questions were tracked by turning over 'question cards' placed in the middle of the table. If a coin was successfully found, the coin-seeker received a silver coin and if not, they received a glass pebble. At the end of each game the number of coins collected in total was recorded. Each experiment lasted approximately 15-20 minutes and the dialogue throughout was audio recorded for transcription. The extracts presented in the following discussion have been taken from these transcripts. A complete sample transcript can also be found in Appendix Two.

The experiment was designed primarily to capture the different types of questions and questioning strategies employed by the participants during their role as coin-seeker in the second game. The transcripts provide a valuable insight into this demonstrating the range of attitudes and approaches to questioning adopted by the pupils. In particular, intuitively clear examples of both good and bad questions and good and bad questioning strategies can be observed. These will be drawn upon throughout the following discussion in order to develop the account of good questioning and illustrate each of our key components. The use of genuine questions and exchanges taken from the transcripts to develop and support the account provides an element of authenticity that both strengthens and enriches the discussion. In particular, the real-life dialogues demonstrate the significant complexity of providing an analysis of good questioning as a skill, given the vast range of subtle forms that questioning naturally takes. This complexity could not be accurately captured through the use of thought experiments alone. As such, the experimental data provides a rich, authentic and complex picture on which to base the analysis of good questioning and so to develop an understanding of the skill involved.

It is worth noting, moreover, that there has been much interesting methodological debate in recent years concerning the use of experimental techniques in contemporary philosophy, following the rise of the experimental philosophy (x-phi) movement. This debate has focused centrally on the significance of results arising from empirical studies designed to test folk intuitions concerning common philosophical concepts such as consciousness, intentional action, determinism, moral responsibility, and knowledge (for the debate within epistemology, see, for example, Beebe forthcoming; DeRose 2011; Bulkwalter 2010; Feltz and Zarpentine 2010). In addition, experimental philosophers also appeal to the results of empirical studies conducted by psychologists, scientists and neuroscientists to support and defend philosophical theses. This has been particularly prevalent in the case of experimental philosophy of mind (Sytsma 2014). By drawing on the experimental data discussed below in order to develop my account of good questioning, I hope to contribute to the current wave of experimental philosophy and demonstrate the value of combined theoretical and experimental methods in the philosophical analysis of everyday concepts.

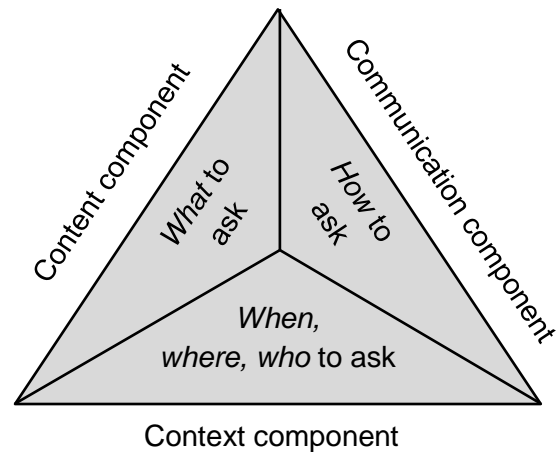
THREE COMPONENTS OF GOOD QUESTIONING

I will identify and examine three components of good questioning. These are the *content component*, the *communication component* and the *context component*. Each of these contributes to the function of questioning in a distinctive manner. As such, each plays a distinctive role in facilitating good questioning. I will examine these roles in detail and draw on the examples of questioning taken from the transcripts in order to illustrate and elucidate the nature of these three components.

Firstly, it is worth establishing some more general structural features of this component based account of good questioning. This will help to position the distinct components within a broader framework. In particular, whilst each component will be examined in isolation from the others, it is essential to acknowledge the necessary interdependence of the components, in order to appreciate the account as a whole. Each of the components will be seen to impact upon and determine elements in each of the others and, as the discussion proceeds, their necessary relatedness will become increasingly apparent. Examining the components in isolation will help to define their distinct contribution to the skill of good questioning and allow me to target particular features of the real-life examples for detailed analysis. Nonetheless, this isolated examination is a necessarily artificial representation of distinct aspects of a more complex whole. I will explore the relationships between the components during the course of the discussion in order to keep their mutual interdependence at the heart of the analysis.

With this in mind, the following simple illustration provides a useful reference:

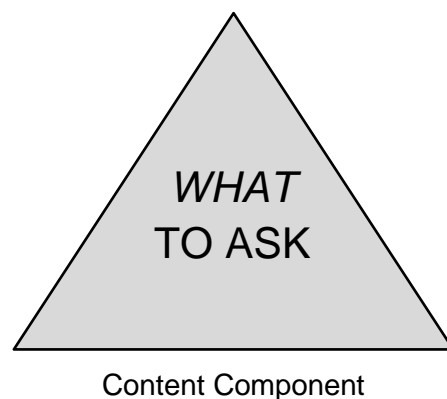
Three components of good questioning:



This pyramid illustration offers a visual sense of the structural features of the account to follow, and highlights, in particular, the mutual interdependence of the distinct components of good questioning. The structure as a whole represents the skill of good questioning, each side constitutes a key aspect of that skill. It should, however, be stressed that even with each component in place, and an appreciation of their interdependence established, the account of good questioning that follows is explicitly intended to provide a simplified model of the significantly more complex process underlying it. The simplicity of the illustration reflects this. This aim of simplifying and modelling the skill of good questioning is, I believe, important and the possible merits and applications of this will be explored in more detail in Chapter Seven, as well as in the concluding discussion of the thesis. Nonetheless, a simplified model such as this cannot capture in full the rich and significant complexity of the subject matter represented by it. The account to follow will provide a detailed and rigorous examination of good questioning within these acknowledged constraints.

THE CONTENT COMPONENT: *WHAT* TO ASK

The first of the three components is the *content component*. The content component is concerned with the content of a question. In other words, it concerns *what* the question asks; its subject matter. The content of the question 'what is the time', for example, is information concerning the time in the moment that the question is asked. The content of the question 'where are my keys' is information concerning the location of the



questioner's keys. More complicated questions will involve more complex content. For example, the content of the question 'how do you ride a bike' is information regarding the skill of bike-riding, which may involve an interconnected set of propositions as well as physical actions. In order to explicate this notion, recall the puzzle analogy presented in Chapter Three. Here a question was described as analogous to a puzzle, with some pieces in place and some pieces missing. The pieces represent the known and missing information of which the question is comprised. The content of a question can thus be thought of as the parts of the puzzle on the *missing* puzzle pieces. The content of a question is the information *being sought*.

This analogy helps to highlight the particular sense in which the notion of content is being construed in the case of a question. This is particularly significant when contrasted with the perhaps more familiar sense in which we speak of the content of an assertion. The content of an assertion is, at least typically, that which is expressed by the assertion itself; the pieces 'in place', so to speak, or the known information. Conversely, the content of a question is precisely that which is expressed as missing. It is the absence or lack of information. This missing information will often manifest itself as an assertion. Alternatively, it may arise as a gesture or thought. However it is manifested, the content of a question is the information that is missing when it is asked. The content component plays a key role in good questioning. It determines what is being asked by the questioner; what information is being sought. Significantly, this notion of content corresponds directly with the account of good questioning laid out above. The good questioner must competently elicit worthwhile information. In other words, they must identify and competently elicit *worthwhile content*. In order to satisfy the content component, the good questioner must decide *what* to ask, and in doing so their questions must target worthwhile information. This is the key skill required for satisfying the content component of good questioning.

Targeting Worthwhile Information: Content Component

A questioner must target worthwhile information in order to satisfy the key requirement of the content component for good questioning. This requirement is closely tied to debates concerning epistemic value and the aim of inquiry in contemporary epistemology. The content component draws attention to the need for a questioner to aim at or target information that is of epistemic value. As previously noted, the issue concerning what epistemic value amounts to and how this should be determined is complex and there is not the scope to explore this in detail in the present investigation. Nonetheless, in relation to good questioning, the content component can be understood at least in an intuitive and broad sense. A good questioner should not merely target *any*

missing information, they must target information that is *significant, worthy* and/or *relevant*. For ease I will refer to this throughout the following discussion simply as ‘worthwhile information’.

It will be constructive to look at this again in terms of the puzzle analogy. In this context, deciding what content to target is akin to deciding which piece of the puzzle to look for. The good puzzler will not just search for *any* puzzle pieces to fill the gaps. This would be a waste of time and resources with respect to the aim of completing the puzzle. Instead, a good puzzler must search for the puzzle pieces that will fit the relevant gaps in the puzzle. If there are very few pieces in place, this may extend to making a decision about which part of the puzzle as a whole to find the pieces for, the corners or the edges for example. If there is only one piece missing the decision will involve less work on the part of the puzzler. Nonetheless, a decision has to be made as to which piece or pieces to look for. In order to be a good puzzler, the puzzler must decide to look for the right pieces. Likewise, the questioner must decide what information they wish to seek. A good questioner will seek worthwhile information. This aspect of good questioning can be observed by turning to the experimental data.

Participants in the school experiments were tasked with locating ten coins hidden on a map of Treasure Island with the help of an initial clue for every coin sought. They were given the option to ask up to three yes/no questions after the clue was read out. The clues themselves offered a limited amount of information meaning that the participants would have to use their questions in order to narrow down the possible locations of the coins. For example, clue three told the participants that the coin they were looking for was ‘hidden in the sea’. There are three boats and one shell depicted in the sea on the map so participants would have to determine which of these four options the coin was hidden under using the three questions at their disposal. A key skill in locating the coins on the basis of the clues is therefore to determine the most worthwhile information to target with a question. This is particularly important given the restricted number of questions available. Failure to target the most worthwhile information results in a wasted question making it harder to locate the hidden coins. The following extracts illustrate various degrees of success in targeting the most worthwhile information in response to the clues and, as such, various degrees of success in exhibiting the key skill required for the content component of good questioning.

Identifying Missing Information

The skill of targeting worthwhile information can be divided into two essential elements. These concern identifying the known information when formulating a question, and identifying the missing information. As illustrated by way of the puzzle analogy, a question is comprised of both known and missing information. As such, a questioner must attend to both of these in order to

determine *what* to ask and thereby exhibit the key skill required for the content component. I will begin by focusing on identifying missing information. Take, first of all, the following extract from Lucy.²⁰ Here she is responding to clue four which tells her that the coin she is looking for is ‘hidden with an insect’:

Clue 4: This coin is hidden with an insect.

Lucy: An insect that has to be...but, are butterflies...hmm...it has to be one of the butterflies...it has to be one of the butterflies, wait there are loads of different butterflies, that one which is a different...ok yeah, is it...is it one of the butterflies

LW: Yes

Lucy deliberates over her first question in response to the clue. In particular, she is attempting to determine the nature of the information that she is missing at this stage. Her immediate response suggests that she takes the clue to be directing her towards the butterflies depicted on the map but she quickly starts to doubt this with the self-directed utterance “but, are butterflies...”. This suggests that Lucy is unsure about whether butterflies are a type of insect. Following this she notices that there are different types of butterflies depicted on the map further complicating the picture. Ultimately, she concludes to determine, first and foremost, whether or not the coin is indeed hidden under a butterfly by asking “is it one of the butterflies”. The response to this is “yes” and as such, Lucy has successfully narrowed down the potential location of the coin from the total number of possible locations (48) to the significantly smaller number of butterfly locations (7). Significantly, if Lucy had been confident that butterflies are a type of insect (and assuming she could also recognise that there are no other insects on the map), she could have bypassed this first question and asked a more specific question concerning the different types of butterflies depicted. This would have allowed her to narrow down the possible locations of the coin even further. However, given that she is apparently unsure whether butterflies are a type of insect, she asks the most appropriate question thereby targeting the most worthwhile information; the missing piece of the puzzle, at this stage. Lucy’s question arises from her recognition of the particular information she is missing; whether butterflies are a type of insect and whether the coin is hidden under one of them. Determining these two pieces of information represents a critical first stage in the task of locating the coin. Lucy is therefore exhibiting the key skill involved in the content component of good questioning; she is targeting worthwhile information.

Contrast Lucy’s approach with that of another participant, Leah, at the same stage in the game. At this point Leah has already asked her first question and has not yet located the hidden coin:

²⁰ Names of the participants have been changed to maintain anonymity.

Clue 4: This coin is hidden with an insect.

Leah: Er...I don't know...what do you do again

LW: So you can ask two more yes or no questions to help you find the coin

Leah: Are you...15

LW: No...no, that was one question

Leah: Er...are you a girl

LW: Yes, I am but that....so that's your three questions and do you think that you can find the coin now

In this exchange it is clear that Leah has failed to determine the most worthwhile information (and is also confused about the nature of the task itself). Rather than asking about items on the map or focusing on any particular type of item among those depicted she asks two questions seemingly unrelated to the game or the task of locating the hidden coin. It is not hard to see that this represents a faulty questioning strategy. Leah does not manage to narrow down her options in any respect and it is, moreover, difficult to see how she could have been attempting to do so. As such, she does not locate the hidden coin and, more importantly, she does not engage in good questioning. Significantly, she is still eliciting information and so is engaged in questioning. However, she cannot be deemed a good questioner in this instance precisely because, unlike Lucy, Leah does not accurately target the missing pieces of this particular puzzle; the most *worthwhile* information that she is missing.

A further nuance to this aspect of good questioning can be revealed by observing Lucy adopting her successful strategy again a little further into the game in response to clue six. This clue tells her that the coin she is looking for is 'hidden with a brown animal':

Clue 6: This coin is hidden with a brown animal.

Lucy: Monkey, oh no tortoises...is it...is [it] dark brown

LW: Yes

Again, Lucy demonstrates her ability to target the most worthwhile missing information with her initial question. This time she has no difficulty identifying the types of animals she should be targeting, brown animals, but recognises that there are two types of brown animals on Treasure Island; monkeys and tortoises. The monkeys are a darker shade of brown than the tortoises and Lucy uses this distinction in order to determine whether the coin is hidden under a monkey or a tortoise. She once again satisfies the content component of good questioning by successfully targeting worthwhile information with her question.

To see the particular significance of this example, contrast Lucy's approach with that of a third participant, Lee, at the same stage in the game:

Clue 6: This coin is hidden with a brown animal.

Lee: Oh come on I just realised...hey they're brown as well....I'll go with monkey...erm...this one [points]

LW: No

Lee, like Lucy, recognises that there are two brown animals on the map. However, rather than using his first question to determine which of these he is going to focus on, he decides from the outset to assume that the coin is hidden under a monkey, indicating this with the utterance, "I'll go with monkey". As such, Lee bypasses the most worthwhile missing information and builds a crucial and unsupported assumption into his inquiry. When contrasted with Lucy's approach, it is clear that Lee adopts a faulty questioning strategy in this instance. Significantly, it is his failure to recognise the most worthwhile missing information and so to target this with his question that distinguishes his approach from Lucy's. As a result, Lee, like Leah, fails to satisfy the content component of good questioning.

It is worth emphasising the particular manner in which both Leah and Lee fall short of exhibiting the key skill required in order to satisfy the content component. In both cases, it is their failure to identify the most worthwhile information that they are *missing* that determines their failure to target worthwhile information in general with their questions. While Leah fails to recognise that the most worthwhile information for the task at hand concerns the items on the map, Lee fails to recognise that he doesn't yet know which of two types of animals he should focus on. Lucy, on the other hand, succeeds in identifying the most worthwhile missing information in both cases, and so targets her question at this. Identifying the most worthwhile *missing* information in a given scenario is essential to satisfying the content component of good questioning.

Identifying Known Information

In addition to identifying missing information, the second essential task involved in targeting worthwhile information, and so satisfying the content component, is that of identifying *known* information. In order to target the most worthwhile information, and so identify the right content, a questioner must determine, not only the information that they need, but also the information that they already have at their disposal. In order to illustrate this return once again to an extract from Lucy's transcript. Here she is responding to the second clue in the game which tells her that the hidden coin 'can help you find where to go':

Clue 2: This coin can help you find where to go.

Lucy: Compass...or map...erm compass
LW: Is that a question
Lucy: Yeah, wait, let me check...no maps so it has to be a compass
LW: Is there a question
Lucy: Yeah, is...is it a compass
LW: Yes it is, well done

Lucy begins with the idea that the coin must be hidden under either a compass or a map. As these are both items that can 'help you find where to go' Lucy is thereby responding to the information at her disposal provided by the clue. She then goes on to consult the map of Treasure Island itself to see if there are any maps depicted on it and determines that there are not. By consulting the map she is further establishing the information at her disposal. Through a simple deduction she concludes on the basis of the known information that the coin must be hidden with a compass. Basing this conclusion on information that she has gained from the clue and the map is a good strategy in this instance. This provides a good example of identifying the most worthwhile known information in order to formulate a question that targets worthwhile information in general. Interestingly, however, Lucy uses her first question to establish precisely the information that she has already uncovered. This perhaps represents some uncertainty on her part in response to the prompt for a question that is given. Nonetheless, Lucy's approach to establishing the known information at her disposal represents a promising attempt to engage in good questioning despite the fact that it does not, perhaps, result in good questioning. Crucially, she falls short of good questioning precisely because she fails, at the critical point of asking her question, to take full account of the known information she has at her disposal. In order to target worthwhile information, a questioner must identify the most worthwhile known information at their disposal.

A similar and even clearer example of this can be seen in the following extract from Ling in response to the first clue in the game which tells her that the coin is 'hidden in a locked box':

Clue 1: This coin is hidden in a locked box.
Ling: Er...what clue do I have to ask
LW: You can ask any kind of yes or no question
Ling: [long pause]...mmm...I don't know
LW: Can you think of a question to ask that might help you find it
Ling: Um...is it under a tree
LW: No, it's not under a tree
Ling: Um...is it...is it under...any type of flower
LW: No
Ling: Oh...is it under a monkey
LW: No, oh alright never mind that was the first clue, here's a pebble, a shiny pebble instead of a coin

Unlike the majority of the clues in the game, the clue in this example provides a significant amount of the required information in order to locate the hidden coin. This is because there is only one locked box, a treasure chest, depicted on the map. As such, the coin should be very easy to locate and, indeed, Ling was the only participant throughout the experiments who failed to locate the first coin. By not taking account of the information provided by the clue in formulating her questions, Ling fails to target the most worthwhile information. She is, it should be noted, employing a good strategy in terms of attempting to identify the *type* of item the coin is hidden under (compare this to Leah's questions earlier) but, critically, she is still failing to target the most worthwhile information because she has not succeeded in identifying the most worthwhile known information at her disposal. In both Lucy and Ling's cases, the significance of identifying the known information when formulating a question, can be observed. Along with identifying the relevant missing information, this is an essential part of targeting worthwhile information and so exhibiting the key skill required for the content component of good questioning.

A final example will further elucidate the skill required for the content component. Rather than individual questions, this concerns the more general questioning strategies employed by the participants in the game. A large number of the pupils adopted something akin to a guessing strategy during their role as coin-seeker. This strategy was adopted either throughout the entire game or, more commonly, arose in the later and more difficult stages. An example of this strategy can be found in Lee's extract, examined above, in response to clue six:

Clue 6: This coin is hidden with a brown animal.

Lee: Oh come on I just realised...hey they're brown as well....I'll go with monkey...erm...this one [points]

LW: No

After deciding to focus on the monkeys Lee proceeds to point at a specific monkey on the map and ask if the coin is hidden under that one. Given that there are six monkeys on the map and he has only three opportunities to narrow down his options, this represents a bad strategy on his part. If he were to continue with this strategy it is not unlikely that he will be left with three locations to choose from and no further questions to decide between them. As such, Lee's question is too narrow and, in virtue of this, he fails to target the most worthwhile information. He therefore falls short of satisfying the content component on this score, in addition to the initial flaw in his strategy that we saw earlier.

Significantly, this guessing strategy was relatively pervasive throughout the experiments. An extended example, in which the approach emerges more distinctly as a strategy as opposed to an individual instance, can be found by looking at Liam's complete, and comparatively succinct, transcript:

Clue 1: This coin is hidden in a locked box.

Liam: Locked box...well there's only one locked box so I think that one [points]

LW: Ok, ah brilliant, first coin

Clue 2: This coin can help you find where to go.

Liam: ...[opens correct door]

LW: Oh right, ok, second coin, no questions

Clue 3: This coin is hidden in the sea.

Liam: In the sea...[opens correct door]

Clue 4: This coin is hidden with an insect.

Liam: Oh...[opens incorrect door]

Clue 5: This coin is hidden with an animal that can fly.

Liam: ...[opens incorrect door]

Clue 6: This coin is hidden with a brown animal.

Liam: Oh...[opens incorrect door]...oooh

LW: Alright...remember these [pointing to question cards]

Clue 7: This coin is surrounded by petals.

Liam: ...[opens correct door]

LW: Oh, found a coin, alright, still no questions asked

Clue 8: This coin is hidden with an animal that moves very slowly.

Liam: I'm [muffled] about that... [opens incorrect door]

LW: Oh, nevermind, shiny pebble

Clue 9: This coin is hidden with something you find on the beach.

Liam: ...[opens correct door]

Clue 10: This coin is hidden with some coconuts.

Liam: ...[opens incorrect door]

LW: Oh, never mind. Alright, well that was all the clues and no questions asked.

It is clear from this example, I think, that Liam is not engaging in good questioning. Although in response to the first clue he does identify the worthwhile known information at his disposal, after this point, he resorts exclusively to opening the doors without attempting to establish any further information by utilising the opportunity to ask yes/no questions. In general, he is failing to target any worthwhile information that will improve his chances of succeeding in the task. Through the adoption of this general strategy, Liam is therefore failing to exhibit the key skill required for satisfying the content component of good questioning. This highlights the significance of questioning strategies in addition to individual question-asking in the account of what it takes to be a good questioner.

Using the extracts above, the role of the content component in good questioning has been explicated, and the specific skills required in order for a questioner to satisfy this component, established. A good questioner will *identify both the known and missing information in a given scenario in order to target worthwhile information with their questions.*

Significance of the Content Component

Before proceeding to an examination of the second component in the account, it is worth pausing to highlight the necessity and significance of the content component in general for the account of good questioning. In this regard, the experiments can be viewed as a highly restricted and small-scale version of questioning in everyday life. The pupils are tasked with eliciting information in order to achieve a particular goal in much the same way as our daily lives require us to do so. You need to find out when the next bus is due, which stop to get off at, and how much the bus ticket costs. Importantly, in order to find this information out you have to target the most worthwhile information with your questioning. If you attempt to find out the information by asking the bus driver what age and gender she is, you are most probably going to fail. Likewise, if you adopt a guessing-style strategy you may well end up missing the bus, getting off at the wrong stop or paying the wrong amount for your ticket. Targeting worthwhile information through questioning is a skill employed regularly in daily life.

Furthermore, in everyday contexts, one is not generally permitted an extensive number of opportunities to elicit the information one requires, just as the pupils are given only three opportunities to ask questions and so gather information about the locations of the hidden coins. Failing to target worthwhile information with one's questions is therefore tantamount to wasting one of a limited number of opportunities to elicit the information that one is after. On a much grander scale this is true of all the questioning we engage in throughout our lives which is, after all, also limited. Targeting worthwhile information with one's questions, deciding *what* to ask, is a vital component of engaging in good questioning and of significant import in daily life.

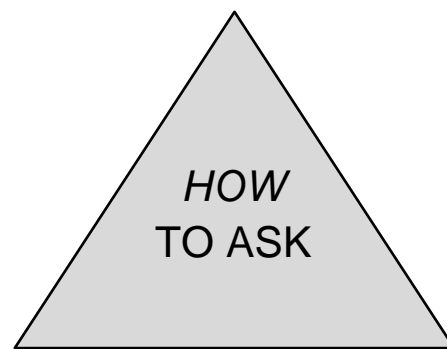
With this in mind, it is worth here reiterating the broad structural comments made at the start of the investigation. The three components that constitute good questioning are necessarily interdependent. They interact with each other significantly and each is required in order to fully realise the skill of good questioning. In order to evaluate the skills involved in one, we must also bear in mind the conditions and constraints supplied by the others. As such, identifying worthwhile information with one's questions, and thereby deciding what to ask, is only one aspect of the skill of good questioning and, more importantly, it cannot stand alone. This can be observed by

considering the examples briefly mentioned above. In order to determine when the next bus is due I need not only to target the most worthwhile information with my questions, but also to communicate them effectively. Moreover, in order to achieve effective communication I must pay due attention to the context in which I am asking. Consequently, the content of my questions is to some extent determined by the manner and context in which I ask them. These features of good questioning are represented by the remaining two components, namely, the communication component and the context component.

THE COMMUNICATION COMPONENT:

HOW TO ASK

The second component in the investigation of what it takes to be a good questioner is the *communication component*. The communication component is concerned with the performance of a question. It concerns *how* to ask. The performance of a question is the manner in which it is framed or executed; essentially, the manner in which it is communicated.



Communication Component

If you want to find out what the time is you may go about it in a number of different ways. You might simply say to the nearest person wearing a watch 'what is the time'. Alternatively, you might say 'excuse me, do you have the time' or, if you are feeling particularly familiar, 'got the time'. In yet other iterations you might attempt to find out the time by gesturing to your wrist with an inquisitive expression on your face, by shouting 'time anyone' at a crowd of strangers or by writing 'do you have the time' on a piece of paper and posting it to a friend. Finally, you might simply glance at a nearby clock. All of these ways of attempting to find out the time by means of questioning display different degrees of skill with respect to the communication of your question.

Explicating the communication component in terms of the puzzle analogy, it can be observed that the puzzler has a number of different options when searching for puzzle pieces to fill the gaps in her puzzle. She may pick pieces up blindfolded and attempt to fit them into gaps at random, or study each piece methodically before attempting to put it in place. In like manner, the performance of a question is the manner in which it is executed and the communication component concerns the degree of competence displayed in that performance. The communication component thus plays an important role in good questioning. It determines how a question is asked.

Significantly, as with the content component, the communication component corresponds directly with the account of good questioning laid out above. The good questioner must competently elicit worthwhile information. As such, good questioning cannot simply be evaluated in terms of the worthiness of the information being sought. It must also be judged in terms of the questioner's competency in attempting to elicit that information. The communication component thereby constitutes an essential feature of the *competency* involved in good questioning. In order to satisfy the communication component the good questioner must decide *how* to ask their question in order to competently elicit the (worthwhile) information they are after. This is the key skill required for satisfying the communication component of good questioning. This aspect of good questioning can be explicated with reference to the experimental data.

Competently Targeting Information: Communication Component

A questioner must competently target information in order to satisfy the communication component of good questioning. This requirement reveals a significant interdependence between the communication component and the content component. In the case of the latter, the focus is on determining the most worthwhile information to target with one's questions. Once this is determined however, one must also determine how best to express one's desire for that content. The skill of determining the content will not amount to good questioning without competent communication of the desire for that content. Likewise, competent communication will not amount to good questioning if the content sought is trivial or disvaluable. Three distinct, albeit closely related, dimensions of competent information-elicitation are exhibited in the experimental data.

Accurate Communication

The first competency expressed via the communication component is manifested in *accurate communication*. This can be understood in terms of asking well-defined questions. A well-defined question is one that accurately picks out its target; the missing piece of the puzzle. An example of a poorly-defined question was given in the account of good questioning. Remember Sarah's blunt question to the school receptionist when rushing to find out the name of her new assistant. Here she asked simply 'what is the name of the new assistant'. Consequently, the receptionist misinterpreted her question as being about the new headmaster's assistant rather than Sarah's own new assistant. He misinterpreted the content of her question. Fortunately for Sarah, in this case the two assistants shared the same name. In general of course, we cannot rely on being so lucky. It would be too risky to depend on this kind of chance occurrence in order to gather information. Sarah's question, whilst on this occasion, successful, was therefore not deemed to be competent

because of the luck involved. On this basis she falls short of good questioning. Crucially, it is not the content itself for which Sarah can be criticised; knowing the name of her new assistant before she walks through the door will make her feel welcomed and save Sarah the embarrassment of having been underprepared. The content itself is worthwhile. It is the fact that Sarah has failed to accurately communicate the precise content that she is after that results in her lack of good questioning on this occasion. No matter how worthwhile the content of one's questioning, it will not amount to good questioning unless the questions asked are accurately communicated and so competently target the information that is sought.

The significance of accurate communication can be observed in the following extracts from Helen's transcript. In the first of these Helen is responding to Clue Two which tells her that the second hidden coin can 'help you find where to go':

Clue 2: This coin can help you find where to go.

Helen: So there's two of them...is it the com-...is it the compass on the right for me

LW: Er no

Helen: So it's the compass on the left which is that one [opens correct door]

Helen begins by establishing that there are two compasses on the map indicating that she has used the information given in the clue to determine that the object is a compass. In addition, she uses the information on the map to determine how many options she will have to decide between. Helen is thus satisfying the content component from the outset by identifying both the information she is missing and the information at her disposal. She then begins to ask her question, pauses briefly and continues with the fully formed question, 'is it the compass on the right for me?'. This provides an excellent example of a well-defined question in which the precise information Helen is after is accurately communicated. This allows me to provide her with the information that the coin is not hidden under the compass to her right from which she correctly deduces that it must therefore be hidden under the compass to her left. This skill for asking well-defined questions is successfully employed again a little later in Helen's transcript in response to Clue Four:

Clue 4: This coin is hidden with an insect.

Helen: Erm...insect...so one of the butterflies....er no that's not...so that one, that one, that one, that one, that one or that one. So, is it under a blue butterfly

LW: Yes, it is

Helen: Is it on the rr-...hang on...is it next to a palm tree, is it to the left hand side of a palm tree so that one or that one

LW: Yes

Helen: Ok so it's...is it the one on the right

LW: Er no

Helen: So it's that one [opens correct door]

Again, Helen identifies both the missing and known information at her disposal and proceeds to carefully define her questions in order to accurately communicate the information that she is after. This example offers a particularly clear demonstration of the process required in order to target the information Helen is after most accurately, and she can clearly be seen to rephrase her questions carefully before asking them. Helen's well-defined questions in both of these extracts allow her to accurately communicate the information she is after and therefore satisfy this aspect of the communication component for good questioning. In conjunction with having satisfied the content component, this leads her quickly in both cases to the hidden coin.

The significance of accurate communication can also be seen in the following extracts from Hazel's transcript. These highlight the complexity involved in the process of competently targeting information and the genuine skills required in order to satisfy the communication component. Once again, in the first of these, Hazel is responding to Clue Two:

Clue 2: This coin can help you find where to go.

Hazel: Er...I think it's...compass....one of the other...oh...is it the one closest to me or the one furthest away...oh no, then...oh that's...is it the one on my right, that one or the one on my left

LW: You can only ask yes or no questions so that's the...

Hazel: I know, I don't know how I can ask it

LW: Yeah, try to...you've got three questions remember

Hazel: Yeah...is it on my right

LW: No

Hazel: [opens correct door]

Hazel is apparently struggling at first to define her question within the parameters of the game which allows her to ask only yes/no questions. She has identified from the outset that the coin is hidden underneath one of the compasses on the map and that there are only two of these. She then asks whether the coin is hidden under the compass closest to her or furthest away but quickly realises that this is not a yes/no question so isn't permitted by the rules of the game. She then changes the question to ask whether the coin is to her right or to her left but once again quickly realises, following a prompt, that this question will not be permitted by the game. Eventually, she asks simply whether the coin is on her right, dropping the disjunctive, and so accurately communicates the information she is after within the parameters of the game. The answer to this is 'no' and so, by process of elimination, Hazel is able to locate the hidden coin. As such, Hazel demonstrates her ability to accurately communicate the information she is after by asking a well-

defined question. Consequently, she satisfies this aspect of the communication component for good questioning.

This skill is similarly demonstrated later on in Hazel's transcript. Here she is responding to Clue Seven which tells her that the hidden coin is 'surrounded by petals':

Clue 7: This coin is surrounded by petals.

Hazel: Ok...are there...is the colour...is the flower with the coin under it red

LW: Er yes

Hazel: Is it the one on my right

LW: Er no

Hazel: Is it the one on my left

LW: No

Hazel: [opens correct door]

In her first response to the clue Hazel can be clearly seen to refine her question, beginning with 'are there', adapting this to 'is the colour', and finally forming the full question, 'is the flower with the coin under it red'. Here she is employing the skill of asking a well-defined question and so accurately communicating the information she is after, in this case, whether the coin is hidden under a red flower. Once she has established that it is, Hazel proceeds by process of elimination, having dropped the disjunctive form of questioning from earlier. Given that there are only three red flowers depicted on the map and Hazel has two questions left to ask, she successfully manages to locate the hidden coin. Her success is due to her questioning and can be credited to her skill as a good questioner rather than any luck on her part. It is her ability to accurately communicate the information she is after by asking well-defined questions that results in her satisfying this dimension of the communication component.

Hazel's questioning can be contrasted with that of another participant, Harpreet. In the following extract Harpreet adopts a consistent strategy in response to clues three, four, five and six:

Clue 3: This coin is hidden in the sea.

Harpreet: Ship...

LW: Yes

Harpreet: [opens incorrect door]

Clue 4: This coin is hidden with an insect.

Harpreet: ...flower...

LW: No

Harpreet: Butterfly...

LW: Yep

Harpreet: [opens incorrect door]

Clue 5: This coin is hidden with an animal that can fly.

Harpreet: Parrot...

LW: Yep

Harpreet: [opens correct door]

Clue 6: This coin is hidden with a brown animal.

Harpreet: Monkey...

LW: Yes

Harpreet: [opens incorrect door]

Harpreet successfully narrows down the location of the coin in each case to the type of object that it is hidden under. In this respect he is picking out worthwhile information and so satisfying, at least initially, the content component of good questioning. Following this, however, he fails to further refine his search and in doing so fails to ask well-defined questions targeting the information he now needs in order to increase his chances of finding the coins. Harpreet fails to find the hidden coins on three of the four occasions. The occasion on which he succeeds must be attributed to luck rather than his skill as a questioner given that there are still two options available when he makes his choice. Unlike Hazel, Harpreet does not engage in good questioning. While we saw Hazel gradually changing and refining her questions in response to the restrictions of the game and her success in locating the coins, Harpreet does not attempt to change his strategy despite its lack of success. While Hazel asks gradually better defined questions, Harpreet fails to do so and this contributes to a lack of good questioning. In order to be a good questioner, one must accurately communicate the information sought by asking well-defined questions. This is a key dimension of the communication component.

Efficient Communication

A second, and closely related dimension, highlights the significance, not only of accurate communication but also of efficient communication. This is once again required in order to competently target information with one's questions and is another key skill required in order to satisfy the communication component of good questioning. This requires the ability to adopt the most proficient questioning strategy or medium in order to elicit the information one is after as efficiently as possible. Efficient communication is another key feature of good questioning.

The significance of efficient communication can be demonstrated by returning to Helen's transcript. Throughout her role as coin-seeker Helen asks well-defined and clearly articulated questions. Questions such as, 'is it the compass on the right for me', 'is it under a blue butterfly', and 'is it hidden under the parrot on the right'. These well-defined questions allow her to receive clear and accurate responses in each case leading to her successfully uncovering nine of the ten the

hidden coins. This demonstrates the significance of accurately communicating one's questions in order to elicit the information one is after. Significantly, this accuracy leads to greater efficiency during the process of uncovering the coins. Helen not only accurately targets the information she is after but, in doing so, successfully elicits this information in an efficient manner. She employs the limited number of questions at her disposal well and so uncovers nine of the ten hidden coins. If Helen has failed to do so her questioning would have been less efficient and therefore less competent. In virtue of her accuracy, Helen's questioning is also highly efficient allowing her to fulfil this dimension of the communication component.

The skill involved in efficient communication can be illustrated by again contrasting Helen's questions with those of other participants in the game. The following extract from Hannah's transcript, demonstrates the potential pitfalls of inefficient communication. As with both Helen and Hazel, Hannah is responding to Clue Two:

Clue 2: This coin can help you find where to go.

Hannah: The...compass

LW: Is that a question

Hannah: Is it hidden under a compass

LW: Yes

Hannah's initial utterance in response to the clue clearly indicates that she has identified the compass as a likely candidate for the hidden coin. She has thereby done a good job of identifying the information she has at her disposal and the information she needs in order to increase her chances of locating the coin. She is identifying worthwhile information and satisfying the content component for good questioning. The utterance itself however, is both minimal and uncertain so does not efficiently communicate the information she is after. This provokes my clarificatory response, which is to ask 'is that a question'. Following this, Hannah goes on to express her question more fully by asking 'is it hidden under a compass'. This allows me to confirm that it is and in this way Hannah acquires the information she is looking for. She has thereby competently targeted the information and satisfied the communication component. The need for clarification in this case, however, renders her questioning less efficient than it would have been had she asked the fully formed question in the first instance. While this does not hamper Hannah's progress significantly in this case, it nonetheless offers a simple illustration of the role that efficient communication plays in good questioning.

Hannah's case can be usefully contrasted to that of Harvey's. Consider the following extract in which Harvey is responding to Clue Seven:

Clue 7: This coin is surrounded by petals.

Harvey: Ohh...tree...a tree

LW: Is that a question

Harvey: Yeah

LW: No, not a tree

Harvey begins with the same type of utterance as Hannah. He simply states, in an uncertain manner, the object that he thinks the coin may be hidden under. This, again, provokes the clarificatory response 'is that a question'. Rather than reformulating his question in the way that Hannah does, however, Harvey merely answers 'yeah' to this clarificatory question. On this basis he is able to discover that the coin is not hidden under a tree and so elicits the information he is looking for. Although Harvey does not make an attempt to communicate his question more accurately, he does still elicit the information he is after by confirming in retrospect that a question had been asked. Thus he displays some level of competency and successfully elicits the required information. As with Hannah, however, whilst Harvey's progress is not hampered significantly in this case, his questioning is less efficient than, for example, Helen's. Significantly, Harvey goes on to respond to Clue Eight in a similar manner:

Clue 8: This coin is hidden with an animal that moves very slowly.

Harvey: ...tortoise

LW: Is that a question

Harvey: Yes

LW: Yep, tortoise

Harvey's first response is once again to state the object that he thinks the coin may be hidden under on the basis of the clue. Once again this requires a clarificatory question. As such, Harvey's questioning strategy begins to look less efficient than Hannah's. Specifically, he has not adapted his question on this second attempt in order for the information he is attempting to elicit to be accurately communicated. If Harvey had asked a well-defined question on this attempt he would not need to rely on the subsequent clarification in order to acquire the information he is after. On this basis we may be at least less inclined to credit Harvey with good questioning than we are to credit Hannah with it. Specifically, this is due to his adoption of a less efficient strategy. Interestingly, in Clue Nine, Harvey does make an attempt to adapt his strategy in order to avoid the clarificatory question:

Clue 9: This coin is hidden with something you find on the beach.

Harvey: Shell...that's a question

LW: Yes, it is a shell

In this instance Harvey again states the object that he thinks the coin may be hidden under but then quickly asserts 'that's a question', indicating that his utterance is intended as a question. In this way he avoids a clarificatory question and is engaged in a more efficient attempt to elicit the information that he is after. While this strategy arguably displays less competence with respect to good questioning than Hannah's strategy of reformulating her question, it does demonstrate some improvement in the efficiency of Harvey's communication for which he should rightly receive credit. Interestingly, whether this attempt is enough for the case to amount to one of good questioning is not altogether clear. Harvey does seem to have improved his questioning to some degree in this instance but it may still be judged to fall short of good questioning based on the question's formulation. This highlights an important point. The evaluation of questioning is not a simple or straightforward matter. Rather, one must take into account the range of skills that it involves and assess these in conjunction with each other. Once again this signifies the mutual interdependence of the three components outlined in the account. Harvey's progress in contrast with Hannah's demonstrates the sense in which good questioning is, to a large extent, a matter of degree rather than kind. The use of real-life questioning taken from the transcripts, as opposed to imagined cases, illustrates this well and captures a valuable level of authenticity. Unclear cases are inevitable and intuitions are likely to differ with respect to these. The simplified model presented in the account of good questioning seeks to determine the trajectories along which these intuitions may diverge and establish the parameters for their resolution in order to inform our evaluations of questioning.

Apt Communication

A third and final dimension of the communication component is also worth distinguishing. This is *apt* communication. This dimension is closely related to the previous two discussed above. However, it can be usefully examined independently of these in order to further elucidate the range of skills involved in the communication component. Apt communication concerns the medium that a question takes. Recall the different ways in which one could attempt to find out the time by questioning, listed at the start of the discussion. These included a variety of media in addition to speaking such as, shouting, gesturing, writing and looking. One could add to this whispering, miming, signing, typing even drawing or singing, along with a wide range of other media, any one of which may plausibly be the most effective way to communicate one's questions. This final dimension emphasises the sense in which the communication component concerns the performance of a question; precisely *how* it is asked.

Given the nature of the experiment this aspect of good questioning cannot be helpfully elucidated by the experimental data. While the participants could have chosen to express their questions by some medium other than stating them out loud, the likelihood of them doing so was naturally slim and the alternatives available, very limited. In everyday life however, one's choice of media is typically broader and as such the medium one employs for one's questions will also play a role in determining whether or not they are competently communicated. The examples given for finding out the time expose this clearly. It is unlikely that writing 'do you have the time' on a piece of paper and posting it to a friend is going to be the most effective way of finding out the time. Saying 'what is the time' to the nearest person wearing a watch, may well be. The first instance would not be judged an instance of good questioning, the second is a plausible candidate. The difference arises from one's choice of medium. This in turn impacts upon the efficiency of one's questioning revealing the close relationship between these dimensions. Apt communication is a third key skill required for competent information-elicitation and plays an important role in satisfying the communication component for good questioning.

The role of the communication component in good questioning has been elucidated. In particular, the specific skills required in order for a questioner to satisfy this component have been established. A good questioner will *communicate their questions accurately, efficiently and aptly in order to competently target worthwhile information.*

Significance of the Communication Component

Before proceeding to the final component it is worth once again pausing to highlight the necessity and significance of the communication component in general for the account of good questioning. In this respect, the experiments again represent a restricted and small-scale version of questioning in everyday life. The pupils must elicit the information they are after competently in order to achieve the goal they have been tasked with. As well as identifying the most worthwhile information, this requires them to employ a range of communication skills that targets that information. These skills are employed regularly throughout our daily lives. In order to find out when the next bus is due, one must communicate a desire for that information. In order to do this competently one must communicate accurately, efficiently and through an apt medium. If you attempt to find out the information by writing a speech on the necessity of your catching the next bus and pinning it to the bus stop you are most probably going to fail. Competently communicating our desires for the information we are trying to elicit with our questions is a skill we employ often and one that contributes significantly to the smooth running of our lives. Competently targeting worthwhile information with one's questions, by determining *how* to ask, is a vital component of engaging in good questioning.

Here again it is worth reiterating the broad structural comments made at the start of the discussion. The three components that constitute good questioning are interdependent and each is required in order to fully realise the skill of good questioning. Competently targeting information through accurate, efficient and apt communication, and thereby deciding how to ask, is one aspect of the skill of good questioning which must be understood and evaluated in relation to the others. Once again, this can be seen in the example of the bus times. Once I have determined the information I am after, I need to communicate this effectively. In order to achieve this I must pay due attention to the context in which I am asking. Consequently, the communication of my questions is to a significant extent determined by the context in which I ask them. This is perhaps most clear in the choice of an apt medium for questioning. The relationship between apt communication and context is a particularly intimate one. This feature of good questioning is captured by the third and final component, namely, the context component.

THE CONTEXT COMPONENT: *WHEN, WHERE AND WHO TO ASK*

The third and final component in the investigation of what it takes to be a good questioner is the context component. The context component is concerned with the context in which a question is asked. I will call this the ‘questioning context’. It concerns *when* and *where* a question is asked and *who* it is asked of. One may, for example, ask a colleague for a lift to work one morning. Your location, the colleague and the morning on which you ask constitute (roughly)



your questioning context. Likewise, we saw Sarah asking a passer-by for directions to Seoul Tower. Seoul, the passer-by and the time of day thereby constituted Sarah’s questioning context. In order to satisfy the context component one must ask appropriate questions with due consideration for one’s context. Asking context-appropriate questions is the key skill required to satisfy the context component for good questioning.

As with the previous two components, the context component plays a key role in good questioning. The evaluation of questioning must take account of the world in which a question is asked. As such good questioning will be determined significantly by considering the context in which questioning takes place. The context component thus draws particularly strongly on the social-epistemological framework which places an emphasis on the influence of the social world on epistemic interactions.

The evaluation of a good questioner must take account of the wider context in which their questioning occurs. This investigation is concerned, not simply with good questions, or good questioning, if these could indeed be examined in abstraction, but with what it takes to be a good questioner. It is therefore an investigation which necessarily involves the world in which questioning takes place. The context component plays an important role in good questioning. It determines when and where a question is asked, and who it is asked of.

As with the previous two components, the context component, corresponds with the account of good questioning. Alongside the communication component, the context component requires the good questioner to competently elicit worthwhile information. The context component thus constitutes a second essential yet distinct feature of the *competency* involved in good questioning. The good questioner must decide *when* and *where* to ask their question, and *who* to ask it of, so as to competently elicit the (worthwhile) information they are after. These are the key skills required for satisfying the context component of good questioning.

Competently Targeting Information: Context Component

A good questioner must be able to judge the appropriate questioning context for their questions. Specifically, they must be able to identify the right time and place to ask a question and the right source to ask it of. This will involve a range of skills based on assessments of the world around them. It should be noted that, given the prescribed nature of the context in which the experiments took place, the experimental data will not be especially valuable in an explication of the context component. This limitation was also manifested in the previous discussion of apt communication. With this in mind, a return to the more traditional use of imagined cases will serve to illustrate key aspects of the context component. These cases represent familiar scenarios in which the skills involved in the context component could plausibly be seen to arise.

Appropriate Time and Place

The good questioner must be able to judge an appropriate time for their question. Imagine, for example, that Sarah asks her colleague Julia, whom she sees in the corridor at 9am, if she will be eating lunch in the staffroom that day. This seems like an appropriate time to ask. If she had asked Julia the same question at 5pm it would have made little or no sense. This is a very simple consideration but is nonetheless significant when evaluating questioning. The good questioner will ask their questions at an appropriate time. Sarah's question at 9am is likely to elicit information with

respect to Julia's lunch plan. The same question at 5pm would fail to elicit the information she is after precisely because she is asking it at the wrong time.

The sense in which the timing of a question may be appropriate or inappropriate, moreover, may be determined by a number of factors not exclusively associated with the actual time at which the question is asked. Compare Sarah asking Julia about her lunch plans at 9am when she sees her strolling happily along the corridor, with her asking the same question at 9am when she sees her rushing down the corridor, looking panic-stricken and tearful whilst talking in an urgent manner on the phone. Here the issue of bad timing is not revealed in terms of the actual time but rather in terms of a poor judgement with respect to Julia's emotional wellbeing at the time Sarah asks. In this second case there appears to be a moral consideration in play; Sarah's question is not appropriate in terms of improving the Julia's wellbeing given that she is clearly engaged in a more significant concern at that moment. However, the question also fails on epistemic grounds. Asking her at this time is not conducive to eliciting the information she is after as she is unlikely to get an informative response to her question if she asks it while Julia is clearly upset, distracted and speaking on the phone. For Sarah to be a good questioner she needs to be able to make this kind of judgement. In order to be a good questioner one must ask one's questions at an appropriate time.

Closely related to this is the issue of *where* questioning takes place. Once again, this is a relatively simple measure by which we can evaluate questioning. Imagine that Sarah asks another colleague, Rosie, whom she sees coming from the direction of the school car park, if there are any visitor parking spaces free. Here she is making a reasonable judgement that Rosie will have passed the visitor spaces very recently and so will be in a good position to provide her with an indication of whether any of them are currently free. Perhaps Rosie will respond that she didn't take note so cannot be sure and Sarah will in fact fail to elicit the information she is after. Nevertheless, this is still an example of good questioning because, along with satisfying the other requirements, it is asked in an appropriate place. The same question asked to the same colleague as she is exiting the lavatories is much less likely to secure an informative response. Once again, for Sarah to be engaged in good questioning she needs to be able to make this kind of judgement. In order to be a good questioner one must ask one's questions in an appropriate place. Both when and where a question is asked feature importantly in the evaluation of good questioning. These are, in addition, intimately related to the third and final context-based feature of good questioning, namely, *who* a question is asked of. This is the more complex aspect of the context component and, as such, merits an independent discussion.

Appropriate Source of Information

The issues of when and where it is appropriate to engage in questioning in order for one to be judged a good questioner will be in part determined by the issue of *who* the question is directed towards. In the two cases described above the issue of when and where the question is asked become only a secondary consideration if the question is not directed towards the appropriate person. Say, for example, that Sarah asks a pupil just behind Julia in the corridor whether she (Julia) is planning to eat lunch in the staffroom that day. Clearly she has asked the wrong person in this case and presumably fails to elicit the information she is after on this basis. Similarly, if she had asked a 5 year old child approaching from the school car park whether there were any visitor parking spaces free we would judge her to have engaged in bad questioning because the 5 year old is unlikely to know what this means, or have taken in the information required in order to answer it. The issue of who is asked is central to evaluating whether or not a person has engaged in good questioning.

A good questioner must be able to identify who is most likely to provide them with the information they are after. Imagine that Sarah is catching a train after work one evening. When she arrives at the train station she needs to find out which platform her train is leaving from. Here she has several options for eliciting the information via questioning. Firstly, she could ask the group of teenagers sitting outside the station entrance. Secondly she could ask the harassed father with a pram searching for his tickets. Thirdly, she could ask the woman standing at the barriers to the platforms wearing a station guard's uniform. The choice is simple in this case; if Sarah is a good questioner she will ask the woman in the station guard's uniform because she is the most likely to be able to provide Sarah with the information she requires. Asking the teenagers or the harassed father may in fact also provide her with the information she needs but under these circumstances, her questioning would not be considered good, or at least not *as good* as it could have been.

This aspect of the context component can be explicated by considering it in relation to the genealogical account of questioning. Specifically, judging who to ask can be thought of in terms of identifying a reliable source of information. As previously outlined, the notion of a reliable source of information is central to Craig's (1990) account of knowledge and plays a correspondingly important role in the genealogical account of questioning. Viewing this in the light of the context component allows us to see precisely why this is the case. Being able to identify a reliable source of information is a key skill required for satisfying the context component of good questioning. It is central to being a good questioner and constitutes a vital element of ensuring the smooth running of our epistemic communities. In order to achieve this, the questioner must be able to pick up on

information-bearing signals in their environment directing them towards appropriate sources of information. Sarah's ability to pick up on and interpret the fact that the woman standing by the platform barriers is wearing a station guard's uniform is a key factor in her determining who to ask. Perhaps more subtly, picking up on the fact that the father with a pram is harassed and distracted will help her to determine that he may not be the best person to provide her with the information. The fact that the group of teenagers are outside the station and not paying attention to the departure boards inside may also contribute to her assessment of whether or not they are likely to have the information she looking for. Being able to identify and interpret these kinds of signals enables a questioner to identify the right source of information in a given context. The context component requires that a questioner must be able to appropriately judge their questioning context with respect to both when and where they ask questions and, who they ask them of.

The role of the context component in good questioning has been elucidated. In particular, the specific skills required in order for a questioner to satisfy this component have been established. A good questioner will *ask their questions at an appropriate time, in an appropriate place and of an appropriate source in order to competently target worthwhile information.*

Significance of the Context Component

The necessity and significance of the context component for the account of good questioning has been revealed through the social dimension that it introduces into the evaluation of questioning. This social dimension plays a crucial role in determining the worth of one's questioning in everyday life. If one cannot judge an appropriate context for one's questions, one is unlikely to serve oneself or the wider epistemic community satisfactorily. The context component is essential in order for one to be a good questioner, both at an individual and a community level. This social dimension, in addition, further highlights the sense in which the three components of good questioning are intimately related. Deciding both what and how to ask questions will be in part a matter of judging the wider context in which one's questioning takes place. In this respect, the three components of good questioning form a complex and dynamic whole.

CHAPTER SUMMARY

Key insights from Chapter Five can now be summarised. The characteristic function of questioning is information-elicitation. Good questioning consists in fulfilling this function well by successfully eliciting the information sought. This provides a simple, descriptive account of good questioning. Good questioning, construed in a thick, normative sense, requires more than mere success at

eliciting information. It requires the competent elicitation of worthwhile information. A good questioner is one who *competently elicits worthwhile information*. In order to *be* a good questioner, one must exhibit a range of question-asking abilities. Specifically, a good questioner will identify the information they are missing and the information at their disposal, in order to target worthwhile information. Alongside this, they will accurately, efficiently and aptly communicate their desire for this information, at an appropriate time and place, and direct this towards an appropriate source. These abilities correspond to the three components of good questioning; the *content*, *communication* and *context* components. All three components are required in order to be a good questioner and are, as such, mutually interdependent. The evaluation of good questioning is both complex and open to divergent interpretations. The interdependence integral to the component-based account captures this. It is nonetheless intended as simplified model, valuable for understanding the nature and practice of good questioning, and exploring its applications.

Chapter Six

What is Virtuous Questioning

Good questioning is an intellectual skill that we employ throughout our lives in order to gather information. This skill requires a range of abilities and can be manifested in varying degrees of success. This, however, says nothing of our *inclination* to engage in good questioning, or our *willingness* to improve it. The skill of good questioning may not be expressed at all on this basis. In order to examine the motivation to engage in good questioning, the investigation must move beyond an analysis of questioning as an intellectual skill, to the analysis of questioning as an intellectual virtue. What intellectual virtue, or virtues, are associated with the practice of questioning and what role does it play in the intellectually virtuous life. What is required in order to *be* a virtuous questioner. These questions are naturally framed within the context of the virtue epistemology movement.

This chapter will investigate the nature of *virtuous questioning* through an examination of the intellectual virtue of *inquisitiveness*. A fourth component, required for virtuous questioning, will be presented and explicated. This is the *motivation component*. This fourth component is not required for good questioning, construed as an intellectual skill, but rather for the practice of virtuous questioning. I will begin with an examination of the relationship between good and virtuous questioning. This will lead to the identification of inquisitiveness as the intellectually virtuous manifestation of good questioning. On this basis, a characterisation of inquisitiveness will be presented. Subsequently, the place of inquisitiveness among the intellectual virtues will be interrogated and the relationship between inquisitiveness and the process of inquiry, explored. It will be argued that inquisitiveness plays a distinctively valuable role in the intellectually virtuous life placing it, and so virtuous questioning, at the heart of the virtue-epistemological framework.²¹

²¹ A modified version of Chapter Six, entitled 'What is Inquisitiveness', is forthcoming in *American Philosophical Quarterly*.

FROM GOOD TO VIRTUOUS QUESTIONING

A good questioner is one who competently elicits worthwhile information. In order to be a good questioner, therefore, one must ask accurate, efficient and apt questions, at an appropriate time and place and of an appropriate source, in order to elicit information about something that is significant, relevant or worthy. Questioning in this manner is a skill. It is, moreover, a valuable skill, which leads us to the acquisition of valuable epistemic goods such as knowledge and understanding, and facilitates cohesion within our epistemic communities. As a skill, however, good questioning is not guaranteed to manifest itself. One may possess any number of skills, or at least dispositions to develop any number of skills, without being aware of them and so never come to employ any of these. You may be able to balance a bucket of water on your head or easily memorise the Kansas phonebook and not know that you possess these skills. Alternatively, one may be aware of one's skills but lack the requisite circumstances or confidence to display them. Imagine a talented opera singer working behind a reception desk, a skilled paralegal or a junior architect unable to sustain their professional training, or a brilliant, unpublished author. In each case, the skills alone, even if they are known, will not suffice to ensure their manifestation in the world.

Alternatively, one may be aware of one's skills and enjoy both the circumstances and confidence conducive to their manifestation but simply lack the motivation to employ them. Imagine a millionaire with a remarkable aptitude for mathematics but no interest in the subject, or a talented but idle footballer. In these cases, possessing the skills, even with the means to employ them, will not suffice to bring them into action in the world. The same can be said of good questioning. One may be an excellent questioner but simply have no interest in acquiring information about anything much at all. In this case, there is no reason to think that one would employ the skill of good questioning, either for the benefit of oneself or for others. Something over and above the skill alone is therefore required in order to ensure the practice of good questioning actually manifests itself. The requisite circumstances and confidence for questioning are two important factors. More fundamentally, however, the *motivation* to engage in questioning is crucial to ensuring its manifestation within our epistemic communities. It is this motivation that leads us from good to virtuous questioning.

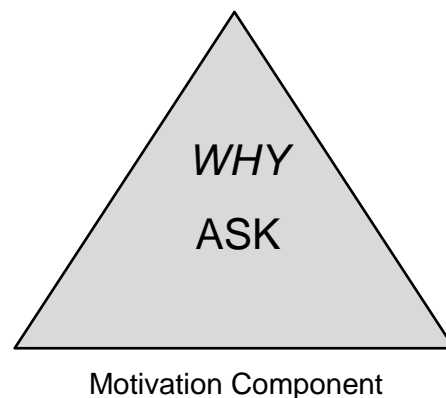
The transition from good to virtuous questioning is a matter, primarily, of motivation. While the good questioner may be disinclined to employ their skills, the virtuous questioner will necessarily be motivated to do so. An initial insight into this can be gleaned from Aristotle's famous treatment of virtue in the *Nicomachean Ethics*. Here Aristotle presents the notion of the 'Virtuous' or 'Golden Mean' in which he situates each virtue as the mean between two vicious extremes, thus laying a

cornerstone in the foundations of virtue ethical theory throughout the following centuries and up to the modern day. During this discussion Aristotle explicates virtue (excellence) in terms of the Golden Mean in the following manner:

"at the right times, with reference to the right objects, towards the right people, *with the right aim*, and in the right way, is what is both intermediate and best, and this is characteristic of excellence." (*Nicomachean Ethics*, Book II, 1106b21-23, emphasis added)

This explication of virtue eloquently captures the relationship between virtue and skill presently being explored. In particular, it helps to elucidate the transition from the skill of good questioning to virtuous questioning. Aristotle refers to the 'right objects', towards which virtue must be directed, as well as the right times and people, and the 'right way'. These can be understood in terms of the content, context and communication components of good questioning respectively. Crucially, in addition Aristotle refers to having the 'right aim'. This provides an indication of the significance of motivation in the account of virtue. It is this motivational component that raises an activity or trait from a skill to a virtue. Having the right aim ensures that one's actions are not only a matter of skill and judgement, but of possessing the right motivation. Motivation is a key component of virtue.

In order to exhibit virtuous questioning, the good questioner must be virtuously motivated. Within the context of the present investigation, this additional condition can be usefully viewed as a fourth component; the motivation component. This fourth component is required for virtuous questioning, over and above good questioning. It provides the foundation of our pyramid, determining, not what, how, when, where or who one asks, but *why*. This motivation component already enjoys an established place in the wider virtue literature.²²



Good questioning is therefore not itself a virtue. As an intellectual skill however, it does occupy a central place in the intellectually virtuous life and this will be explored in more detail in due course. First and foremost, in order to examine and explicate the notion of virtuous questioning I will proceed by identifying the intellectual virtue most closely aligned with the practice of questioning. This is the intellectual virtue of *inquisitiveness*. In order to characterise virtuous questioning, a

²² Thanks to Alan Wilson for many fruitful discussions of this.

characterisation of the intellectual virtue of inquisitiveness will therefore be presented. This characterisation is conducted within the context of autonomous virtue epistemology. Some discussion of this theoretical context will therefore provide a useful precursor to the discussion.

Autonomous Virtue Epistemology

The virtue epistemology movement has been concerned, in significant part, with tackling the traditional problems of analytic epistemology by employing a novel, virtue-theoretic framework, modelled on that of virtue ethics. In recent years, there has, in addition, been a move to establish virtue epistemology as an autonomous area of epistemological inquiry (e.g. Roberts and Wood 2007; Baehr 2011). With this orientation the movement can be viewed as a departure from traditional epistemology and as such, a new epistemological project has emerged consisting in the characterisation of the individual intellectual virtues. This autonomous virtue epistemological context provides an ideal forum for the investigation of virtuous questioning by means of a characterisation of the intellectual virtue of inquisitiveness.

Before embarking on an examination of inquisitiveness, however, it is worth noting a relevant distinction in the virtue epistemology literature, first made explicit by Lorraine Code (1984) and now familiar amongst virtue epistemologists. This is between virtue reliabilism and virtue responsibilism. These approaches differ primarily with respect to the nature and scope of the intellectual virtues. Epistemologists in the former camp, including contributors such as Sosa (2007) and Greco (2010), take the intellectual virtues to consist of cognitive faculties such as good memory, acute reasoning and keen eyesight. These have been broadly classified as *faculty-based virtues* (see Greco and Turri 2011; Baehr 2011). In contrast, virtue responsibilists, including contributors such as Zagzebski (1996), Hookway (2007) and Baehr (2011), take the features of an individual's cognitive character to comprise the intellectual virtues. These include traits such as intellectual humility, rigor and open-mindedness and have been classified as *trait* or *character-based virtues* (see Greco and Turri 2011; Baehr 2011). In relation to the current investigation, good questioning, construed as a skill, may plausibly be classified as one of the faculty-based virtues, which do not necessarily incorporate a motivation component. However, I will not classify it as such here and will maintain the characterisation of good questioning as an intellectual skill as opposed to a virtue. In light of this distinction, the intellectual virtue of inquisitiveness should be viewed as a character-based virtue.

Despite some recent extensive work on the characterisation of the character-based virtues (e.g. Roberts and Wood, 2007; Baehr 2011) no detailed treatment of the intellectual virtue of

inquisitiveness has yet been forthcoming.²³ Inquisitiveness, however, is often cited as an example of intellectual virtue in the contemporary literature (e.g. Baehr 2011; Zagzebski 1996). An in-depth examination of the virtue of inquisitiveness is therefore apt in the context of this emerging discourse. This examination will begin by reviewing three approaches to characterising the intellectual virtues taken by Zagzebski (1996), Roberts and Wood (2007) and Baehr (2011).

CHARACTERISING THE VIRTUES

In her seminal work, *Virtues of the Mind* (1996), Zagzebski presents a compelling case for the adoption of a virtue-theoretic approach to epistemology focusing on the character-based intellectual virtues. She argues that the virtues should be understood as “acquired excellences” (p. 116), and distinguishes these from natural capacities and skills. This distinction between virtues and skills has been adopted in the distinction between good and virtuous questioning that we have already established. Further to this, Zagzebski maintains that the virtues are comprised of both a motivational and success component. Here the centrality and significance of motivation in the virtue-theoretic literature is apparent. The motivational component, according to Zagzebski, is action-guiding, providing us with “a set of orientations toward the world” (p. 136). She defines a motivation “in terms of the end at which it aims and the emotion that underlies it” (p. 136). This characterisation of motivations is then aligned with the success component of the virtues and hence Zagzebski asserts that, “[A] person does not have a virtue unless she is reliable at *bringing about the end* that is the aim of the motivational component of the virtue” (p. 136, emphasis added). This demand for reliable success in realising the ends of one’s virtuous motivations places a relatively strong requirement on the virtuous agent meaning that they must not only possess virtuous motivations but also *act virtuously* under the appropriate circumstances. This is required of all the moral and intellectual virtues on Zagzebski’s account.

Roberts and Wood’s *Intellectual Virtues: An Essay in Regulative Epistemology* (2007) advances the case, not presented explicitly by Zagzebski, for autonomous virtue epistemology. The authors offer

²³ Perhaps the most explicit discussion of inquisitiveness within the literature can be found in Nenad Miscevic’s (2007) paper in which he argues for the central role of *inquisitiveness or curiosity* in the virtue-theoretic framework. Miscevic does not, however, offer an explicit characterisation of this trait (or traits) as an intellectual virtue. A number of other commentators, notably Jonathan Kvanvig (2003, 2012) and Dennis Whitcomb (2010), have also discussed *curiosity* in some depth. In addition, Roberts and Wood (2007) offer a detailed characterisation of the intellectual virtue they call love of knowledge (Chapter Six). This virtue shares several features in common with curiosity, as it is construed by both Kvanvig and Whitcomb and to a lesser degree the intellectual virtue of inquisitiveness that is the focus of this paper.

seven detailed characterisations of character-based intellectual virtues listed as love of knowledge, firmness, courage and caution, humility, autonomy, generosity and practical wisdom. Roberts and Wood call their distinct approach regulative epistemology, contrasting this with analytic epistemology and aim to promote a form of reflection on the intellectual virtues that will provide guidance for epistemic agents. This aspiration is explicitly divergent from the objectives of traditional epistemology and this departure is notable in the authors' approach to characterising the virtues. They describe their method as providing conceptual maps of the intellectual virtues stating explicitly that they do not "aspire to specify the logically necessary and sufficient conditions" (p. 26). This marks a move against the more rigid formulations commonly found in the analytic epistemological tradition.

Most recently, in an effort to further advance the autonomous virtue epistemological project Baehr, in his book *The Inquiring Mind* (2011), endorses the approach taken by Roberts and Wood towards the formation of an independent branch of epistemological inquiry focusing on the character-based virtues. In line with this he offers two detailed analyses of the virtues of open-mindedness (Chapter 8) and intellectual courage (Chapter 9). Baehr regards these as paradigm examples of the character-based virtues and attempts to uncover their "essential or defining character" (p. 141). In each case, Baehr orients his treatment of the virtue around "that which is *distinctive* of this virtue as compared with other intellectual virtues" (p. 141, emphasis original) and goes on to explicate the virtues in terms of their characteristic function. He concludes these analyses with a discussion of when it is appropriate to exhibit the virtue in question. This approach, incorporating both the function and appropriateness of the virtues marks, once again, a subtle move beyond analyses exclusively in terms of necessary and sufficient conditions revealing in addition a concern with the application of the virtues.

Important progress has thus been made with respect to characterising several of the character-based intellectual virtues. The characterisation of inquisitiveness will draw on these contributions in several ways. Drawing on Zagzebski (1996), the characterisation will identify both a motivational and success component of the virtue of inquisitiveness. Drawing on Roberts and Wood (2007) the characterisation will endeavour to advance the project of autonomous virtue epistemology. Drawing on Baehr (2011) the characterisation will be structured by identifying the distinctive features of inquisitiveness as compared with the other intellectual virtues and then examining cases of virtuous and non-virtuous inquisitiveness.

The Goal of the Intellectual Virtues

Before embarking on a characterisation of inquisitiveness in particular, it will be useful to consider a broader feature of the intellectual virtues in general, namely their common goal. The notion of a goal for the intellectual virtues has been discussed primarily in the context of distinguishing the intellectual virtues from their moral counterparts thereby more accurately defining their nature (e.g. Baehr, 2011, Appendix). In order to examine this goal it will be useful to begin by drawing a distinction regarding the structure of the virtues derived from Zagzebski's account outlined above.²⁴ As noted, Zagzebski posits both a motivational and a success component. However, as recently observed by Baehr (2013, p. 100) among others, these two components can themselves be divided. Baehr characterises this additional distinction in terms of the *ultimate* and *immediate* aims of the virtues. The ultimate aim of the virtues is that element of the motivational component that is *common* to all the virtues. I will refer to this henceforth as the *common goal*. The immediate aim of a virtue is that element of the motivational component that is *distinctive* to that virtue. I will refer to this as the *distinctive goal*. This distinction differentiates between the common goal, which serves as an underlying motivation for all the intellectual virtues and the distinctive goals which serve as characteristic motivations of the individual virtues. In addition the success component of the virtues can also be understood in terms of this distinction encompassing both success in achieving the common goal and success in achieving the distinctive goal. This distinction differentiates between two aspects of success in the case of the intellectual virtues and this will be constructive when characterising the virtue of inquisitiveness in due course.

A table outlining the distinction may be useful for reference:

Structure of Intellectual Virtues	
Motivational component	Success component
Common goal	Achieving common goal
Distinctive goal	Achieving distinctive goal

The Common Goal

The common goal of the intellectual virtues is shared by all the intellectual virtues and thus importantly distinguishes the intellectual from the moral virtues. The intellectual virtues are often thought to be distinct from their moral counterparts on the basis that they arise out of a concern

²⁴ Thanks to Jason Baehr for this suggestion and for a useful discussion of the distinction.

with distinctively intellectual or epistemic goods such as knowledge, truth and understanding. Zagzebski (1996) for example, comments that the intellectual virtues “are all forms of the motivation to have *cognitive* contact with reality” (p.167, emphasis added). This broad classification marks a deliberate reluctance to identify a single epistemic good or set thereof as the common goal of the intellectual virtues. Instead, the intellectual virtues are demarcated by a more general concern with cognitive or epistemic matters. The notions of cognitive, intellectual and epistemic moreover are often employed synonymously within virtue epistemological discourse indicating an intuitive use of these terms. This indicates a deliberately broad and intuitive treatment of the notion of the epistemic.

Adopting this intuitive approach to the epistemic, I will characterise the common goal of the intellectual virtues as the goal of *improving epistemic standing*. The notion of epistemic standing was introduced in Chapter Three in relation to the discussion of epistemic practices. As stated there, an individual’s epistemic standing is taken to encompass all the epistemic goods that she possesses. Improving epistemic standing was seen to be a principal epistemic goal. By aiming at an improvement in epistemic standing, the intellectual virtues are seen to aim at this principal epistemic goal. The notion of *improvement*, importantly, ties the virtues to succeeding in the aim of improving epistemic standing and is thereby sensitive to the success component specified in Zagzebski’s account of the virtues. It should be noted that the improvement may occur in one’s own epistemic standing or that of another’s. Incorporating the epistemic standing of others as a feature of the common goal of the intellectual virtues distinguishes the account from an individualistic account highlighting the collective or social nature of the common goal. This falls in line with the broadly social, rather than individualistic orientation of the thesis. A concern with improving epistemic standing then gives rise to the intellectual virtues; it can be thought of as a pre-requisite for intellectual virtue.²⁵ Having thus examined the nature of the intellectual virtues in general, a substantive characterisation of the virtue inquisitiveness can be developed.

WHAT IS INQUISITIVENESS

The intellectual virtues arise in general out of a concern with improving epistemic standing. In order to characterise the virtue of inquisitiveness then, an examination of the distinctive way in which inquisitiveness manifests this concern will be constructive. This will identify the *distinctive goal*

²⁵ The notion of having a goal to improve epistemic standing bears some resemblance to the virtue characterised by Roberts and Wood (2007) as love of knowledge. Significantly, Roberts and Wood treat this as an intellectual virtue in its own right whereas here it is understood as a pre-requisite for *all* the intellectual virtues.

of inquisitiveness. To begin with, an intuitively plausible characterisation can be adopted, thus, inquisitiveness is a *tendency to question*. This simple characterisation of inquisitiveness identifies questioning as the distinctive and defining feature of the virtue. This identifies it as the virtue most closely aligned with the skill of good questioning. In order to provide some initial support for this, let us return to our protagonist. Imagine a pupil in Sarah's science class, who, despite being attentive during lessons, declines to ask any questions about the scientific subject matter being discussed. This is so even when prompted by Sarah and given access to a wide range of relevant scientific resources outside of the classroom. It seems clear that such a pupil could not be described as inquisitive. Moreover, it is her *failure to ask questions* in the absence of any barriers to doing so that exposes this lack of inquisitiveness. Thus, the inquisitive person asks questions; without doing so she cannot be attributed the virtue of inquisitiveness.

Motivation Component

With questioning identified as the distinctive and defining feature of inquisitiveness we can now examine in more detail that feature of inquisitiveness that aligns it with virtuous, rather than simply good questioning; the *motivation component*. As noted, Zagzebski (1996) emphasises a motivational component in her account of the virtues and this seems like a highly plausible demand. It is difficult to imagine what the virtues would look like if they lacked this motivational component. Take, for example, the notion of a just person void of the motivation for a just world. Or the notion of a rigorous researcher void of the motivation for an accurate representation of the truth. In these cases it seems that the attribution of a *virtue* is simply misplaced. Zagzebski defines motivation as "a persistent tendency to be moved by a motive of a certain kind" (p. 132). Here the notion of *tendency* is employed within the definition. The intuitive characterisation of our target virtue can therefore be reformulated in order to identify the characteristic motivation associated with the virtue of inquisitiveness; its distinctive goal. The inquisitive person is *characteristically motivated to ask questions*.²⁶ As above, questioning is identified as the distinctive and defining feature of inquisitiveness.

A closer examination of the motivation component will enable further refinement of the characterisation of inquisitiveness. Specifically, not only should the inquisitive person be characteristically motivated to ask questions but their questioning should be directed towards the common goal of the intellectual virtues; improving epistemic standing. To see this, imagine a second pupil in Sarah's class who can this time be relied upon to ask relevant questions during

²⁶ The notion of a *characteristic* motivation is employed in line with Zagzebski's (1996) account ensuring that the virtue of inquisitiveness cannot be attributed on the basis of a single instance of the motivation in question but that this motivation represents a stable feature of the inquisitive person's character.

school science classes. However, in this case, unbeknownst to Sarah, our pupil has been bribed by a group of lazy classmates who have offered to pay him a pound for every relevant question he asks. The pupil has no genuine interest in finding out the answers to his questions and is motivated purely by the prospect of financial gain. In this case it again seems misplaced to attribute the virtue of inquisitiveness to the pupil. Although he exhibits a characteristic motivation to ask questions he is not motivated to do so in order to know or understand the answers given. It is the nature of his motivation then that results in a reluctance to attribute to him the virtue of inquisitiveness.

This feature of inquisitiveness can be captured by incorporating the notion of *sincerity*. A sincere question is one in which the questioner genuinely wants to improve epistemic standing with respect to the subject matter in question. In other words, a sincere question is one in which the questioner genuinely wants to know or understand the answer. With the notion of sincerity in mind the characterisation of inquisitiveness can be further refined. Thus, an inquisitive person is *characteristically motivated to engage sincerely in questioning*.

Success Component

The second component of Zagzebski's (1996) account of the virtues can now be examined, namely, reliable success in bringing about the ends of the motivational component. This condition is arguably the more contentious of the two. In the case of inquisitiveness it may strike one as simply too demanding to require that the inquisitive agent is reliably successful at improving epistemic standing. To see this, take the example of a third pupil in a neighbouring science class, one being taught by an epistemically unfriendly teacher. This teacher is committed to lying in response to any question she is asked. As such, despite our third pupil's characteristic motivation to ask sincere questions in order to improve his epistemic standing, he is bound not to achieve his goal given his epistemically unfriendly circumstances. In this case attributing the virtue of inquisitiveness to the student may still be appropriate despite the fact that he fails to improve his epistemic standing. This brings into question the requirement of reliable success.

In order to appreciate the significance of the success component however, and to further examine its constituent features in relation to inquisitiveness, the example can be adapted to highlight the essential role that success plays. Imagine that the pupil, no longer at the mercy of the epistemically unfriendly teacher, is genuinely interested in the refraction of light and keen to learn more about it. As a result he regularly asks questions during classes in which the topic is covered. However, despite their sincerity, the questions are invariably confused and irrelevant. As with the previous case, the pupil is characteristically motivated to ask sincere questions and yet fails to improve his

epistemic standing. However, unlike the first case this pupil's failure is due to a faulty question-asking strategy; he is asking the *wrong questions*. This is significantly different from the first case in which the pupil was prevented from improving his epistemic standing due to epistemically unfriendly circumstances. Our refraction pupil's failure to improve his epistemic standing does not result from a defect in his epistemic environment but from the pupil himself. It is on this basis that he fails to exhibit the virtue of inquisitiveness.

This second case highlights the need for a further refinement of the characterisation of inquisitiveness. In addition to the requirement of sincerity there is also the need for *good questioning*. As such, the skill of good questioning constitutes the success component of the virtue of inquisitiveness. In order to be virtuously inquisitive a person must not only exhibit a characteristic motivation to engage *sincerely* in questioning, they must also be *good* at asking questions. Whether or not they are successful in improving epistemic standing as a result of good questioning is then determined by whether or not they are in an epistemically conducive environment. Actually improving epistemic standing is not a requirement of the intellectual virtue of inquisitiveness; *good questioning* that aims at doing so is. Here then, the central role that the skill of good questioning plays as a key component of the virtue of inquisitiveness is revealed.

This result can be helpfully elucidated by returning to the distinction outlined above regarding the goals of the intellectual virtues in general and by focusing on the distinction as it manifests itself in the success component. As was observed, success in achieving the common goal is differentiated from success in achieving the distinctive goal for any given virtue. In the case of inquisitiveness, success in improving epistemic standing (the common goal) is thus importantly distinct from successfully engaging in good questioning (the distinctive goal). Looking at the cases once again, the pupil in the epistemically unfriendly teacher case is prevented from improving his epistemic standing and so prevented from achieving the common goal of the virtues. He is however a good questioner thus achieving the distinctive goal characteristic of inquisitiveness and is thereby attributed the virtue. Our pupil fascinated by the refraction of light, despite his genuine interest, achieves *neither* the common goal nor the distinctive goal of the virtue and so is not deemed to be virtuously inquisitive. Hence, actually improving epistemic standing, as the common goal of inquisitiveness, is *not* required for the virtue. Good questioning that aims at such an improvement, as the distinctive goal of inquisitiveness, is required.

The account of good questioning can be employed here to fill out the characterisation of inquisitiveness developed so far. Return to the case of the refraction pupil. Here the pupil employs a faulty question-asking strategy in which his questions are irrelevant. As such, he fails to target

worthwhile information and so does not satisfy the content component for good questioning. In addition, the pupil's questions are incomprehensible; he often embarks on meandering tangents that are almost impossible to follow. As such, his questions are poorly formulated and confusing making it unlikely that Sarah will be able to provide an informative answer. In this respect, the pupil has failed to communicate his questions and so does not satisfy the communication component for good questioning. Further to this, imagine that not only are the pupil's questions difficult to follow, but that he is raising them in the middle of a history class. Here our pupil is employing a faulty question-asking strategy by failing to identify the appropriate context for his questions. Whilst Sarah is quite capable of providing an answer, she is less likely to provide him with the information he is looking for given the context in which the question is asked. In this respect, the pupil has also failed to satisfy the third and final component required for good questioning, namely, the context component. All three components are required in order for the pupil to engage in good questioning and so fulfil the success component of inquisitiveness.

This elucidation of the success component of inquisitiveness in terms of the account of good questioning allows us to further appreciate the relationship between good and virtuous questioning. Good questioning is a key component of virtuous questioning, without which it cannot be attributed to a person in the form of inquisitiveness. Conversely, without the motivation component required of virtuous questioning, good questioning remains a skill and cannot itself be considered a virtue. It is now possible to offer a substantive characterisation of the intellectual virtue of inquisitiveness. The inquisitive person is *characteristically motivated to engage sincerely in good questioning*.

Distinguishing Virtuous and Non-Virtuous Inquisitiveness

With this characterisation in place, the question of *when* it is intellectually virtuous to be inquisitive can be addressed. This provides an opportunity to distinguish between cases of virtuous and non-virtuous inquisitiveness and to thus further define the contours of inquisitiveness *qua intellectual virtue* and virtuous questioning itself. With this in mind it is important to set the concept of inquisitiveness as a virtue apart from the ordinary language concept. The former can be understood as a thick concept, which, as noted previously, implies both a descriptive and an evaluative element. Attributing the virtue of inquisitiveness to a person entails that one is not only describing what they are doing but identifying it as a *good* thing to do. By contrast, the ordinary language concept of inquisitive is purely descriptive. Describing a person as inquisitive in ordinary language simply identifies them as someone who asks a lot of questions. This says nothing about the normative goodness or rightness of their actions. The concept of inquisitiveness as an intellectual virtue is thus

rooted in the ordinary language concept but carries with it an evaluative dimension that the ordinary language concept lacks. Examining cases in which a person may be described as inquisitive despite seemingly non-virtuous inquisitive behaviour will allow for a clear demarcation between the virtue concept and the ordinary language concept.

Take the following three cases of non-virtuous inquisitiveness. Firstly, imagine a pupil who arrives in Sarah's class each morning armed with an endless list of questions concerning Sarah's personal life. She is incessantly eager to know who Sarah spends her weekends with, where she goes on holiday, the colour of her kitchen walls etc. This pupil is evidently motivated to ask questions in order to improve her epistemic standing, and is asking all the right questions. Intuitively, however, her questioning does not appear to be intellectually virtuous. Now imagine a second avid question-asking pupil who can once again be relied upon to ask questions throughout classes. He is, however, exclusively concerned with the content of the test at the end of the week and all his questions are aimed at finding out what this will be. Once again, despite the fact that the pupil is motivated to ask good questions in order to improve his epistemic standing the attribution of intellectually virtuous inquisitiveness appears misplaced. Finally, imagine a pupil who spends her entire year in Sarah's class reading about and asking questions exclusively concerning the number of rocks on the moon. As with the first two cases, although the characteristic motivation is in place and the right questions are asked, describing the pupil's behaviour as intellectually virtuous seems misplaced. In all these cases, the pupil in question may be described as inquisitive on the basis that they exhibit a characteristic and sincere motivation to engage in good questioning. However, in each case there is something distinctively non-virtuous about the pupil's behaviour. The description of these pupils as inquisitive therefore lacks the positive evaluative dimension required for the attribution of an intellectual virtue. The ordinary language concept of inquisitiveness can be appropriately employed but the intellectual virtue of inquisitiveness is not present, thereby distinguishing the former concept from the latter.

An Objection Considered: Intellectual versus moral deficit

At this stage it is worth examining briefly the relationship between the intellectual and moral virtues in order to address a potential concern regarding the distinction illustrated above. One could argue that whilst there is a sense in which the pupils in the cases described are acting non-virtuously, it is not *intellectual* virtue that is lacking. Rather the pupils exhibit elements of *moral* vice and it is this that lends the cases an intuitively non-virtuous character. Take the example of the pupil who asks good questions directed towards improving her epistemic standing on the subject of Sarah's personal life. All the components of the intellectual virtue of inquisitiveness are ostensibly in place. It is her

choice of subject matter that introduces a non-virtuous element and this choice is at least plausibly the result of a defect in her moral, not intellectual, character.

In response to this concern it should first be noted that the plausibility of a strict demarcation between the intellectual and moral virtues is the subject of some debate within the wider literature. The notion that the intellectual virtues are broadly demarcated in terms of their concern with cognitive or epistemic goods was examined earlier. However, this does not preclude the possibility of a close relationship between the intellectual and moral virtues. Zagzebski (1996), for example, argues that “we have not yet seen any reason for dividing moral and intellectual virtues into distinct kinds” (p. 158). Similarly, Roberts and Wood (2007) maintain that “no strict dividing line can be drawn between moral and intellectual virtues” (p. 180) and Baehr (2011, Appendix) rejects, as a minimum, the claim that they should be regarded as mutually exclusive. If the intellectual and moral virtues cannot be rigidly demarcated then it is also less clear that the examples under discussion can be characterised in terms of intellectual virtue and moral vice.

Furthermore, even when one restricts consideration of the cases to more clearly defined epistemic or intellectual territory it is not obvious that the pupils exhibit intellectual virtue. Take the example of the pupil concerned with Sarah’s personal life once again. It seems clear that this kind of prying behaviour is in some way morally deficient but it can also be seen as intellectually deficient. After all, by focusing on the details of Sarah’s personal life the pupil is foregoing an opportunity to ask questions that might further her education in numerous other ways. At least arguably, the common goal of the intellectual virtues, improving epistemic standing, would be better served if the pupil were to shift the focus of her questions away from the trivial details of Sarah’s life towards the richer content of her lessons. A similar analysis can be offered in the second and third cases as well. The pupil asking questions in order to uncover details about the test at the end of the week may, if successful, improve his grades but will not improve his epistemic standing in a worthwhile manner if his questions come at the expense of others about the subjects Sarah is trying to teach. Likewise, the pupil obsessed with the number of rocks on the moon would plausibly improve her epistemic standing to a greater degree were she to examine a wider variety of topics.

Naturally, the intuitive force of these analyses will depend in part upon what it means to improve epistemic standing. Here, once again, the somewhat intuitive notions of *significance*, *worthiness* and *relevance* must be relied upon in order to arrive at an assessment of the degree to which a person has improved their epistemic standing. The trivial or irrelevant nature of the information acquired in the cases above indicates the presence of intellectual vice despite the fact that *some* information has been gained. In all these cases, intellectual vice is manifested in the failure of the pupils to improve

their epistemic standings in a worthwhile manner. This response provides some motivation for understanding the cases in terms of *intellectual* as opposed to moral vices and this should help to further define the concept of inquisitiveness as an intellectual virtue thus distinguishing it from the ordinary language concept.

INQUISITIVENESS AND THE INTELLECTUALLY VIRTUOUS LIFE

The inquisitive person is characteristically motivated to engage sincerely in good questioning. In addition, attributing the virtue of inquisitiveness to a person implies that they are doing something normatively right. This characterisation reveals the nature of virtuous questioning. With the characterisation of inquisitiveness fully developed, the distinctive place of inquisitiveness among the intellectual virtues can be fruitfully explored. This will build the discussion towards an examination of the applications of virtuous questioning in education in Chapter Seven.

Inquisitiveness among the Virtues

A common goal shared by all the intellectual virtues has been identified; that of improving epistemic standing. Different intellectual virtues, however, contribute to this common goal in distinct ways. In *The Inquiring Mind* (2011) Baehr divides the intellectual virtues into six groupings demarcated in terms of their relationship to inquiry (Chapter 2). According to this the intellectual virtues may be concerned with motivating inquiry, focusing inquiry, consistent inquiry, inquiring with integrity, flexible inquiry or endurance in inquiry. Each of these can be thought of as distinct ways of improving epistemic standing. Thus, each of the character-based intellectual virtues contributes to the common goal of improving epistemic standing in a distinctive manner. In order to determine where inquisitiveness stands among the virtues it will be useful to identify the distinctive manner in which it contributes to this common goal.

A Motivating Intellectual Virtue

In his categorization of the intellectual virtues Baehr (2011) begins by noting that “one...demand [of successful inquiry] is fundamentally *motivational*, for inquiry must be initiated or undertaken” (p. 19). The virtue of inquisitiveness is then listed under the heading of initial motivation. Miscevic (2007) similarly contends that inquisitiveness is a “*clearly motivating* epistemic virtue” (p. 264, emphasis added). He regards this as a defining feature of inquisitiveness commenting that “[I]nquisitiveness... is a *motivating*, truth-seeking virtue” (p. 244). What Miscevic and Baehr are both highlighting is the key role that inquisitiveness plays in the *initiation* of inquiry. Intuitively it seems right to classify

inquisitiveness as a motivating intellectual virtue in this respect. When we compare it to other intellectual virtues such as open-mindedness, intellectual courage, autonomy and rigor it seems reasonable to posit that inquisitiveness sets itself apart from these on the basis that it is distinctively concerned with getting inquiry off the ground. Inquisitiveness is a motivating intellectual virtue. This distinguishes it from many of the other intellectual virtues and determines to a significant extent its place among them.

The Question-Asking Virtue

There are, however, a number of closely aligned intellectual virtues that also play a motivating role in the process of inquiry. Alongside inquisitiveness, reflectiveness, contemplativeness, curiosity and wonder are all listed under the initial motivation category in Baehr's taxonomy. All four of these are naturally associated with the impetus to inquire and so with the initiation of inquiry. In order to determine the particular place of inquisitiveness among the virtues then, it is necessary to identify how it distinguishes itself from its close relatives within the category of motivating intellectual virtues. This will further emphasise the central role that questioning plays in the virtue of inquisitiveness. Recall the first of Sarah's pupils; it was precisely her failure to ask questions that prevented the attribution of virtuous inquisitiveness. Inquisitiveness is defined by its relationship to questioning; the inquisitive person *must* ask questions. Arguably at least, the same cannot be said of the other motivating intellectual virtues listed above. One can reflect, contemplate or wonder without actually asking questions. One can also, at least arguably, be curious without asking questions.

The claim that questioning is not required in the case of curiosity may at first glance appear contentious. One may indeed regard inquisitiveness and curiosity as synonymous. Nenad Miscevic (2007), for example, employs the terms interchangeably. It is thus worth exploring the purported difference between these virtues a little further in order to elucidate the unique relationship that inquisitiveness bears to questioning. In particular, inquisitiveness and curiosity can be regarded as distinct precisely on the basis of their different relationships to questioning. Specifically, questioning is a practice characterised by the distinctive goal or function of eliciting information. Inquisitiveness is characterised in part by the actual and sincere asking of questions on the part of the inquisitive agent. As such, inquisitiveness is characterised in part by a genuine attempt to elicit information. Questioning is thus a requisite feature of inquisitiveness. Curiosity, by contrast, does not require the actual asking of questions; the curious person is not required to make any attempt to elicit information in order to be attributed the virtue of curiosity. One may be curious about the implications of the discovery of the Higgs-Boson particle, for example, without making any attempt

to elicit information that would answer to a particular question on the topic. One can be curious *without* asking (either articulated or non-articulated) questions. Curiosity therefore involves a certain form of thoughtful reflection perhaps but this falls short of the characteristic motivation to engage in questioning that is required of inquisitiveness. This does not preclude the fact that curiosity often does involve questioning but crucially this is not a *defining* feature of the virtue. The virtue of inquisitiveness sets itself apart from curiosity and the other intellectual virtues by being the only intellectual virtue for which questioning constitutes a *defining* feature. Inquisitiveness is the question-asking virtue thereby justifying its selection as the most pertinent candidate for an investigation of virtuous questioning.²⁷

To appreciate more closely what it means for questioning to constitute a defining feature of inquisitiveness in this sense it will be useful to consider again the distinction between the common and distinctive goals of the virtues. Good questioning has been identified as the distinctive goal of the virtue of inquisitiveness. The pupil in the epistemically unfriendly teacher case was attributed the virtue of inquisitiveness on the basis that he engaged successfully in good questioning despite the fact that he failed to improve his epistemic standing. The confused refraction pupil, by contrast, was not attributed the virtue precisely because he failed to ask good questions. Compare this to another of the intellectual virtues, say open-mindedness. While open-mindedness is often manifested in good questioning, it does not serve as the distinctive goal of the virtue. As with curiosity, a person may still be attributed the virtue of open-mindedness despite failing to engage in good questioning.

The same can likewise be said for the other closely aligned virtues. Reflectiveness for example, may manifest itself in good questioning but good questioning is not the distinctive goal of reflectiveness. A person who does not engage in good questioning can therefore still be described as virtuously reflective. This is not the case for inquisitiveness precisely because good questioning is its distinctive goal. Crucially, a person who fails to achieve the distinctive goal of a virtue cannot be attributed that virtue. As such, good questioning is not simply a manifestation of the virtue of inquisitiveness but its *defining* feature. This is what it means for questioning to constitute a defining feature of inquisitiveness. On this basis, the place of inquisitiveness among the virtues can be distinctively identified; inquisitiveness is a motivating intellectual virtue uniquely defined by its relationship to questioning.

²⁷ The meaning of the terms inquisitiveness and curiosity may naturally vary among readers. It should therefore be noted that the characterisation of inquisitiveness offered here is ultimately unaffected if one does regard curiosity and inquisitiveness as synonymous.

The Role of Inquisitiveness

Having determined the place of inquisitiveness among the virtues it is now possible to examine the distinctive *role* that it plays in the intellectually virtuous life. The intellectual virtues are all in some way tied to the process of inquiry. As Baehr observes, moreover, “inquiry *must* be initiated” (2011, p. 19, emphasis added). Inquisitiveness plays precisely this key role as a motivating intellectual virtue; it *initiates* inquiry. Crucially, its defining relationship to questioning marks inquisitiveness out as significant in this respect. It is the role that inquisitiveness plays as the question-asking virtue that sets it apart from the other intellectual virtues and determines its distinctive role in the intellectually virtuous life.

Two Objections Considered

In order to further elucidate this distinctive role, two concerns regarding the claim that inquisitiveness initiates inquiry can be considered. Firstly, not *all* inquiry is initiated by inquisitiveness. Secondly, inquisitiveness does not *always* lead to inquiry. A discussion of these concerns will allow for further refinement of the role that inquisitiveness plays in the intellectually virtuous life.

First Objection: Not all inquiry is initiated by inquisitiveness

Inquisitiveness is distinctive among the virtues due to its motivating role in initiating inquiry. However, not all inquiry is initiated by inquisitiveness. To see this, imagine another pupil in Sarah’s science class, this time faced with the task of writing a short paper on a scientific question of their choosing. This pupil, however, suffers from an acute lack of imagination and as a result is unable to come up with a scientific question to write his paper on. Approaching Sarah with this dilemma, she suggests that he write a paper on why the planetary orbits are elliptical. With this suggestion in hand, the unimaginative pupil then diligently goes to work and comes back with an accurate, rigorously researched and well-articulated paper on the elliptical nature of the planetary orbits. Given the characterisation of inquisitiveness that has been developed, the pupil cannot be said to exhibit virtuous inquisitiveness; he did not actually ask the question under investigation, Sarah asked it for him. Despite this, he has engaged substantially in a process of inquiry and moreover, exhibited several of the intellectual virtues as demonstrated by his excellent paper. This case suggests that not *all* inquiry begins with inquisitiveness and thus demands a more precise account of the role that inquisitiveness plays in the initiation of inquiry.

The claim that inquisitiveness initiates *all* inquiry is indeed too strong. In addition to the case described above, there are a number of familiar contexts that involve inquiry which do not result from an initial inquisitive drive. Inquiry by a doctor into a medical condition or by the jury in a legal proceeding serve as two supplementary examples. In response to this concern, a clearer conception of the role that inquisitiveness plays in the initiation of inquiry must be laid out. Crucially, the claim that inquisitiveness initiates inquiry does not entail that inquisitiveness is *necessary* for inquiry. Nevertheless, the claim that the virtue of inquisitiveness *does* (at least sometimes) initiate intellectually virtuous inquiry remains uncontroversial. A characteristic motivation to engage sincerely in good questioning is bound to lead in some instances to intellectually virtuous inquiry. One may argue in fact, that it will *often* do so. It is this that emerges as significant when discussing the role of inquisitiveness among the intellectual virtues. Inquisitiveness often initiates intellectually virtuous inquiry and is importantly distinguished by this fact. This provides a response to the first concern. The significance of this can be underlined by turning to the second.

Second Objection: Inquisitiveness does not always lead to inquiry

It is not hard to imagine a wide range of examples in support of the claim that inquisitiveness often initiates intellectually virtuous inquiry. Take the child who embarks on a thorough examination of butterfly species after questioning how they come to have such a variety of patterns and colours. Similarly, take the amateur historian who conducts an open-minded investigation into the rise and fall of the Roman Empire after questioning how it was able to dominate such a significant portion of Europe and the Middle East. Finally, take the brilliant scientist who performs a series of novel experiments on the nature of gravity after questioning why apples fall from trees in the direction of the earth. These examples demonstrate the broad spectrum of inquiries that can and do result from virtuous inquisitiveness.

It is, however, just as easy to imagine a wide range of cases in which inquisitiveness is thwarted from the outset. The fascinated child is told not to play with insects. The amateur historian is diverted by a family commitment. The brilliant scientist is forced to abandon scientific experimentation after being labelled a heretic. In all of these cases, intellectually virtuous inquiry does not ensue despite virtuous inquisitiveness on the part of the inquirer. Hence our second concern; inquisitiveness does not *always* lead to inquiry.

Interestingly, these cases in fact serve to highlight the unique relationship that inquisitiveness bears to the initiation of inquiry. Note that each time our inquisitive inquirer is thwarted it is something *extrinsic* to the conditions of their inquisitiveness that prevents inquiry from taking place. The child,

for example, must inquire in line with the priorities of the adult who sees the butterflies in a very different light. The amateur historian is diverted by his own priorities which place his inquiry below that of his commitments to family. Isaac Newton, as we know, was at the mercy of the prevailing wisdom of his time. It is these extrinsic factors that prevent inquiry from taking place. In the absence of such extrinsic factors however, it seems plausible that any inquiry brought about by an initial inquisitive drive will *necessarily* take place. Uninhibited inquisitiveness will *always* lead to inquiry. This is due to the unique relationship that the virtue of inquisitiveness bears to the initiation of inquiry in its role as the question-asking virtue. In order to be virtuously inquisitive a person *must* ask questions. Inquiry is initiated through questioning. As the question-asking virtue inquisitiveness thereby bears a unique relationship to the initiation of inquiry. It is, one might say, in the nature of inquisitiveness that it initiates inquiry.

Before proceeding along these lines, it is worth considering one final challenge to this claim in order to draw attention to an additional and significant point of interest. Return, one last time, to Sarah's science class. This time, imagine a pupil with all the characteristic features of inquisitiveness; one characteristically motivated to engage sincerely in good questioning. However, despite her inquisitiveness, this pupil lacks most, perhaps all of the other intellectual virtues. As such, while she often asks good questions motivated by a genuine desire to know or understand the answers, she nonetheless fails to embark on intellectually virtuous inquiry. As with our previous inquirers, this is not because she lacks the virtue of inquisitiveness but because she simply cannot proceed from the starting line due to her own intellectual capacities. In this case, one may object, it is at least less obvious that our inquisitive inquirer is thwarted by *extrinsic* factors. The pupil is prevented from inquiring virtuously due to her intrinsic capacities. As such this appears to be a case in which virtuous inquisitiveness fails to lead to intellectually virtuous inquiry despite a lack of external barriers.²⁸

Interestingly, this final case, I believe, takes us some way beyond the original concern and highlights a further question concerning the unity of the intellectual virtues. We may ask, for example, to what extent the virtues can be isolated from one another in the manner suggested in the example. Can the pupil really be virtuously inquisitive yet lack most or all of the other intellectual virtues. If so, then the question of how many of the intellectual virtues or what degree of intellectual virtue in general is required in order for a person to be engaging in intellectually virtuous inquiry arises. These questions extend beyond the scope of the present discussion. They are, however, significant in their own right. In addition, the case above highlights the significance of questioning in

²⁸ Thanks to Jason Baehr for raising this concern.

intellectually virtuous inquiry in a much broader sense than has been exposed by the foregoing discussion. Many, if not all of the intellectual virtues are at least sometimes manifested in the practice of questioning. While the other virtues are not defined by this practice in the manner that has been identified for inquisitiveness, questioning, and in particular good questioning, nevertheless features prominently in intellectually virtuous inquiry. Open-minded questions, rigorous questions, intellectually courageous questions and so on. Questioning can thus be seen to underlie intellectually virtuous inquiry. As such, it may also provide the basis for at least a weak conception of unity among the intellectual virtues. In order to be intellectually virtuous in any respect, one must be able to engage in good questioning. This ability to some extent unifies the intellectual virtues.

If this is so then it also provides a response to the case presented above in relation to the original concern. The case itself, in fact, appears less feasible. Specifically, the pupil's ability to engage in good questioning, in virtue of her inquisitiveness, ensures that she *will*, in fact, engage in intellectually virtuous inquiry, at least to some minimal degree, so long as she is not prevented by extrinsic factors. If she fails to engage in good questioning then she will also fail to engage in intellectually virtuous inquiry but so too will she fail to exhibit the virtue of inquisitiveness. The ability to engage in good questioning thus ties inquisitiveness to the other intellectual virtues and to intellectually virtuous inquiry in general. This demonstrates, I believe, the significance of questioning within the virtue-theoretic framework broadly speaking.

The practice of questioning thus plays a central role in intellectually virtuous inquiry. The unique relationship between inquisitiveness and questioning is thereby also vital for engaging in such inquiry. No others of the intellectual virtues are *defined* by their relationship to questioning and so neither do they exhibit this distinctive relationship to inquiry. Inquisitiveness not only often leads to intellectually virtuous inquiry but is defined by its role in the initiation of such inquiry. The distinctive role that inquisitiveness, and so virtuous questioning, plays in the intellectually virtuous life has been identified. Without the virtue of inquisitiveness, inquiry itself would be a vastly more limited and, one might imagine, intellectually poorer pursuit. A characteristic motivation to engage sincerely in good questioning is therefore integral to the fulfilment of an intellectually virtuous life. This places inquisitiveness at the heart of the autonomous virtue-epistemological framework and concludes the investigation of virtuous questioning.

CHAPTER SUMMARY

Key insights from Chapter Six can now be summarised. Good questioning is an intellectual skill. Virtuous questioning encompasses and extends beyond the skill of good questioning. In order to move from an analysis of good questioning to an analysis of virtuous questioning, a fourth component is required; the motivation component. With this fourth component, the skill of good questioning manifests itself as the intellectual virtue of *inquisitiveness*. Inquisitiveness is defined by its relationship to questioning. The inquisitive person is thus one who is *characteristically motivated to engage sincerely in good questioning*. In virtue of its relationship to questioning, moreover, inquisitiveness is seen to bear a defining relationship to the process of inquiry, as a fundamentally motivating intellectual virtue. Inquisitiveness therefore plays a distinctively valuable role in the intellectually virtuous life, placing it at the heart of autonomous virtue epistemology.

Chapter Seven

Why Should We Educate for Virtuous Questioning

The practice of questioning plays a central, perhaps essential, role in the acquisition of epistemic goods such as knowledge and understanding. In addition, it binds our epistemic communities together, facilitating the generation and smooth dissemination of these goods among members. It is a valuable and cohesive epistemic practice. *Good* questioning is a valuable and complex intellectual skill, requiring a range of constituent intellectual and social abilities. Being a good questioner is, therefore, a skill of significant worth, both for individuals and their communities. The motivation to engage in good questioning, moreover, is a virtuous one. If one exhibits the skill of good questioning, and is characteristically and sincerely motivated to engage in it, one can be deemed a *virtuous* questioner. Virtuous questioning is manifested in the intellectual virtue of inquisitiveness, and is characterised by its distinctive role in the initiation of intellectually virtuous inquiry. If virtuous questioning is a valuable social and epistemic practice, integral to the fulfilment of an intellectually virtuous life, should we educate for it.

This final chapter will investigate whether we should *educate for questioning*, either as an intellectual skill, or as an intellectual virtue. I will begin by outlining a number of central positions regarding the aims of education, and will establish the significance of questioning in relation to each of these. I will then examine the value of educating for the intellectual skill of good questioning. This examination will draw on empirical data in support of the theoretical argument, including a close examination of data from two specially selected participants in the school experiment. On this basis I will argue in favour of educating for good questioning. I will then turn to the value of educating for virtuous questioning, focusing on the significance of motivation as a component of learning. This will highlight the relevance of the motivation component of inquisitiveness with respect to key

educational aims. This examination will draw on further empirical data. On this basis I will argue in favour of educating for virtuous questioning, and so for the intellectual virtue of inquisitiveness.²⁹

THE AIMS OF EDUCATION

The question of the actual or proper aims of education has featured in educational theorising since its earliest origins in the Classical Tradition. Thus, Plato examines the aims and practices of education prominently in several major works, including the *Republic* (esp. books V-VIII) and the *Laws* (books II and VII). The founding of his famed Academy in 387 BCE similarly demonstrates the centrality of Plato's concern with education, its formal organisation and purpose, both for the individual and for the state. The founding of Isocrates' rival school of rhetoric in 393 BCE, just several years prior to Plato's Academy, further demonstrates this ancient concern with the formalised aims and practices of education. Moreover, these two schools diverge perhaps most notably on their conceptions of the aims of education, reflecting, at least in broad terms, their distinct lineages in the opposing Socratic and Sophistic methods, discussed in Chapter One. As Henri Marrou (1956) writes in *A History of Education in Antiquity*:

“Opposing the Sophists because they were too exclusively concerned with immediate practical results, Plato built his system of education on a fundamental belief in truth, and on the conquest of truth by rational knowledge” (1956, p.66).

The divergent methods and corresponding philosophical aims of these two camps can be understood in terms of their contrasting epistemological perspectives. These are similarly revealed, as indicated above, in their divergent educational aims. This opposition, moreover, reveals the long history of the debate concerning the proper aims of education.

This debate continues to feature centrally within contemporary philosophy of education. The literature in this regard is expansive offering a number of distinct approaches to the question and drawing on a broad cross-section of disciplines including sociology, political theory and experimental and theoretical psychology, as well as traditional education theory. Similarly, it has arisen naturally within the more recent and emerging epistemology of education literature (Macallister 2012; Kotzee 2013; Pritchard 2013). Given the extent of the debate, there is not space

²⁹ A modified version of Chapter Seven, entitled ‘Why Should We Educate For Inquisitiveness’, is forthcoming in *Intellectual Virtues and Education: Essays in Applied Virtue Epistemology* edited by Jason Baehr. New York: Routledge

to cover the full range of viewpoints represented in the literature here. It will, however, be useful to focus on two central and divergent schools of thought which are particularly salient to the investigation. While these need not be viewed as necessarily or even generally in conflict with one another, they nonetheless denote two broadly distinct lines of thinking with respect to the aim or aims of education.

Perhaps the more traditionalist account of the aim of education suggests that its proper ends are epistemic goods such as truth, knowledge and understanding. As Kotzee (2013) observes, “once it would have been commonplace to understand education mainly in terms of what it contributes to ‘the growth of knowledge’ (p.157). This is to some degree reflected in the Platonic concern with truth. On this account, the transmission and acquisition of epistemic goods are viewed as the ultimate, or at least primary, aims of teaching and learning (Goldman 1999; Elgin 1999; Adler 2003; Robertson 2009). I will label this a *goods-based* account of the aims of education. In contrast, a longstanding discourse in the philosophy of education suggests that the proper aims of education do or should take as their starting point the learner themselves, as opposed to the goods they acquire. As such the proper aim of education is construed as the nurture and cultivation of particular character traits or virtues in the learner. These range from moral and/or civic character traits such as kindness, justice and honesty (Kilpatrick 1951; Gutmann 1987; Curren 2000) to, more recently, intellectual character traits such as open-mindedness and rigour (Riggs 2009; Baehr 2011; Kotzee 2013). I will label this a *character-based* account of the aims of education. As noted, these two perspectives are not mutually exclusive and many contributors argue for a plurality of educational aims. Nonetheless, these accounts represent divergent perspectives on the central focus of education with important implications for both pedagogy and educational policy. The role of questioning in education will be examined in relation to both of these perspectives.

Goods-Based Accounts

A conventional version of the goods-based account of the aims of education maintains that the dominant aims of teaching and learning respectively are the transmission and acquisition of *truth* and *knowledge*. Goldman (1999) is a key proponent of this account arguing that “[T]he fundamental aim of education, like that of science, is the promotion of knowledge” (p.349). Goldman labels this a veritistic model for education, emphasising the centrality of truth, and maintains that, despite longstanding criticism, “the veritistic model is still the best available” (p.349). Significantly, he concedes that “knowledge and knowledge-dedicated skills are not the sole educational goals” but contends that “propositional knowledge is, nonetheless, education's most pervasive and characteristic goal” (p.349). Emily Robertson (2009) likewise contends that, while not its exclusive

goal, “[I]t seems reasonable to assume that acquiring propositional knowledge is a major aim of education” (p.12). Here the acquisition of knowledge is espoused as a primary educational aim and Robertson goes on to explicate the significance of determining what precise knowledge or bodies of knowledge should be taught, and by what methods. Defending this same view, Jonathan Adler (2003) argues that “the knowledge-aim offers educational guidance, justifies central educational practices, and exposes complexities in the educational policies it supports” (p.285). The acquisition of knowledge and truth is thus advocated in the contemporary debate as both a central and valuable educational aim. In addition, these comments demonstrate a general openness in the discourse to a plurality of educational aims but, at the same time, illustrate the sense in which contributors to the debate are typically inclined to place a greater emphasis on one or another of these. In this case the emphasis is placed on the transmission and acquisition of knowledge and truth, understood as education’s most ‘characteristic’ goal.

Further to this, a somewhat distinct version of the goods-based account can be found in the literature which advocates *understanding*, rather than truth or knowledge, as the ultimate aim of education. This approach maintains a primary emphasis on the goods acquired as a result of education but suggests that something over and above the mere transmission of truth or knowledge is required in order to truly satisfy the proper aims of teaching and learning. Notably, this view has emerged within epistemological discourse in line with increased interest in the nature and value of understanding. Significantly, as noted earlier, many contributors argue that understanding itself requires something over and above truth or knowledge (Zagzebski 2001; Kvanvig 2003; Elgin 2007). In particular, contributors identify the grasping of connections within a body of information as a necessary component of understanding. Crucially, this grasping is primarily taken to be non-propositional in nature. As such, if understanding is taken to be the proper aim of education and moreover, consists, at least in part, in non-propositional grasping, then education must also be said to aim, at least in part, at non-propositional features of reality. This aspect of the understanding oriented version of the goods-based account differentiates it significantly from the more conventional truth or knowledge oriented version.

Elgin (1999) is one commentator who argues compellingly for this understanding oriented account of the aims of education. Thus she asserts:

“Even if we concede (as we should) that inculcating one’s lucky guesses is not the same as teaching, and that competence with the subject matter is a requirement on teaching, it does not follow that teaching consists in imparting knowledge, or that you can teach only what you know. Rather, I suggest, teaching consists in advancing understanding” (1999, p.48).

Further to this, Elgin argues, somewhat more controversially, that understanding need not be factive at all and thus that the proper aim of education does not consist in the transmission or acquisition of truths. She goes on to highlight a number of pedagogical advantages that arise by removing truth from our conception of the aim of education, maintaining that “[T]he truth about a subject may be too complex, abstruse, or counterintuitive for novices initially to grasp” (p.50). Understanding, as it comes in degrees, Elgin argues, is a more appropriate and attainable aim for education. Understanding can be developed over time and improved, whilst truth and propositional knowledge suggest an all-or-nothing approach to education. Whilst this latter suggestion of a non-factive aim for education may be more radical than many contributors to the discourse are willing to allow, Elgin’s position nonetheless demonstrates a divergence of perspectives even among supporters of a goods-based account of the aims of education, in relation to the goods themselves at which education does or should aim.

Goods-Based Accounts and Questioning

Despite divergence between advocates of the goods-based accounts, it is not difficult to establish a case for the significance of questioning in education in terms of this general goods oriented approach. Specifically, it has been argued that questioning plays a central role in the acquisition of precisely those epistemic goods highlighted by proponents of the goods-based accounts; in particular, knowledge and understanding. Questioning is one of the key intellectual skills in virtue of which we come to know and understand. The implications of this are clear in the case of both the knowledge and understanding oriented accounts of the aims of education. If knowledge and/or understanding are the proper aims of education, and questioning is a key intellectual skill in virtue of which we come to know and understand, then questioning is also a key intellectual skill in virtue of which these educational aims can be achieved. Questioning facilitates knowledge and understanding. If education aims at knowledge and understanding, then questioning is integral to it. This places questioning centre-stage with respect to the goods-based accounts of the aims of education.

Character-Based Accounts

In contrast to the goods-based accounts, character-based accounts of the aims of education focus on the learner themselves rather than the goods they acquire. Traditional versions of the character-based account suggest that the proper aim of education should be the cultivation of the learner’s moral or civic character (Kilpatrick 1951; Gutmann 1987; Curren 2000; Kristjánsson 2007). This perspective is commonly labelled character education and arises from a longstanding discourse in

the history of education theory, the origins of which can once again be identified in the Platonic dialogues. Advocates of this account maintain that the primary goal or purpose of education is to produce good members of society, and that educational practices must reflect this. In an early contemporary defence of this view, William Kilpatrick (1951) asserts that, “[E]ducation must primarily seek character and behaviour, all-round character of a kind to lead to proper behaviour” (p.226, quoted in Adler 2003, p.285). In a similar vein, Amy Gutmann (1987), a key proponent of civic education in particular, argues that society “must educate all educable children to be capable of participating in collectively shaping their society” (p.14). Proponents of character education, in this guise, thus argue that education should nurture specific moral or civic traits, qualities or virtues such as kindness, generosity and justice, as well as an understanding of their role within society. Character education theorists maintain that the acquisition and transmission of epistemic goods such as knowledge and understanding are secondary to the proper aims of education. These aims should instead be construed as those of producing good people or good citizens. On this basis, the character-based accounts diverge from their goods-based counterparts. For proponents of character education, whilst truth, knowledge and understanding may all be considered central, perhaps even vital to the delivery of a proper education, they are nonetheless instrumental to the ultimate aim of cultivating the learner’s character.

Significantly, for the present investigation, in line with the emergence of the virtue epistemology movement, a distinct version of the traditional character-based account has arisen in more recent literature. This places an emphasis on the learner’s *intellectual*, rather than moral or civic character. As such, virtue epistemologists have argued for a focus in education on intellectual virtues such as open-mindedness, curiosity and rigour (Riggs 2010; Baehr 2011; Kotzee 2013; Pritchard 2013). The aim of education on this view can be construed as that of producing good thinkers or learners. This approach contrasts with the goods-based accounts as well as the traditional character-based account. Pritchard (2013), for example, asserts, “education is to be distinguished from the mere transmission of information to passive minds” (p.237), marking a distinction between the acquisition of epistemic goods and the cultivation of intellectual skills. Similarly, Kotzee (2012) recognises this distinction, highlighting some of the benefits of the intellectual character approach:

“One might say that this formation of intellectual character not only creates the sort of people that one can trust, but, provides for the very possibility of...cooperation” (2012, unpublished conference paper).

Here the distinctively epistemic advantages of intellectual character education in terms of its role in cultivating trust and honesty within our epistemic communities are brought to the fore.

Baehr (2013), another prominent contemporary advocate of intellectual character education, also draws attention to the distinctive advantages of intellectual character education arguing on this basis that, “fostering growth in intellectual virtues should be a central educational aim” (p.249). Baehr offers a substantive defence of this view along with pedagogical recommendations for putting the theory into practice. In particular, Baehr argues that the project of educating for intellectual virtues provides substance to common platitudes concerning the aims of education such as the notion that education should foster a lifelong ‘love of learning’. The project of educating for intellectual character, as opposed to moral or civic character, or indeed for the acquisition of epistemic goods, provides a basis for understanding and achieving this broad and distinctively intellectual aim. Furthermore, Baehr maintains that educating for intellectual virtues gives both teachers and learners a better understanding and appreciation of the value of education. In addition, and perhaps most contentiously, Baehr maintains that educating for intellectual virtues may also be conducive to fostering the moral or civic virtues central to the traditional character-based account. He contends:

“good thinking is often a precondition for morally responsible action, which in turn is critical to living well or flourishing as a human being” (2013, p.254).

This latter suggestion illustrates the sense in which the educational aim of cultivating intellectual virtue may be considered primary or prior to the aim of producing morally good people. Importantly, this once again demonstrates divergence within the character education literature at the same time as indicating the compatibility of a plurality of educational aims.

Character-Based Accounts and Questioning

As with the goods-based accounts, it is not difficult to establish the significance of questioning in education in terms of the intellectual character account of the aims of education. A preliminary sense of this can be established by recalling the discussion at the end of the previous chapter, regarding the relationship between virtuous questioning and intellectually virtuous inquiry. There the intellectual virtue of inquisitiveness was identified as playing a distinctive role in the initiation of intellectually virtuous inquiry. If this is so then it is not difficult to see the import of inquisitiveness, and so questioning, to the project of educating for intellectual virtue. Questioning, in its virtuous manifestation as inquisitiveness, plays a crucial role in getting intellectually virtuous inquiry off the ground. As such, it is also crucial for the cultivation of intellectually virtuous inquirers.

Support for the significance of questioning in the context of intellectual character education can be found in the literature. Baehr (2013), for example, comments:

“intellectual virtues express themselves in *intellectual actions* like thinking, reasoning, interpreting, analysing, reflecting, questioning, and so on.” (2013, p.255, emphasis original).

Here, Baehr explicitly identifies questioning as one of the actions through which the intellectual virtues are manifested indicating its significance for cultivating intellectual character. Whilst Baehr mentions questioning at the end of a list of several intellectual actions, however, I will proceed in the following sections to examine the *central* import of questioning to the project of educating for intellectual virtue. If educating for intellectual virtue is the proper aim of education then questioning will emerge as central to both theory and practice. I will thus argue that questioning is an essential feature of intellectual character education.

A number of divergent, albeit often overlapping accounts of the aims of education have now been outlined. With this context in mind, the investigation will proceed to the claim that we should educate for questioning. The present appreciation of key lines of thinking regarding the aims of education will provide a valuable foundation for this. Significantly, in the discussion that follows I will acknowledge the generally accepted plausibility of a plurality of educational aims and so explore the claim that we should educate for questioning in light of both the goods-based accounts, and the intellectual character-based account. This will help to demonstrate the broad relevance and import of the epistemology of questioning in the theory and practice of education, regardless of internal divergences within that literature.

STUDY OF QUESTIONING IN EDUCATION

Before proceeding, a preliminary note is worth making of the contemporary theoretical context for research into questioning within the education literature. In contrast to the general lack of attention paid to questioning in epistemological, and more broadly philosophical discourse, education theorists over the past four decades have produced a relatively substantial literature on this topic (Gall 1970, 1984; Riegle 1975; Collins 1977; Macmillan and Garrison 1983; Dillon 1988). Naturally, the focus in this context is on the role that questions and questioning play in an educational setting, predominantly, in the school classroom. A number of distinct approaches have arisen in the discourse including purely theoretical attempts to explicate the role of questioning in the classroom (Riegle 1975; Collins 1977; Sigel and Saunders 1979; Macmillan and Garrison 1983), empirical research concerning the nature and frequency of question-asking in classrooms (Susskind 1969; Gall 1970; Winne 1979), and research aimed at providing pedagogical recommendations based on

the role of questioning (Dillon 1981; Wilen 1984). The breadth and extent of this literature is in itself indicative of the central import of questioning within education.

Significantly, attention paid to the role of questioning in the education literature has been predominantly, almost exclusively focused on *teacher* questioning. Studies have variously sought to record the number of questions asked by teachers during a particular lesson, or throughout the day (Gall 1970; Winne 1979), to examine the process of teacher questioning itself (Rosenshine 1976; Gall 1978), or to provide a classification of teacher questions. The most prominent example of the latter is undoubtedly Benjamin Bloom's (1956) 'taxonomy of questions', which divides teacher questions into six domains according to their associated educational objectives. Bloom's taxonomy is well-known within educational theory and practice, providing seminal theoretical insights as well as serving as a pedagogical tool. The focus of Bloom's taxonomy on the nature and types of teacher questions, and its uptake within both theory and practice, reflects the overwhelming orientation of the literature.

Interestingly, a number of studies conducted within this context have suggested that teacher questioning may have a negative effect on learning (Dillon 1982, 1988; Wood and Wood 1983). Rather than providing a model for students' questions and stimulating independent thinking, it is argued, teacher questioning serves to inhibit or preclude student questioning. This conclusion is based primarily on data regarding the relative frequency of teacher and student questioning in the school classroom (Susskind 1969; Dillon 1988). This data shows that teachers ask a significant proportion of the total number of questions in classrooms (up to 98%), and indicates that a high frequency of teacher questioning is correlated with reduced student questions. This correlation, it is argued, leads to less effective learning when considered in light of the valuable role that student questions play in this regard. James Dillon (1988) thus contends:

“It would seem that the questions of students, far more so than of teachers and texts, serve to promote educative purposes such as student thinking and learning. Yet we know little more about them than the fact that students do not ask questions in school. The issue is overriding and so is our ignorance.” (1988, p.112).

This is indicative both of the prevailing focus on teacher questioning in the education literature, and the under-examined significance of student questioning in the learning process. In this regard, Dillon observes, “[F]ar from incidental, the questions that students might have are one key to their thinking and learning” (p.105). Having thus provided a broad overview of the literature on questioning in education theory and practice, and established a basis for the examination of student questioning in education, we can now proceed to investigate the role that questioning plays in

learning on the basis of the epistemological claims that have been made throughout the thesis. In particular, I will begin by focusing on the role of good questioning in the learning process.

WHY SHOULD WE EDUCATE FOR GOOD QUESTIONING

Good Questioning in the Learning Process

The argument in support of educating for good questioning derives primarily from the integral role that questioning plays in the acquisition of epistemic goods. If transmitting or acquiring knowledge about, for example, a historical period, a scientific process or literary figure, is the type of thing that education aims at, then questioning plays an important role in achieving this aim given its central role in the acquisition of knowledge in general. Similarly, if understanding a subject matter, a technique or a body of information is the type of thing that education aims at, then questioning is central to achieving this aim given its key role in the acquisition of understanding. Educating for questioning is therefore most immediately aligned with the goods-based accounts of the aims of education. Insofar as the character-based accounts also regard the acquisition of epistemic goods as at least an important feature of a proper education, however, educating for questioning also emerges as an important aspect of this account. The argument in support of educating for questioning arises on either side of the debate.

The move from here to the claim that we should educate, not only for questioning, but for good questioning, is, I think, relatively intuitive. In general terms, education seeks to improve or advance the learner in some respect. We do not merely teach a child to multiply numbers, for example, but seek to enable them to do this accurately and efficiently every time. If a child were to spend three days multiplying 3 and 5 we may say that he had learned to multiply 3 and 5, but we would presumably also seek to enable him to do it faster next time around. Multiplication is a skill that we teach and like any skill that we teach, the ultimate aim is for the learner to be good at it, at least to some basic degree. Likewise, it is not sufficient to teach children merely to ask questions. Rather we should enable them to be good at asking questions; to be good questioners. Further support for this claim can be found by examining some of the empirical evidence that has emerged in the education literature in recent years, demonstrating the significant role that good questioning plays in learning.

The Role of Good Questioning in Learning: Empirical support

A recent, comprehensive set of psychological studies examines the role of children's questioning in cognitive development (Chouinard, M., Harris, P. and Maratsos, M., 2007). These studies present

findings from four separate experiments approaching the topic of children's questioning from several different perspectives, for example, observing children's questions over an extended period of time or concerning a particular topic. In one key study, children's questions were examined in the context of a designated task with a pre-determined goal. In this experiment, sixty-seven children aged between four and five were given the task of identifying an object hidden within a box. The group was divided in half and tested under two conditions. Group one were tested under the 'question condition' and were thereby allowed to ask questions during the task. Group two were tested under the 'guess condition' and were thereby not allowed to ask questions during the task but were instructed rather to guess what the object hidden in the box may be.

The results of the experiment revealed that children in group one were significantly more successful at identifying the object hidden in the box. This demonstrates that the opportunity to ask questions is significant in the process of gathering information. The analysis of these results by the authors focuses on the appropriateness and effectiveness of the children's questions under the question condition. Despite several ways in which the children's questions might fail the authors maintain that they were more often than not highly appropriate and well-suited to the task at hand. On this basis they conclude:

“asking questions is a powerful mechanism that children can use to gather information that allows them to move forward on their journey to an adult-like understanding of the world” (2007, p.97).

This conclusion provides initial support for the claim that questioning plays a valuable role in children's learning. This result supports earlier research indicating the significance of student, rather than teacher questioning. As Dillon (1988) notes, “[W]here tested...the relationship between student questioning behaviour and subsequent academic achievement – “learning” – is positive” (p.106). In addition, a further significant result from the Chouinard, Harris and Maratsos studies emerges from the authors' analysis of the number of questions asked by children under the question condition in the hidden box task. The data here suggests that it is not simply asking *more* questions but asking good questions that makes a difference to the children's success at identifying the hidden object. Thus, the authors assert that “it does not seem like number of questions is key; asking the right question seems to be the key” (2007, p.89). This again provides support for the claim that *good* questioning plays a valuable role in learning.

In support of these findings, experimental data from the school experiments conducted as part of this research can be examined, in order to further demonstrate the significance of good questioning for learning. In Chapter Five this data was used to illustrate and explicate the key skills and abilities

required in order to satisfy the three components of good questioning and so, to be a good questioner. The significance of competently targeting worthwhile information through questioning was thereby established. Here the effectiveness of good questioning in general on the participants' success in the task can be observed in order to provide further empirical support for the claim that good questioning plays a valuable role in learning.

In order to demonstrate the significance of good questioning in the task it will be useful to focus on evidence from just two of the participants; Helen and Henry. An examination of the different approaches taken by Helen and Henry will expose the value of good questioning within the context of the task. On this basis, the value of good questioning for learning in general can be extrapolated. The investigation will begin with Helen, who, as you may recall, was particularly good at questioning, satisfying both the content and the communication components consistently throughout her role as coin-seeker in the game (she also satisfied the context component but, as observed in Chapter Five, this should be viewed as a less significant achievement given the already restricted and contrived context of the game). As a result of her questioning, Helen successfully uncovered nine of the ten coins hidden in Treasure Island; a score only achieved by three other participants. Crucially, unlike other participants, it is clear, through an examination of her transcript, that Helen's success in the task is due, at least in significant part, to her skill at good questioning. This allows her to consistently identify and elicit the information she requires and so to efficiently uncover the hidden coins. An extended extract from Helen's transcript illustrates this:

Clue 6: This coin is hidden with a brown animal.

Helen: So monkey or tortoise...is it hidden under a monkey

LW: Yes

Helen: Ooh...um...is it hidden on a monkey on the right hand side so those three

LW: No

Helen: Is it on the monkey on the right

LW: No

Helen: So it must be that one [opens correct door]

Clue 7: This coin is surrounded by petals.

Helen: So it will be on one of the flowers which one of those...they're the only flowers, yes they are...so, is it hidden under a red flower

LW: Yes it is

Helen: Is it hidden under the middle flower

LW: It is yes

Clue 8: This coin is hidden with an animal that moves very slowly.

Helen: So one of those...um...is it hidden under the, the two tortoises

LW: No

Helen: Is it hidden on the tortoise on the right

LW: No

Helen: Is it hidden on the tortoise on the middle

LW: No

Helen: So it must be [opens correct door]

In her responses to these three clues Helen demonstrates her ability to work with all the information at her disposal and identify the most significant missing information in order to determine the most worthwhile content for her questions. She is then able to define her questions precisely and communicate them articulately ensuring that she competently targets the information she is after. In this manner, Helen uncovers nine of the ten coins. This real-life example of good questioning illustrates the value of this skill for successfully gathering information and achieving a desired outcome.

The one coin Helen fails to find is coin nine. Significantly, in this case Helen makes an uncharacteristic assumption at the outset leading her away from a competent line of questioning. This can be observed in the following extract in which she is responding to clue nine telling her that the coin she is looking for is hidden 'with something you find on the beach':

Clue 9: This coin is hidden with something you find on the beach.

Helen: Ok palm tree...ooh...

LW: Something you find on the beach

Helen: Oh...is it on...hang on...is it next to a butterfly

LW: Er no

Helen: So it's these...um...I might not get it...is it...err...is it next to a parrot so those two

LW: No

Helen: So is it, erm the one on the top so that one

LW: No

Helen: So it's... [opens incorrect door]

LW: Not hidden, not hidden there

Helen: But that was the question, you said no, I asked is it that one

LW: And that, this coin is hidden with something you find on the beach so we were looking actually at a slightly different thing but that's ok, you get a shiny pebble.

Here then, Helen immediately assumes, on receiving the clue, that the coin is hidden under a palm tree. Whilst this is a fair assumption based on the information she has been given (that the coin is hidden with something you find on the beach), Helen fails to check the map for any other potential objects that could match this description and so misses the shells, one of which is in fact hiding the coin she is trying to find. On this basis, Helen fails to identify the most worthwhile information to target with her initial question and so does not satisfy the content component for good questioning. It is precisely as a result of this lapse in her otherwise very good questioning, that Helen fails to find the coin on this occasion. This further demonstrates the value of good questioning in the task.

A helpful contrast can now be drawn between Helen's questioning and Henry's, who was one of only two participants to find just three of the hidden coins. In this first extract, Henry is responding to the first clue in the game which tells him that the coin is 'hidden in a locked box'. It will be useful to recall that there is only one locked box depicted on the map:

Clue 1: This coin is hidden in a locked box.

Henry: A locked box...is it...on...the...is it on the left side

LW: Erm...yes...no...which is your left

Henry: That

LW: So you...is it on this side

Henry: Yeah

LW: No

Henry: ...can I ask whereabouts it is on the- like if it's north-east, south-west

LW: Yep

Henry: Whereabouts is it...is it hidden

LW: Oh so it has to be a yes/no question remember

Henry: Oh

LW: ...when you said is it on the left did you mean is it on this side of the map

Henry: Yep

LW: Ok, no it isn't, no

Henry: No I didn't mean on this side I meant like, is it part...is it...I meant like...oh is it, is it something on that side, not on this side of the map, I meant, it's on this side of the map but it's...beside something that's on the right-hand side

LW: Oh right, if that's your question then yes

Henry: Is it there [points]

LW: Yes it is, well done, so that was just two questions ok

This extract shows Henry struggling with his questions in several different respects. In the first instance he fails to identify the very relevant information at his disposal that there is only one locked box on Treasure Island. Given that he has seemingly identified the treasure chest as the best candidate for the hidden coin from the outset, which can be deduced from his eventual success, this indicates a failure to target the most worthwhile information with his questions. As such he fails to satisfy the content component for good questioning. Perhaps more significantly in this case, Henry also struggles to communicate his questions effectively, thereby failing to satisfy the communication component. This is particularly evident in the longest section of the exchange in which Henry attempts to communicate the information he is after in the following manner:

“No I didn't mean on this side I meant like, is it part...is it...I meant like...oh is it, is it something on that side, not on this side of the map, I meant, it's on this side of the map but it's...beside something that's on the right-hand side”

Henry is here struggling to communicate his question both effectively and efficiently. As a result he is forced to rely on a number of clarificatory questions and, more importantly, does not get the information he is attempting to elicit until after several different attempts to acquire it. Although he does eventually succeed in finding the hidden coin, I think it is clear from this exchange that Henry does not engage in good questioning in this instance.

Similarly, Henry is seen to struggle again a little later in the game in response to clue four which tells him that the coin he is looking for is 'hidden with an insect':

Clue 4: This coin is hidden with an insect.

Henry: With an insect...is it that one [points]

LW: No

Henry: Oh...with an insect...hmm...I can't see any insects...is it that [points]

LW: No

Henry: Oh, which one is it...er...with an insect... I can't see any insects

LW: Can't you

Henry: Oh is it...with an insect

LW: Yeah

Henry: Is it...no it can't be...is it...is it that [opens incorrect door]

LW: No, ah nevermind, alright let's get a shiny pebble instead

In this exchange Henry notes several times that he can't see any insects on the map. Given that the coin is hidden under an image of a butterfly, this suggests that Henry does not know that a butterfly is a type of insect. Despite this, he proceeds to make three guesses using up his three yes/no questions in this manner. Given that there are forty-five possible locations for the hidden coins at this stage (he has successfully located the first three coins reducing his options from forty-eight), this is clearly not an effective strategy; the chances of him finding the coin with this strategy are very low. If, however, Henry had attempted to establish the most worthwhile information from the outset i.e. which of the objects is an insect, he is likely to have significantly improved his odds. As it stands Henry fails to satisfy the content component for good questioning and it is at least significantly on this basis that he fails to locate the coin.

As with many of the participants, Henry gradually relies more heavily on a guess-like strategy towards the end of the game when the hidden coins are more difficult to find given the possible options available. In the following extract Henry is responding to clues seven, eight and nine:

Clue 7: This coin is surrounded by petals.

Henry: Petals...

LW: Mmm-hmm...

Henry: ...[opens incorrect door]

LW: Nevermind

Clue 8: This coin is hidden with an animal that moves very slowly.

Henry: ...[opens incorrect door]

LW: Ah, nevermind

Clue 9: This coin is hidden with something you find on the beach.

Henry: ...[opens incorrect door]

LW: Oh ...it's very quick guessing isn't it...remember you've got these [pointing to cards]

Henry: Oh yeah

In response to these three clues, Henry moves immediately to opening a door and so guesses the location of the coin without using any of his yes/no questions to narrow down the possible alternatives. This guess-like strategy, as we saw in Chapter Five, is an ineffective strategy for successfully locating the coins. This ineffectiveness, moreover, could plausibly become evident to Henry, as he progresses, based on his consistent failure to find the coins. In this case, however, Henry does not change his strategy until he is reminded with a prompt, that he can ask yes/no questions. As a result of this prompt Henry does make a brief attempt, in response to clue ten, to narrow down his options by questioning. However, after this initial attempt he quickly resorts again to the guess-like strategy and consequently, fails to locate the final hidden coin as can be seen in this last extract:

Clue 10: This coin is hidden with some coconuts.

Henry: ...is it...is it on the left, the left-hand side or the right-hand side

LW: You need a yes/no question remember

Henry: Oh yeah...erm...is it on the left-hand side

LW: Err...yes

Henry: ...coconut, coconut, coconut...is it with a coconut, is it that [opens incorrect door]

LW: No, nevermind

Henry: Palm trees!

Henry's questioning falls short of good questioning in several different respects throughout his attempts to locate the hidden coins. Significantly, it is precisely his failure to engage in good questioning that results in Henry's lack of success in the task overall. This serves to demonstrate the significance of the skills and abilities required for good questioning in relation to gathering information and achieving a desired outcome. The contrast between Helen's questioning and Henry's brings the value of good questioning in this context prominently into focus illustrating the valuable role that this skill plays in the learning process.

In conjunction with empirical data from the Chouinard, Harris and Maratsos (2007) studies, evidence from the school experiments suggests that good questioning is a skill worth educating for

given its valuable role in learning. This data, moreover, supports the purely theoretical claim that questioning plays an integral role in the acquisition of epistemic goods such as knowledge and understanding. If knowledge and understanding are at least part of what education aims at, and good questioning helps us to acquire these through learning, as evidenced by the data, then we should educate for the skill of good questioning.

WHY SHOULD WE EDUCATE FOR VIRTUOUS QUESTIONING

Inquisitiveness in the Learning Process

Virtuous questioning requires more than good questioning. Specifically, in order to be a virtuous questioner one must be characteristically and sincerely *motivated* to engage in good questioning. This motivation is precisely what transforms good questioning into virtuous questioning and is required in order to exhibit the intellectual virtue of inquisitiveness. In order to support the claim that we should educate for virtuous questioning, over and above good questioning, a further argument is therefore required to demonstrate the educational value and significance of the motivation component.

The significance of motivation in an education context has been identified by a number of authors, in both contemporary epistemology and education theory. In his discussion of ‘interest’ in education, for example, Goldman (1999) comments:

“Of course, it may be difficult to motivate students to learn subjects for which they have no aroused curiosity. Arousing such curiosity would then be a pedagogical necessity” (1999, p.350).

Here Goldman highlights the significance of cultivating the learner’s interest in a subject in order to teach them effectively, referring to this as a necessary feature of successful pedagogy. Notably, in this regard Goldman consciously echoes the views of the influential education theorist John Dewey (1916), first put forward in his early twentieth century contributions to education discourse. Dewey devotes Chapter Ten of his seminal work *Democracy and Education* (1916), to a discussion of interest and discipline arguing that the former plays an important role in effective teaching. He asserts:

“The problem of instruction is thus that of finding material which will engage a person in specific activities having an aim or purpose *of moment or interest to him*” (1916, p.66, emphasis added).

Dewey thereby emphasises the pedagogical value of cultivating students' interest in a subject, and so their motivation to engage with it. As such, this notion can be identified in early contemporary education theory.

In more recent decades, the value of motivation has been highlighted notably by educational psychologist Edward Deci (1991) who has produced an extensive body of research aligned with his own 'self-determination theory'. Self-determination theory is premised primarily on the educational value of students' intrinsic motivation to engage in learning. Deci thereby contends, "[I]deal school systems are ones that succeed in promoting in students a genuine enthusiasm for learning and accomplishment" (p.325). This notion is supported by both theoretical and empirical research and has significant pedagogical implications. Pertinently, Dillon (1988) connects this emphasis on the value of motivation explicitly to the role of questioning in education, noting:

"the act of questioning itself signals that attention has already been engaged and thought already stimulated; expression has been given, motivation is in force, inquiry is joined and learning sought" (1988, p.105).

Here Dillon identifies the intrinsic relationship between questioning and motivation, and relates this to the educational goals of inquiry and learning. This provides a theoretical impetus for the education of questioning, again, drawing attention to the significance of the learner's motivation to inquire. This identification of the valuable role that motivation plays in learning throughout the literature demonstrates the theoretical basis that is already present for cultivating motivation within an education context. The motivation component of virtuous questioning serves precisely this valuable educational purpose, compelling the learner towards intellectually virtuous inquiry. This provides a useful theoretical foundation in support of educating for virtuous questioning.

This theoretical support is particularly pertinent in the context of the intellectual character education project which identifies the aim of education as that of producing good thinkers or learners. The motivation to engage in good questioning is a necessary component of the intellectual virtue of inquisitiveness. It is for this reason that inquisitiveness plays a distinctive role in the initiation of intellectually virtuous inquiry and is distinguished from the other intellectual virtues. If inquisitiveness plays a defining and distinctive role in the initiation of intellectually virtuous inquiry, then we have good reason to educate for this virtue under the intellectual character-based account of the aims of education. If the proper aim of education is to produce good thinkers or learners, then cultivating a characteristic motivation to engage in good questioning, and so to embark on intellectually virtuous inquiry, is integral to achieving this aim. We should thus educate for the intellectual virtue of inquisitiveness.

In addition, the aims of intellectual character education extend beyond the task of cultivating in the learner any one of the individual intellectual virtues. Rather the aim is more broadly to develop and nurture the features of the learner that make for good thinking. On this account, education should aim at cultivating a range of intellectual virtues. Interestingly, inquisitiveness also plays a key role in this regard. This is again as a result of the distinctive and defining role that it plays in the initiation of intellectually virtuous inquiry. Without a characteristic motivation to engage in good questioning, intellectually virtuous inquiry is significantly less likely to arise in the first instance. It is therefore precisely the motivation component of inquisitiveness that, more often than not, gets intellectually virtuous inquiry off the ground. Inquisitiveness plays a crucial role in promoting the other intellectual virtues by initiating the inquiry that serves as a forum for their performance and cultivation.

This initiating role is also significant when one considers the context in which education typically takes place. The activity of questioning is a ubiquitous feature of everyday learning. Young children in particular are often observed to be avid question-askers and this plays a significant role in their communication with others and their interaction with the world. This natural tendency to question is manifest in a wide variety of contexts including formal learning environments such as the school classroom. There is, therefore, a natural association between the motivation component of inquisitiveness and learning. The natural inclination exhibited by young children towards questioning provides us with a valuable tool in the promotion of intellectual flourishing. The initiating role of inquisitiveness can therefore be harnessed as a platform from which to educate for intellectual virtue.

Compare this to the case of educating for a different intellectual virtue such as intellectual humility. In a superficial sense at least, intellectual humility can be viewed as a more sophisticated intellectual virtue than inquisitiveness given that it plausibly requires the existence of some kind of intellectual pursuit about which one can be intellectually humble. In the early stages of learning the opportunities for intellectual humility are likely to be limited given this requirement. By contrast, opportunities for questioning and thus inquisitiveness abound as children are continually confronted by the challenge to gather information and improve their epistemic standing. The classroom provides children with the plentiful opportunities they need in order to exhibit and fine-tune the intellectual virtue of inquisitiveness. Many others of the intellectual virtues, like that of intellectual humility, can be more appropriately fostered at a later stage in the development of an individual's intellectual character. The natural emergence of questioning in the classroom should draw our attention to the special features of inquisitiveness that make it a key intellectual virtue to

educate for. In order to promote intellectual flourishing through the activity of questioning, we should educate for the intellectual virtue of inquisitiveness.

The Role of Inquisitiveness in Learning: Empirical Support

Alongside the theoretical identification of motivation as a significant element in the learning process, by contemporary philosophers and education theorists, this same conclusion is supported by a number of psychological studies, based on the work of the influential developmental psychologist Jean Piaget (1954). Piaget argues that children are naturally motivated to resolve an internal state of ‘disequilibrium’ when encountering unsolved problems in the world around them. This state of disequilibrium arises in particular when children identify information that does not fit within their present conceptual structures. As a result, Piaget maintains, children seek to adjust their conceptual structures in order to accommodate novel information. This position has been adopted and tested by contemporary developmental psychologists such as Alison Gopnik and Andrew Meltzoff (1997) and is often referred to as ‘theory testing’ in the literature reflecting the notion that children raise and test theories on a regular basis when encountering disequilibrium in their conceptual structures. This work is also supported by empirical research conducted in line with Deci’s (1991) self-determination theory (Daoust, Vallerand and Blais, 1988; Pintrich, and De Groot, 1990; Vallerand, 1991). The results of this research, according to Deci (1991), “have linked intrinsic motivation and autonomous forms of extrinsic motivation to positive academic performance” (p.331). This empirical perspective further indicates the educational significance of motivation.

Recent evidence explicitly focusing on the value of students’ motivation to engage in questioning can be seen by returning to the Chouinard, Harris and Maratsos (2007) studies. Alongside observing the frequency and content of children’s questions throughout the studies, the authors also examined the effects of ‘self-generated’ questions on learning arguing that children benefit significantly from raising their own questions as opposed to receiving answers to questions they have not themselves formulated. As such they maintain that “active engagement by the learner is a critical factor” (2007, p.4) in both gathering and retaining information. This is based on the Piaget-inspired hypothesis that information received in response to a self-generated question is better remembered due to the fact that the child is more engaged in the problem having identified for themselves a gap in their already existing conceptual structure. A child generating their own questions is already motivated to find the answers. This allows them to more readily integrate new information into their existing conceptual structure and proceed with a newly enriched structure. The motivation to engage in questioning thus plays an important role in learning.

Further evidence for this can be found in a study conducted by Stanley Blank and Martin Covington (1965) which sought to demonstrate the effects of increased questioning in a problem solving task. For this purpose, the authors developed an auto-instructional program designed to induce questioning and tested fifty-four children taking part in a summer school science class. The group was divided into three groups each of which was tested under an experimental condition determined by their level of training in the program. Group one received full training in the program and were therefore encouraged to engage in questioning throughout the subsequent science task presented. Group two received partial training in the program with no training in questioning and group three received no training in the program or in questioning. The study found that children in group one asked significantly more questions as a result of their training demonstrating the effectiveness of the auto-instructional program. Significantly, the children in group one were also found to achieve better scores in the science task assigned to all of the participants and were seen to engage more productively in group discussions throughout. These results again give a positive indication of the valuable role that the motivation to engage in questioning plays in the learning process.

Motivation is a valuable component of successful learning. The motivation to engage in questioning is distinctively valuable in this regard, allowing students to resolve their own conceptual puzzles leading to improved engagement and retention. Good questioning similarly plays a valuable role in the learning process as a vital means of acquiring both knowledge and understanding. The motivation to engage in good questioning leads to intellectually virtuous inquiry. This motivation is therefore a valuable component of successful learning, both in terms of the goods-based and intellectual character-based aims of education. The motivation to engage in good questioning is required in order to exhibit the intellectual virtue of inquisitiveness. We therefore have good reason to educate for this virtue, supported on both theoretical and empirical grounds.

CHAPTER SUMMARY

Key insights from Chapter Seven can now be summarised. Two distinct accounts of the aims of education have been identified in the literature. I have labelled these the goods-based and character-based accounts. These are not mutually exclusive but represent divergent views on the primary, or perhaps most important, educational aims. Questioning plays an important role in education with respect to prominent versions of both the goods-based and character-based accounts. The intellectual skill of *good questioning* plays a valuable role in the learning process, leading students to knowledge and understanding through its central role in the acquisition of these epistemic goods. Insofar as knowledge and understanding are taken to be prominent educational aims, *we should*

educate for good questioning. The intellectual virtue of inquisitiveness plays a valuable role in the learning process, over and above the skill of good questioning, in virtue of its motivational component. The motivation to engage in good questioning improves student learning and leads to intellectually virtuous inquiry. Insofar as learning and intellectually virtuous inquiry are prominent educational aims, *we should educate for virtuous questioning*, namely, for the intellectual virtue of *inquisitiveness*.

The argument presented in this final chapter highlights the significance of questioning in an important and epistemologically salient social context. Questioning is a practice lying at the heart of the learning process. It should, therefore, also occupy a central place in both the theory *and practice* of education. As Dillon (1988) aptly observes, in an overview of the study of questioning in education, “[C]hildren around the world are schooled to become masters at answering questions and to remain novices at asking questions” (p.115). The argument presented in this chapter seeks to address precisely this concern. The ideas laid out in the previous chapters are intended to provide the theoretical tools for doing so. This draws attention to the fundamentally applied nature of the epistemology of questioning.

Conclusion

Questioning plays a central and valuable role in our everyday lives. It allows us to find things out. We employ it frequently in our daily search for information and on this basis acquire knowledge and understanding of the world around us and the people in it. It enables us to share information that we have with others and establish common ground within our communities. It is one of our most familiar and indispensable epistemic tools. From this there arises a compelling impetus for the epistemological examination of questioning. In this thesis, I have responded to this impetus, providing the foundations for an epistemology of questioning. A brief restatement of the central claims advanced throughout the discussion can now be made.

Chapter One presented an historical overview of questioning in the Western philosophical tradition. The epistemic role of questioning in the search for truth, knowledge and understanding in the philosophical, religious and scientific domains was explored, and its advocates and adversaries identified. Significantly, no explicit philosophical treatment of questions or questioning was observed throughout the historical overview highlighting the surprising novelty of the topic in philosophical discourse. Chapter Two extended this overview into the contemporary philosophical field, tracking the emergence of interest in the formal logical, semantic and pragmatic structure of questions in logic and the philosophy of language in the twentieth century. An epistemological concern with questions and questioning was also seen to have arisen in recent years, and an epistemological framework for the thesis was identified in the contemporary movements of virtue and social epistemology.

In Chapter Three the epistemological analysis of questioning commenced with an investigation of both questioning and questions. Questioning was identified, first and foremost, as a practice, revealing its inherently social dimension. It was seen to exhibit a characteristically epistemic function, that of eliciting information, in virtue of its medium, questions. The notable ubiquity and diversity of questions, in particular, emerged from their interrogation under an epistemological lens. Chapter Four initiated the normative examination of questioning, uncovering the valuable role that questioning plays in the acquisition of knowledge and understanding, and the significant cohesive role that it occupies within our epistemic communities. This normative examination continued in Chapter Five with the investigation of good questioning as an intellectual skill. The skill of good

questioning was seen to comprise three key components, the content, communication and context components, and these were elucidated with reference to examples of real-life questions collected in an original, empirical study. Chapter Six extended this discussion with an investigation of virtuous questioning, which was seen to combine the skill of good questioning with a characteristic motivation to engage in it. This was identified as the intellectual virtue of inquisitiveness and its central role in the intellectually virtuous life was revealed. Finally, Chapter Seven explored the applications of the conclusions drawn throughout the thesis within an education context. Both the skill of good questioning and the motivation to engage in it were identified as valuable features of learning. On this basis it was argued that we should educate for virtuous questioning, as manifested in the intellectual virtue of inquisitiveness.

With the central claims and concerns of the thesis restated, I conclude by offering a brief and speculative suggestion of a number of potential areas of inquiry that may arise out of, or further advance the epistemology of questioning. This will provide an indication of the exciting and extensive scope that I believe lies ahead for the propagation of research in this area.

Questions arising immediately from the final conclusions of the thesis concern the practical applications and implementation of educating for inquisitiveness. How can we, or should we, educate for inquisitiveness in schools. What skills do teachers and other education practitioners require in order to do so. At what stage in formal education should we educate for inquisitiveness, and how should this be integrated into the education process. Do very young learners benefit most from the cultivation of good or virtuous questioning, and is there a role for the education of questioning in higher or further education. What role does questioning play in critical reasoning, intellectual autonomy and creativity, and how could this help us to achieve or determine the aims of education. Furthermore, how might linguistic or cultural differences affect the ability or desire to educate for inquisitiveness. Are the educational advantages or disadvantages of inquisitiveness, or questioning more generally, linguistically or culturally specific. These questions offer a sense of the directions that future research, arising from the epistemology of questioning, may take in an education context.

Broadening the scope of the research beyond the domain of education reveals an array of interesting prospects for the epistemology of questioning in other social arenas. What role does questioning play in the democratic political process, for example, and how does this contrast with its role in alternative political models. What is the relationship between the freedom to engage in questioning of institutional authority or religious doctrine, and the freedom of speech or the press. What role does questioning play in news reporting, journalism and political debate. What is required

in order to engage in good questioning in these contexts. What is, and what determines, the content of the questions that are asked by journalists and politicians. What is, and what determines, the content of our political and societal questions at large. In addition, what impact do social or economic factors have on an individual's motivation and ability to engage in questioning. Is the motivation or ability to engage in questioning affected by gender, class, income, ethnicity or religion. If so, should we seek to change this. What role does questioning play in social interaction and integration between members of different genders, classes, ethnicities and religions. What social advantages in general does the ability to engage in good questioning bestow. The investigation of questions such as these may reveal significant social and political insights.

Finally, further questions arising from the research may extend the examination of questioning into sociolinguistic, scientific and technological domains. When did questioning first emerge in human history, and what role did it play in the evolution of language or cognition. Has the practice or function of questioning changed throughout human history, and, if so, what impact has this had. What, if any, linguistic capacities does questioning require. Does questioning occur in other animal species such as chimps, apes or dolphins. If so, does it have the same function for these animals as it does for humans. What cognitive or linguistic advantages or disadvantages are associated with the ability to engage in questioning. Conversely, how do differences in language or cognitive capacity affect the ability to engage in questioning. What is the relationship between questioning and artificial intelligence. What is the role of inquisitiveness for humans and non-humans. What is the neurological basis of the inquisitive drive, and does this change over the course of a lifetime. Is the drive for new information more prevalent in children or young people. How is this drive affected by biological or psychological factors such as ageing and mental illness. How is this drive affected by social factors such as gender, class and ethnicity. How is this drive affected by factors in the natural or built environment such as climate, architecture or technology. What effect has the 'Information Age' and the advent of the World Wide Web had on the drive to seek new information and the ability to obtain it. What affect could emerging and future technological advances have on this. What role will questioning play in the future of humanity. Should we seek to influence this, or to defend it.

The epistemology of questioning presented in this thesis provides a foundation for the future investigation of questioning in the wide array of contexts presented here, and many more. It is the role of questioning as an epistemic practice that underlines these broad-ranging philosophical and societal concerns. Questioning matters, not only because it drives us towards knowledge and understanding, allowing us to acquire these goods and share them, but because it *determines* the knowledge and understanding that we get. If we fail to ask questions, we will not get answers. If we

fail to ask good questions, the answers will cease to matter. It is for this reason that the practice of questioning, the skill of good questioning, and the virtue of inquisitiveness, do, and must, form an integral and indispensable part of our lives. It is for this reason that we require an epistemology of questioning.

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Appendix One

Online Survey: ‘What is a Question’

The survey

The online survey, entitled ‘What is a Question’, was designed with the aim of examining a commonplace understanding of questions in order to support the development of an intuitively plausible, philosophical account of questions. As such, it investigates how we apply this concept in our daily lives in order to identify when a question has been asked. The results of the survey have been used to inform the account of questions developed in Chapter Three. The survey (which is still live and can be accessed at philosophyofquestions.com) asks participants to read ten, short, everyday scenarios and judge, in each case, whether or not the scenario contains a question. In each case, participants are given the options ‘yes’, ‘no’ and ‘unsure’, or can choose not to respond and move on to the next scenario with the option to return. The participants are also given the opportunity to explain their responses.

The ten scenarios, as worded in the survey, are listed below:

1. Sarah is a school teacher. She has just woken up on a weekday morning and opened the curtains to discover that it is raining again, as it has been for the past two weeks. On seeing this she exclaims out loud ‘will it ever stop raining’. Her partner, who is still in the bed behind her, shrugs.
2. That morning, Sarah tries a new route to work. Along the route she comes to the side of a busy, unfamiliar road with no pedestrian crossing. She looks both up and down the road before crossing to check if there are any vehicles coming and then proceeds to cross safely.
3. Upon arriving at her school, Sarah walks past the reception desk and notes that the regular receptionist has not been in for several days. She briefly considers his whereabouts, although she has no reason to think that she knows where he is, and is then immediately distracted by another thought.
4. Returning from the staffroom with a cup of tea, Sarah turns into a long corridor. She spots a particularly disliked colleague approaching from the other end and groans quietly to herself. As they pass, despite having no interest whatsoever in his wellbeing, she glances up and mutters ‘morning, how are you’.

5. Before her class of students arrive, Sarah checks through her resources for the day and notices a word she is not familiar with. She looks it up in the Dictionary to find out what it means.
6. During her first class of the day, Sarah is teaching her students basic arithmetic. One student shows her his answer to a question and she sees that it is wrong. In order to correct him, she counts out ten pencils on the table in front of him, removes two and says 'how many pencils are left on the table'.
7. During her lunch break, one of Sarah's colleagues is discussing with fellow teachers a lesson he has just given on countries of the world. During the discussion Sarah realises that she doesn't know how many countries there are. Interested to know, she interjects saying 'how many countries are there'. Her colleagues respond with several different figures.
8. After lunch, Sarah returns to her classroom and remembers that she has promised a friend who will be visiting that she will find out where the nearest butchers to her house is. Being a vegetarian she has no interest in this herself but nevertheless she types 'local Edinburgh butchers' into Google and notes down the information.
9. At the end of the day, Sarah attends a staff meeting in which the disliked colleague from earlier is being unhelpfully rude and obstructive regarding a particular issue. Sarah knows that he has not read the minutes from last week's meeting which he did not attend. In order to expose this she says, 'what did you think of the suggestion Julia made last week to address this issue'.
10. When Sarah leaves work that evening it is already dark. She pauses at one point on her walk home and looks up to the clear sky above. Marvelling at the scale and beauty of the scene she says silently inside her head 'how big is the universe'. After several minutes considering this she continues home.

Survey design:

These ten scenarios are intended to capture a diverse range of circumstances in which questions are used in everyday life. In general, they present potentially ambiguous or unclear cases of question-asking and so represent some of the most interesting and challenging cases for an account of questions. Scenario one, for example, describes a situation in which an interrogative utterance is made, 'will it ever stop raining', yet the response is not seen or acknowledged, and is plausibly not even sought. This puts pressure on the notion that all interrogative utterances should be counted as questions, even when they do not seek out information. In contrast, scenario five describes a situation in which no interrogative utterance is made and yet information is explicitly sought and acquired through an action; checking the dictionary. This puts pressure on the notion that questions

should be defined in exclusively linguistic terms. Scenario six describes a situation in which an interrogative utterance is made concerning information which our protagonist, Sarah, already possesses. This puts pressure on the notion that questions necessarily seek out information that the questioner themselves does not possess. In each of the ten scenarios, a plausible intuition about questions is exposed and tested in this manner, allowing for a fine-grained impression to emerge. One notable exception to this pattern is scenario seven which represents the clearest instance of question-asking in any of the cases. In this scenario an interrogative utterance is made in order to elicit information that the protagonist does not possess and is explicitly interested in acquiring. As such, the scenario satisfies many plausibly commonplace intuitions about questions. The distinct lack of ambiguity in this case was intentional allowing scenario seven to be treated as a ‘control’ scenario.³⁰

No question-marks are used in any of the scenarios or at any other point in the survey. This is to avoid unintentionally leading participants into making a judgment based solely on the use of a grammatical symbol and so precludes the unreflective response that a question can be identified exclusively by the use of a question-mark. This is perhaps true only in some trivial or restricted sense, and is therefore of limited interest. In addition, none of the scenarios contain the words ‘ask’ or ‘asked’ in order to, once again, avoid an unintentional leading effect. This extends to the question posed after each scenario which is worded, ‘in the scenario, was there a question’. Using the words ‘ask’ or ‘asked’ in this context would plausibly encourage participants to make a judgment based on the presence or not of a spoken act in each of the scenarios, thereby introducing an unsupported assumption i.e. that questions always take the form of spoken acts. Given that five of the ten scenarios contain no spoken act this assumption could plausibly have had a significant impact if built into the guiding question. As it stands, the question avoids participants having to make the (perhaps unclear) distinction between ‘a question’ and ‘a question asked’. This issue was exposed in an initial small-scale pilot of the survey.³¹

The survey was designed online using the hosting service SurveyMonkey.com. This online format was chosen as the simplest means of distributing the survey to a large audience. It also allows for easy navigation between the scenarios for participants and for efficient collection and analysis of the data. This online hosting is supported by a *University of Edinburgh* Research Support Grant.

³⁰ It should be noted that some ambiguity does remain in scenario seven given that the information sought is not in fact acquired. This puts pressure on the notion that a question requires a definitive answer in order for it to be judged a question.

³¹ Many thanks to members of the Edinburgh Epistemology Work-In-Progress seminar (2012/13) for comments on the initial survey design.

Data collection

Quantitative data:

The survey has had **5210** responses to date (as of 4th August, 2014). A significant proportion of the responses have been collected via the ‘Introduction to Philosophy’ Massive Open Online Course (MOOC) hosted by the Philosophy Department at the *University of Edinburgh*. A small number of responses (23 to date) have been collected directly from professional philosophers and the remaining responses have been collected via a link to the survey at philosophyofquestions.com.

The following table provides an overview of the survey results to date showing the percentage of ‘yes’, ‘no’ and ‘unsure’ responses to each scenario, alongside the total number of respondents:

Overview					
Scenario	Yes	No	Unsure	No response	Result
1	34.00% (1757 responses)	59.31% (3065 responses)	6.70% (346 responses)	42 (participants)	No
2	66.12% (3240)	27.78% (1361)	6.10% (299)	310	Yes
3	65.43% (3051)	24.98% (1165)	9.59% (447)	547	Yes
4	36.79% (1674)	55.38% (2520)	7.82% (356)	660	No
5	80.94% (3690)	14.03% (631)	5.03% (226)	713	Yes
6	83.44% (3689)	11.97% (529)	4.59% (203)	789	Yes
7	94.89% (4144)	3.02% (132)	2.08% (91)	843	Yes
8	72.32% (3115)	20.41% (879)	7.27% (313)	903	Yes
9	61.29% (2627)	29.75% (1275)	8.96% (384)	924	Yes
10	52.31% (2240)	35.94% (1539)	11.75% (503)	928	Yes

Data overview:

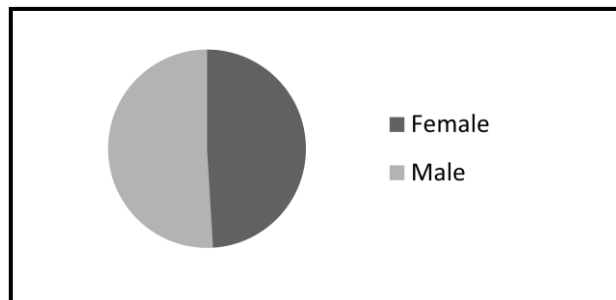
The most significant finding represented by the survey results shown above is that **eight** of the ten scenarios were judged to contain a question. Scenario seven received the highest percentage of yes responses (almost 95%) reflecting the intended ‘control’ status of the scenario. Scenarios five, six and eight all received more than 70% yes responses. Scenarios two, three and nine all received approximately two-thirds yes responses (between 61% and 66%). The two scenarios judged not to contain a question (scenarios one and four) both received less than 60% no responses, and more than 30% yes responses reflecting a greater divergence of intuitions in these cases. Scenario ten received the smallest majority in any of the cases, with just over 50% yes responses, and received the highest level of unsure responses (almost 12%).

Demographic data:

The survey also collected demographic data on gender, age and previous experience in philosophy.

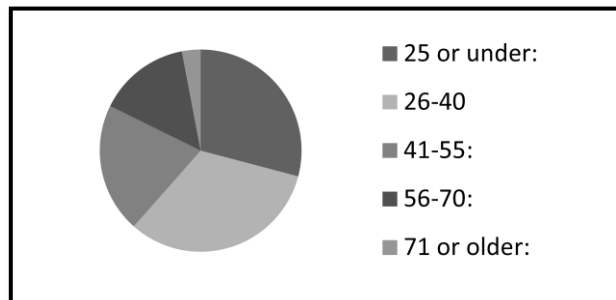
Gender

Female:	49.03%
Male:	50.96%



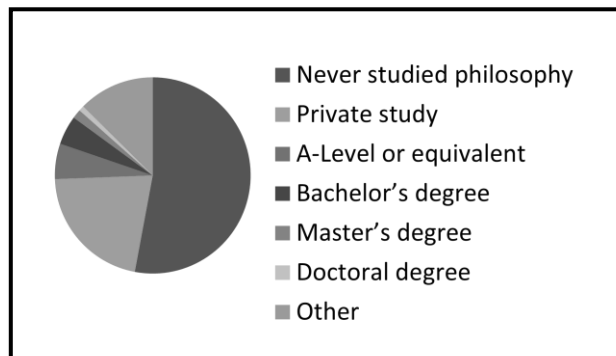
Age

25 or under:	29.10%
26-40:	32.43%
41-55:	20.75%
56-70:	14.72%
71 or older:	3.00%



Previous experience

Never studied philosophy:	52.94%
Private study:	21.46%
A-Level or equivalent:	5.84%
Bachelor’s degree:	4.80%
Master’s degree:	1.50%
Doctoral degree:	0.88%
Other:	12.58%



Perhaps the most notable feature of the demographic data is the fact that over half of the participants taking the survey had never studied philosophy before. This supports, at least to some extent, the use of the quantitative data as representative of a commonplace and intuitive (or at least not philosophically motivated) understanding of questions.

Qualitative data:

As well as the large amount of quantitative data generated by the survey, a significant proportion of the participants also chose to provide an explanation for their response to the scenarios in each case, resulting in a large amount of qualitative data available for analysis. A selection of these responses is provided below demonstrating the high level of participant engagement with the survey and the richness of the qualitative data as a source for potential future analysis.

A selection of individual responses:

Scenario one:

“Difficult to say. The above leads me to think that it was a rhetorical question and Sarah was not necessarily looking for answer from her partner. She may have been looking for reassurance rather than an answer. Moreover, if she was asking this as a question it is one that her partner could answer from experience i.e. in his experience it has rained for long periods and then stopped.”

Scenario two:

“I suppose there is a question if we consider the "active" part of questioning a form of examination. Sarah examines whether or not the road is safe to cross, determines an answer.

That examination is a question.”

Respondent answered ‘yes’

Scenario five:

“Yes because she is questioning the dictionary. A source of information need not be another mind in the direct sense but an extension of the mind in the form of recorded information.”

Respondent answered ‘yes’

Scenario nine:

“I’m starting to think that a question is more than the phrasing, requiring a certain level of intent. Because what Sarah says can be translated as: "I know you did not read the minutes." A statement. She doesn't expect an answer, but it's not rhetorical, because she's not inviting any engagement. Seems like she wants to shut him up. "Stop talking," translation #2.”

Respondent answered ‘no’

As yet, no detailed study of the large number of individual responses to the scenarios has been possible given the extensive amount of textual analysis that would be required simply to code and categorise the information in the first instance. As such, no discussion of these responses has been included in the thesis or incorporated into the account of questions developed. This qualitative data, however, provides a rich source of information and insight for an analysis of questions and questioning and I hope to be able to pursue this further in future work.

Discussion of the method

The survey provides a number of valuable insights into an intuitive and commonplace understanding of questions. As such, it has been a useful resource for reflection on the nature of questions and has played an important role in developing the account of questions offered in Chapter Three. Similarly, the design of the survey contributed significantly to the process of philosophical reflection on this topic, allowing me to identify and isolate key intuitions concerning the nature of questions through the construction of imagined yet familiar scenarios. Testing these intuitions against those of a wider audience has given me the opportunity to scrutinise them on a larger scale than is typically possible in philosophical research and this, I believe, has afforded a number of distinct advantages that would not arise as prominently on a smaller or individual scale.

The most significant intuition to have been tested by the survey concerns the range and extent to which we identify questions in our daily lives. Given that nine out of the ten scenarios are intended to represent potentially unclear or ambiguous instances of question-asking, it is notable that seven of these nine were still judged to contain a question by the survey participants. In the majority of these cases, with the exception of scenario ten, this judgment was also made by a significant margin, ranging from a margin of just over 30% in scenario nine, to over 70% in scenario six. In scenario ten the margin is still relatively sizeable, at just under 20%. These results represent a highly permissive view of questions among the survey participants which in turn has provided support for

my own broad understanding of the nature of questions. As such, the survey results have provided valuable support for the account of questions presented in Chapter Three.

The relatively large sample on which the results are based further supports their use as a means of developing an account of questions. This is especially pertinent given the familiar and ubiquitous nature of the concept. Questions are used frequently in daily life and play, at least, a regular part in our communication with others. A large scale survey of intuitions concerning the identification of questions in daily life is therefore especially appropriate for the development of an intuitively plausible, philosophical account of questions. The value of this method as a means of philosophical analysis in general, I would contend, will vary depending on the familiarity of the concepts under investigation. Questions being a common and accessible feature of everyday life, this concept represents an ideal candidate for the large scale consultation of intuitions made possible by the survey. In this respect, the survey results have provided a valuable means of demonstrating the plausibility of the account of questions presented in Chapter Three.

With this in mind, I have nonetheless been cautious of placing too great an emphasis on the results of the survey in order to support the account of questions in any particular respect. While I believe that insight into a commonplace understanding of questions provides a valuable resource for developing a philosophically plausible account, I do not believe that this insight alone should determine that philosophical account. Even intuitions taken from a large sample may be subject to change upon further reflection, and this, I believe, represents the most significant challenge arising from the use of this method. Consequently, I have taken care not to use the survey results as evidence for the account of questions itself. Rather, these results tell us something about how we identify questions on a daily basis and it is this information that, I believe, can rightly feature in a philosophical analysis of the concept. As such, I have found the survey valuable, both as a stimulus for my own philosophical theorising and as justification for the intuitive plausibility of the philosophical account but have not treated it as evidence for the account itself.

Finally, this method has allowed me to engage a large audience in philosophical reflection on the nature of questions and more generally facilitated discussion of the topic with and between a wide range of people. This has not only been valuable for the research itself but is also, I believe, valuable with respect to the wider aims of promoting and facilitating public engagement in philosophy. This is an aspect of my research that I take to be central to its significance in a broader context, beyond the academy. To demonstrate this significance, I offer just one example below, taken from a discussion thread started up, without prompting, by participants on the Introduction

to Philosophy MOOC, from which many of the responses to the survey so far have been generated;

“...when the survey was over, it occurred to me that the survey was a device in itself showing all of the different ways to look at, or the different aspects of, a question. For example, it wasn't until after the survey was over that I was confronted with my own internal rule set for determining whether a question was really a question, and realized at the same moment that this rule set is probably not shared by everyone homogeneously” (Introduction to Philosophy MOOC participant, October 2013)

Here, the participant is clearly reflecting on the experience of having taken the survey and reporting its impact on her thinking retrospectively. This level of engagement with the survey provides a valuable illustration of the potential that surveys of this kind have to stimulate philosophical reflection among a wide, largely non-professional philosophical audience. Similarly, comments such as this highlight the accessible nature of questions and questioning as a topic of philosophical investigation and demonstrate the interest that I believe it is capable of generating among both philosophers and non-philosophers. Over and above its uses in the philosophical analysis of questions, these factors, in my view, demonstrate the significance and value of the survey. As such I hope to be able to pursue this method further in future research.

Description of the study provided for participants before completing the survey online:

This questionnaire is composed of ten everyday scenarios. The purpose of these scenarios is to open a window onto the everyday world of questioning and to examine the nature of questions. Please read each of the scenarios and ask yourself the following;

In the scenario, was there a question

Feel free to take as much or as little time as you would like. This is not intended as a test of unreflective intuitions but you may find that some of the scenarios require very little reflection in which case your response might be fairly immediate. Others of the scenarios may not be immediately obvious to you in which case you might want to engage in deeper reflection.

In each case there will be an option to explain your answer or describe the thought processes that went into it. Any response you provide here will be invaluable to the study so please feel free to give as much detail as you wish.

This questionnaire forms part of a PhD project at the University of Edinburgh examining the nature and value of questioning. The results will be stored anonymously and may be used to inform academic publications and presentations as part of the ongoing research.

Have Fun

Appendix Two

School Experiment:

‘Role of Questioning in Learning’

The Experiment

The School Experiment was designed with the aim of examining different questions and questioning strategies employed by primary school aged children during the process of information gathering. In addition, it sought to establish the effectiveness of modelling different questioning strategies as a means of improving the children’s ability to gather information via questioning. The experiment provided real-life examples of questioning that were used to develop and illustrate the account of good questioning presented in Chapter Five, and explore the potential applications of this account in Chapter Seven.

Participants and procedure:

Thirty children, aged between seven and nine, took part in the experiments. The children were from two primary school classes at Sciennes Primary School in Edinburgh; one primary three class, with children aged seven and eight, and one primary four class, with children aged eight and nine. Seventeen girls and thirteen boys took part over three non-consecutive days between the 17th and 24th of March 2014. The tasks were run during school hours, between 9am and 3pm, with each task lasting on average between 15 and 20 minutes. The children were excused individually from classes to take part in the experiments which were conducted in a quiet corridor in the school. The tasks were audio recorded with a high quality boundary microphone allowing for minimal background disturbance.

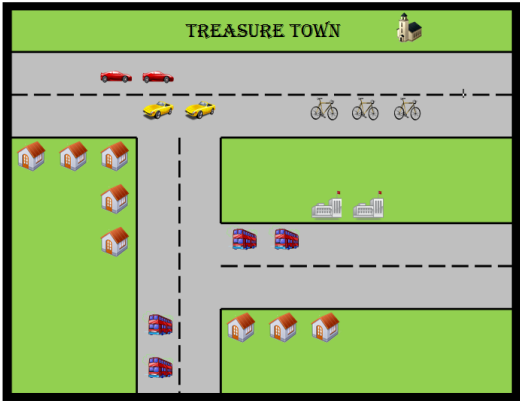
The Task:

The task involved two short games in which the researcher (myself) and the participants took turns to find coins hidden on two different treasure maps. In game one, the researcher followed clues read out by the participant to uncover coins hidden in a map of ‘Treasure Town’. In game two, the participant followed clues read out by the researcher to uncover coins hidden in a map of ‘Treasure Island’. In game one, there were two hidden coins and two corresponding clues. In game two, there

were ten hidden coins and ten corresponding clues. The participants could therefore collect up to ten coins during their role as ‘coin-seeker’ in the second game. In both games the coin-seeker was permitted to ask up to three yes/no questions after each clue in order to help determine the location of the coins. The number of questions asked after each clue was tracked by turning over ‘question cards’ placed in the middle of the table. If a coin was successfully found, the coin-seeker received a silver coin. If a coin was not found, they received a glass pebble. The number of coins collected in total was recorded at the end of each game. Images of the maps used in both games can be found below:

Game One: Treasure Town Maps

Coin-seeker



Clue-giver (red squares mark coins)



Game Two: Treasure Island Maps

Coin-seeker



Clue-giver (chequered squares mark coins)



Each item on the coin-seeker’s maps was printed onto a folded down door which the coin-seeker could lift once they had decided on the location of the hidden coin after each clue or, alternatively, had asked all of their three yes/no questions after each clue. Only one door could be lifted per clue.

Task conditions:

The participants were tested under two conditions, fifteen under condition A and fifteen under condition B. These conditions were designed to test the impact of modelling different questioning strategies during the first game, on the children's ability or approach to gathering information via questioning during the second game. In condition A, the researcher modelled a 'good questioning' strategy during the first game and in condition B, the researcher modelled a 'bad questioning' strategy. The aim was to test whether children presented with an example of good questioning during the first game would be more successful at gathering information during the second game and so collect more coins in their role as coin-seeker, than those presented with an example of bad questioning. No explicit mention of these conditions was made to the children during the tasks.

Task Instructions:

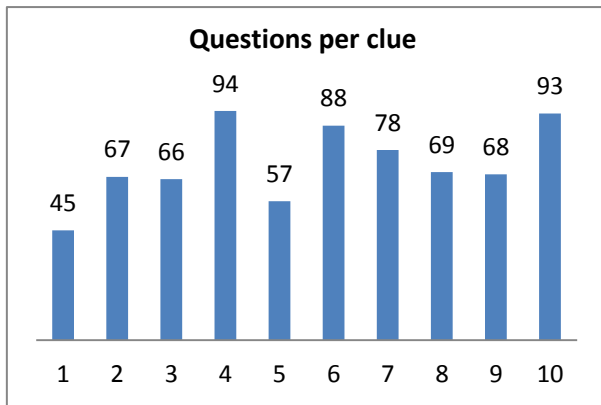
The following instructions were given to participants under both conditions:

We're going to play two games where we're trying to find gold coins hidden on a map. In the first game you'll read out some clues to help me find the coins and in the second game I'll read out some clues to help you find the coins. Each time a clue is read out the one looking for the coin will be able to ask up to three yes/no questions to help them find it. Do you know what a yes/no question is - it's a question where the only answers are either yes or no.

There's one clue for each hidden coin so we'll have to think carefully about what questions we ask to make sure we find as many coins as possible. Do you understand the game.

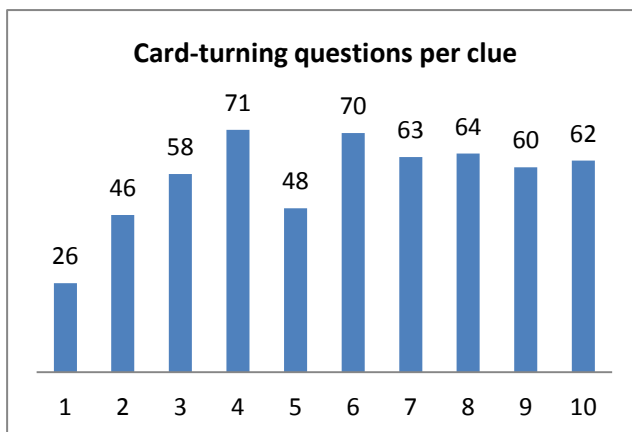
Data overview

Numbers of Questions: Throughout the thirty tasks a total of 725 questions were asked by the participants during their role as coin-seekers. The average number of questions asked per participant was between 24 and 30, the mean average being 24 and the modal average being slightly higher at 28. The range for the number of questions asked in total per task was between 0 and 42 representing a significant divergence between participants. The number of questions asked per clue is shown overleaf:



The lowest number of questions (45) was asked in response to clue one, with a mean average of 1.5 questions per participant. The highest number of questions (94) was asked in response to clue four, with a mean average 3 questions per participant. This is only marginally lower than the number of questions asked in response to clue ten (93).

These figures include *all* questions asked by the participants during their role as coin-seekers. The total number of yes/no questions asked, marked by the question cards during the course of the task (card-turning questions), was 568. The average number of card-turning questions asked per participant was between 18 and 25, the mean average being 19 and the modal average also being 19. The range for the number of card-turning questions asked in total per task was between 0 and 29, this maximum falling one short of the total number of possible card-turning questions that could have been asked during the task. The number of card-turning questions per clue is below;



The lowest number of card-turning questions (26) was again asked in response to clue one, with a mean average of less than one question per participant. The highest number of card-turning questions (71) was asked in response to clue four, with a mean average 2.3 questions per participant. This is only marginally lower than the

number of questions asked in response to clue six (70).

Trends and Anomalies:

Number of questions: With respect to numbers of questions asked, the trends for both total questions asked and card-turning questions asked are broadly similar. In both cases, participants asked fewer questions at the beginning of the task, with the number of questions rising quickly towards the middle of the task, peaking at clue four, and then dropping more gradually in the second half of the task.

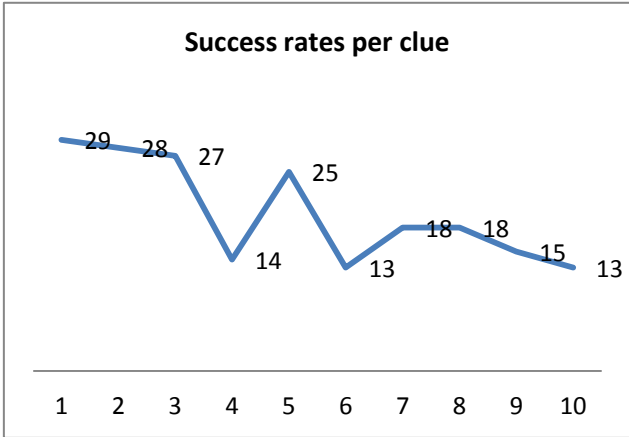
In both cases, clue five represents a divergence from this trend with the number of questions asked dropping dramatically in response to this clue. This anomaly can be accounted for by a flaw in the design of the clue itself. Specifically, clue five told the participants that the coin was 'hidden with an animal that can fly'. This was intended to increase the difficulty of locating the coin from that of the previous clue, as per the pattern of the clues in general. However, the difficulty of locating the coin based on this clue was premised on the fact that there are two different types of animal that can fly represented on the map, namely, butterflies and parrots, unlike the previous clue which only directed the participants to one type of object. Despite this, the vast majority of participants only recognised one object on the map as 'an animal that can fly', namely the parrot, and so did not take the butterflies into account when attempting to locate the hidden coin, which was indeed hidden under a parrot. As there are only two parrots represented on the map, this made locating the coin in this case much easier than anticipated. In fact the difficulty on this basis is roughly equivalent to that of clue two, indicated by the almost identical number of card-turning questions asked in response to these two clues.

With the anomalous result of clue five accounted for, it can be disregarded in an examination of the overall trends of the data. As such, the data shows that the participants in general asked more questions in the middle of the task, than at the beginning or the end. The lower number of questions at the beginning of the task is relatively unexceptional. In particular, as the coins were easier to locate at the start of the game, one should expect fewer questions to be required in order to locate them and this is what the data suggests. However, the fact that the number of questions asked drops gradually towards the end of the task is more surprising given that the coins are getting increasingly harder to locate as the clues progress. This result suggests that the participants may have reached a point towards the end of the game where they could no longer use the questions effectively to locate the coins and so reverted to a guess-like strategy, as observed in Chapter Five. This is an informative result given the educational context in which the data is being interpreted. Specifically, it suggests that the difficulty of a task may reduce a participant's motivation and ability to engage in good questioning in order to achieve it. The more difficult a task, the less motivated a participant is to employ questioning to resolve it, and the less capable they are of doing so. Further investigation into this hypothesis will have useful pedagogical implications with respect to educating for good questioning.

A further related anomaly worth noting is the discrepancy between total number of questions asked in response to clue ten, and number of card-turning questions asked in response to clue ten. The total number of questions asked, at 93, is significantly higher than the number of card-turning questions asked, at 62. The significant margin between these two figures is unique in the dataset.

One plausible explanation for this is that clue ten was, by some distance, the most difficult clue for locating the hidden coin. This clue told the participants that the coin was hidden ‘with some coconuts’. As the coin was in fact hidden under an image of a palm tree, as opposed to a coconut itself, a number of the participants found the clue itself difficult to interpret. In addition to this, there were a total of thirteen palm trees depicted on the map making them significantly more numerous than any of the other objects depicted. As a result, the unusually high number of non-card-turning questions asked in response to clue ten suggests that the participants were using additional questions in this case in order to attempt to further clarify or interpret the clue. In contrast to the trend identified above, this suggests that a sharp rise in the difficulty level of a task actually increases a participant’s motivation to engage in questioning in order to achieve it. These two seemingly conflicting conclusions can be understood in conjunction with one another. Specifically, as the additional questioning in response to clue ten is not reflected in a rise in the number of card-turning questions asked in order to locate the coin, this may indicate that, while a participant’s motivation to engage in questioning is increased, their ability to engage in *good* questioning is not improved in response to the difficulty of a task. This provides a more nuanced interpretation of the data and further indicates the value of future research into the relationship between the difficulty of a learning task and the questioning behaviour of learners.

Success rates: The total number of coins successfully located over the thirty tasks was exactly 200. This represents two thirds of the total number of coins that could have been found (300). The mean average for number of coins found per task was 6.6. The modal average was slightly higher at 8, with ten of the thirty participants achieving this score. Success rates per clue are below:



The highest level of success in finding the coins occurred in response to clue one, where the hidden coin was successfully located 29 out of 30 times. The lowest level of success occurred in response to clues six and ten, where the hidden coins were successfully located 13 out of 30 times. This was only slightly higher in response to clue four, at 14 out of 30.

The trend for success in locating the hidden coins is relatively clear. The highest level of success occurred at the start of the task and this decreased gradually throughout the task as the difficulty of the clues increased. This result is unsurprising. The most striking divergence from this trend is once

again observed in the success rates for clue five which are significantly higher than those of two clues either side. This anomaly can again be accounted for by means of the flaw in the design of the clue which made the coin significantly easier to locate than was intended.

Disregarding this result the data shows a fairly consistent downward trend. The slightly lower level of success in the middle of the task compared to the later stage is, however, a point of interest. In particular, the lower success rates in response to clues four and six correspond to markedly higher levels of question-asking in response to these clues. This is the case for both the total number of questions asked per clue and the number of card-turning questions asked per clue. This correspondence suggests that participants were motivated to ask more questions in response to the increased difficulty of the clues, although this increased questioning did not itself result in greater success. This conclusion supports the hypothesis ventured above that increasing the difficulty of a task increases a participant's motivation to engage in questioning but does not improve their ability to engage in good questioning. In addition, interpreting the relative success rates throughout the task may suggest a further nuance to this hypothesis. Specifically, the data may indicate that the participants' ability to engage in good questioning, whilst decreasing initially in response to the increased difficulty of the task, in fact improved very slightly throughout the duration of the game, allowing the participants to achieve marginally higher levels of success towards the end of the task, relative to the mid-point, despite the increased difficulty level. This would suggest that the participants' questioning improved in response to practice and repetition. Further investigation into this would again have useful pedagogical implications concerning the education of questioning.

Discussion of the method

The use of this experimental method in the present research has been valuable in both developing and testing the theoretical claims advanced throughout the thesis. The most valuable aspect of this has been analysis of the specific questions that the participants asked during the experiment. This has allowed me to develop and, in places, adapt the theory in response to real-life questions which are inevitably more complex and intricate than a set of contrived questions would be. By examining these questions in detail I hope to have captured something of the authentic complexity of real-life questions and questioning strategies in the theoretical discussion. This not only enriches the theory itself, but also demonstrates the challenging nature of any attempt to provide a theoretical model of a complex practice such as this.

Challenges have arisen, in particular, in relation to the design of the task itself. Significantly, the task as it was conducted in the study was intended to expose, not only the questions that were asked

during the course of the game but in addition, the effectiveness of a deliberate strategy to influence these questions. This was the motivation behind testing the participants under two conditions, one in which they were exposed to a good questioning strategy and one in which they were exposed to a bad questioning strategy. In response to these two conditions, it was hypothesised that the participants exposed to the good questioning strategy would also achieve higher success rates in locating the hidden coins due to their improved questioning. This would indicate that exposure to good questioning had a positive educational impact on the participants and would thereby provide some support for the development of a pedagogical strategy along these lines. However, on analysis no significant divergence between participants tested under the two conditions was seen to emerge.

I am confident that this result can be attributed to flaws in the design of the task, rather than providing evidence, one way or the other, with respect to the pedagogical hypothesis being tested. In particular, it became clear, whilst conducting the experiments, that the task was too easy. Specifically, the hidden coins were relatively easy to locate by employing a guess-like strategy, as opposed to engaging in questioning. This is evident in the case of participant 10A who found exactly half of the hidden coins (5/10) without asking a single question during her role as coin-seeker. The ease with which the hidden coins could be located by guessing alone demonstrates the limited capacity of the game to test the efficacy of questioning in this context in quantitative terms. The quantitative analysis offered above is therefore both less substantial and less conclusive than originally anticipated, and does not feature in the thesis discussion. Rather the experiment has proved a rich source of qualitative data. The task could be significantly improved, in future research, by making it harder to succeed with a purely guess-like approach. Increasing the complexity of the process by which the coins are to be located, without altering the statistical difficulty of finding them, would plausibly preclude the likelihood of participants succeeding in the task by guessing. This would allow for more significant quantitative analysis and, importantly, make it possible to test whether exposure to good questioning influences the questions and questioning strategies of participants.

Despite this flaw in the design of the experiment, I believe that combining theoretical analysis with empirical data in this case has enhanced the discussion and enabled a richer and more compelling account of good questioning to emerge. I have drawn attention throughout the thesis to the familiar and ubiquitous nature of questioning, as an integral feature of our daily lives. As a subject-matter then, it seems appropriate to examine, not only imagined questions and questioning scenarios, but real world ones, in which the nature of questions and the process of questioning are authentically exposed and made available for close investigation. This authenticity has been my primary motivation for adopting the experimental methodology and including empirical data in the

theoretical discussion. While the experiment is naturally limited with respect to the range and nature of the questions asked, it has nonetheless allowed me to appreciate the complexity of the subject matter and incorporate a sense of this within the discussion of the thesis.

In addition, the interdisciplinary nature of the research presented in this thesis is, I believe, one of its greatest strengths. Whilst this interdisciplinarity is not restricted to the school experiment, it is perhaps most evident in the use of experimental methods and empirical data. I have drawn prominently on the methods of psychology, in order to both design and conduct the school experiment, and to analyse the results. Similarly, I have read broadly across both psychological and philosophical literature and worked profitably with members of both disciplines. The combination of psychological and philosophical methods and literature has been a fruitful and edifying one and I hope to have demonstrated the value of this union throughout the thesis. Once again, given the ubiquity and import of questioning in our daily lives, the subject matter itself is highly conducive to investigation from a broad range of disciplinary perspectives, and through a variety of mediums. On this basis, I hope to be able to conduct significant further empirical research in order to further inform the philosophical examination of questioning.

COMPLETE SAMPLE TRANSCRIPT:

Participant 1A

Nine coins collected under condition A.

Clue 1: This coin is hidden in a locked box.

1A: What's a locked box...oooh, one of these. A locked box. There's only one locked box. Must be in here [opens correct door]...that's kind of easy.

Clue 2: This coin can help you find where to go.

1A: Compass [opens correct door]

Clue 3: This coin is hidden in the sea.

1A: Hmm...ok...err, is it one on the south or north. Is it on the south or north.

LW: So, remember you can only ask a yes-no question

1A: Is it on the south.

LW: Good ok, it is...

1A: So, south is here [points]

LW: not...yes, it's on the south.

1A: So it's here [opens correct door]

Clue 4: This coin is hidden with an insect.

1A: With an insect...insect, what's...one of these three, one of these four. Is it blue.

LW: Yes.

1A: So, turn all these over [starts opening all doors with blue butterflies]

LW: Yes, but you only get one chance to turn the coin over. One chance to lift up a flap.

1A: Ok, is it on this side [points]

LW: Err...yes.

1A: Then it's here [opens correct door]

Clue 5: This coin is hidden with an animal that can fly.

1A: So it's either there or there. Ok...is it near monkeys, near the three monkeys.

LW: No

1A: Then it's here [opens correct door]

Clue 6: This coin is hidden with a brown animal.

1A: So it's obvio-...it's one of...is it a turtle.

LW: Yes

1A: Ok...

LW: In fact no sorry, my mistake, no it isn't a turtle

1A: Ok. Is it in these three, is it in this three column

LW: Err...no

1A: So it's not there, it's one of these two. Is it the one nearest the boat.

LW: Yes it is.

Clue 7: This coin is surrounded by petals.

1A: By petals...coin by petals. I take it these are petals...coin surrounded by petals. Is it a brown flower, I mean a purple flower.

LW: No

1A: So it's not...ok...so it's definitely a red flower so, um, is it in the middle.

LW: Yes it is in the middle.

Clue 8: This coin is hidden with an animal that moves very slowly.

1A: See the turtle. So is it on the to-, on the bottom line

LW: Ye-...no...the bottom right...

1A: The bottom line so...

LW: Oh, is it on the bottom line, yes.

1A: Yes, it is on the bottom line so it's not this one. Is it a duo, a double.

LW: No it's not a duo

1A: Oh, this is intense. Is it on this side [points].

LW: It isn't on that side

1A: So it's here [opens correct door].

Clue 9: This coin is hidden with something you find on the beach.

1A: So it's the shells then. Shells....so, is it a clam.

LW: No

1A: Is it one of these.

LW: Yes.

1A: Ok...is it closest to you.

LW: No.

1A: So it's here

Clue 10: This coin is hidden with some coconuts.

1A: Coconuts...coconuts...where are the coconuts, there is no coconuts. Here...

LW: Only yes-no questions remember

1A: Do these count as coconuts

LW: Yes

1A: Is it in this pile of...

LW: Yes it is

1A: This is kind of hard...err...is it one of these [points]

LW: Which ones are you pointing at

1A: These [points] everyone except that one

LW: Yes it is

1A: Yes [opens incorrect door]. Ooh, but that can't be right because if it's every one...is it not every one apart from these, so it must be this one

LW: Alright but you asked is it one of these which it is

1A: Oh.

END TRANSCRIPT

LETTER OF CONSENT:

Dear Parent/Caregiver,

As part of a research project looking at how asking questions can play a role in learning, we are carrying out a study at the school, and we would like to invite your child to participate. In the study, we will ask your child to take part in a short game with our researcher in which they will be asked to find the hidden coins on a treasure island map. Each session will take 15-20 minutes, and your child will be free to stop playing at any point if he/she wishes to. We will audio-record each session so that we can keep track of what kinds of questions your child asks in order to help them complete the task. This research will help us to understand how asking questions can help learning; we will be very happy to provide a summary of our findings after the end of the project.

We very much hope that you will agree to your child taking part in this study, and would be very grateful if you could sign and return the attached form to the school as soon as possible. Please do not hesitate to contact me if you would like any further details.

Thank you in advance for your help.

Yours sincerely,
Lani Watson



Department of Philosophy
University of Edinburgh

Further details: The study is part of a PhD thesis in the Department of Philosophy at the University of Edinburgh, supervised by Professor Holly Branigan, and approved by the Psychology Research Ethics Committee. You can withdraw your child’s participation at any time. Your child’s data will be stored securely and confidentially for a period of two weeks following the study. During this time you can ask for his/her data to be destroyed. After this period, your child’s data will be anonymised. The results of this study may be presented at conferences and in academic publications, but we will not carry out any comparisons of individual children or release any individual child’s results. I will be glad to answer any questions about this study, via email (L.H.M.Watson@sms.ed.ac.uk) or in person or writing at this address: School of PPLS, PG office, Dugald Stuart Building, University of Edinburgh, 3 Charles Street, Edinburgh, EH8 9JZ.

PLEASE COMPLETE AND RETURN TO CLASS TEACHER

Child’s name _____ Date of Birth _____

I agree to my child taking part in the research study supervised by Holly Branigan.

Does your child speak any language(s) other than English? **YES** **NO**

 If YES, was English the first language your child learnt? **YES** **NO**

Parent/caregiver’s name: _____

Parent/caregiver’s signature _____

EXPERIMENT REPORT:

Dear parents/caregivers,

Thank you once again to all of you whose children took part in our study on '**The Role of Questioning in Learning**' earlier this term; we very much appreciate their participation. We are still in the process of analysing the results but thought you might like some preliminary feedback on what we have found so far.

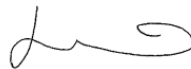
Our research is concerned with questions and questioning: why do people ask questions, and what role might questions play in effective learning. In our study, the children played a 'treasure hunt' game which involved following clues and asking questions to find coins hidden on a treasure map. We were interested in the kinds of questions that the children would ask, and whether they would learn how to ask more effective questions from watching the researcher play the game using an effective questioning strategy (asking questions that ruled out many possibilities) or an ineffective strategy (random guesses that only ruled out one possibility). Our initial analyses suggest that children didn't tend to use a single strategy throughout the game. Instead, when the game was easy, many children used an (effective) strategy of eliminating many possibilities - but when the game was difficult, they often resorted to a less effective guessing strategy. Our results also suggest that just watching the researcher use effective or ineffective questions didn't affect the kinds of questions that children asked.

We are now carrying out further analyses to look in more detail at the types of questioning that they used. Our results will help us develop a better understanding of the valuable role that questioning plays in learning.

If you would like any further information about the project please feel free to get in touch:
L.H.M.Watson@sms.ed.ac.uk

Thank you once again for your help with this research

Yours sincerely,
Lani Watson



Department of Philosophy
University of Edinburgh

University of Edinburgh Psychology Research Ethics Committee

Submission Form (reproduced from online form):

1.1 Project title

Evaluating ignorance in questioning practices

1.2 Names and email addresses of applicant(s) and their research role within the activity.

Role Forename/Initials Surname UUN Email

Lead Holly Branigan holly holly.branigan@ed.ac.uk

Student Lani WATSON s1050535 s1050535@sms.ed.ac.uk

1.3 Names, email addresses and institution of applicant(s) outwith the University of Edinburgh.

Name Email Institution

1.4 Funding body for project N/A

1.5 What is the estimated start date of your project

1st November 2013

1.6 What is the estimated finishing date of your project

31st October 2015

1.7 Please tick which group of the following three matches your project best

Psycholinguistics/Informatics/Developmental

1.8 Does your study involve children, people with learning disabilities, dementia, or others who may be unable to give informed consent Yes

1.9 Is there a possibility that potential participants may feel compelled to or even coerced into taking part in this project (perhaps because of their role in relation to any of the applicants)? That is, is there a chance that the decision to participate may not be an autonomous one No

1.10 Does the study involve a 'gatekeeper'; i.e. a school head, nursery staff, director of a nursing home or other facility, from whom it is necessary to seek permission before recruitment can begin Yes

1.11 Are drugs, placebos or other substances to be administered to study participants, or will the study involve intrusive, invasive or potentially harmful procedures of any kind No

1.12 Will blood or tissue (e.g. saliva) samples be obtained from participants No

1.13 Is pain more than mild discomfort (that which is experienced in the course of everyday life) likely to result from the study No

1.14 Could the study induce psychological distress, or cause harm or negative consequences beyond the risks encountered in everyday life No

1.15 Does the study investigate a highly sensitive topic (e.g., sexuality, sexual practices; abuse or exploitation; illegal behaviour by the participant or those known to the participant; participants with a diagnosed or suspected mental health disorder) No

1.16 Does your study involve use of assessment procedures which may unveil psychological or physical problems of which your participants might be unaware and which may endanger their present or future well-being (e.g., clinical tools such as MMSE, ACE-R, HADS or other standard tests used as clinical screens) No

1.16b If yes, please describe both the assessments involved, the degrees of diagnostic sensitivity and specificity they confer, and the clinical conditions involved

1.17 Will the researcher be unable to obtain informed consent from the participants by proxy or even retroactively (e.g., covert observation, secondary data analysis) No

1.18 Is there a potential conflict of interest between the researcher(s) and the proposed research? In other words, is there any possibility that the researcher's objectivity or independence could be compromised in return for financial or non-financial benefit for him/herself or for a relative or friend No

1.19 Does the study involve deception No

1.20 Will your study make use subjects from the Volunteer Panel

1.20b indicate that you will upload your Invitation Email and that you will feed back standardised tests to the panel

2.1 Will you describe the main experimental procedures to participants in advance, so that they are informed about what to expect Yes

2.2 Will you tell participants that their participation is voluntary Yes

2.3 Will you obtain written consent for participation Yes

2.4 If the research is observational, will you ask participants for their consent to being observed NA

2.5 Will you tell participants that they may withdraw from the research at any time and for any reason Yes

2.6 With questionnaires, will you give participants the option of omitting questions they do not want to answer N/A

2.7 Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs Yes

2.8 Will you debrief participants at the end of their participation (i.e. give them a brief explanation of the study) N/A

2.9 Will you provide participants with personalised/individualised feedback No

2.10 Will the research require collection of personal information from anyone without their direct consent No

2.11 How will confidentiality of participants be protected? If confidentiality cannot be protected (i.e. people have been video recorded), how will consent to non-confidentiality be obtained Any personal information obtained about the participants will be stored securely and separately from the data collected during the study.

3.1 What are the main objectives of your study

The study aims to evaluate the role that ignorance plays in everyday questioning practices. Primarily as a test of concept the study aims to provide some preliminary empirical support for the claim that the ability to identify ignorance leads to better question-asking strategies.

3.2 Who are your participants

Children (7-9 years)

3.3 How will you recruit your participants

Recruitment will be done through local schools and/or after-school clubs

3.4 What will your participants be asked to do for your study, and where will you see them/test them

The participants will be asked to take part in a short, child-friendly version of the Map Task (Anderson et al, 1991). In this task there are two participants, both with a map in front of them which the other participant cannot see. Participant A has a route on the map and participant B does not. The goal of the task is for participant B to draw a route on their map that matches the route on participant A's. The two maps differ slightly from each other so that some ambiguities will arise during the task. In order to be successful in the task participant B needs to identify and navigate these ambiguities. Participant A will be played by the experimenter and the child will take part as participant B. The task will take place in a quiet room on the school premises.

3.5 How many participants do you aim to recruit 20-30

3.6 Could your participants be considered a vulnerable group

Yes. The study will be conducted with children. The research will not begin until permission from the relevant gatekeepers has been obtained and consent will also be obtained from the parents of all children taking part in the study prior to commencement (see consent letter uploaded). Before the task begins, the children will be asked if they are happy to take part and informed that they can stop at any time if they do not want to continue. The experimenter will ensure that the study is stopped if the child involved shows any signs of distress or discomfort while taking part in the task. Note: according to the Disclosure Scotland on-line self-assessment form, PVG clearance is not required because this is not a regulated activity.

3.7 If your research involves the deception of participants, please explain why this is necessary and what steps will be taken to mitigate against any potentially negative effects N/A

3.8 Will participants be paid (or otherwise compensated) for their time or expenses? If yes, how much

Participants will not be paid for their time. A voucher will be given to the school or after-school club through which the participants are recruited by way of thanks for their involvement.

3.9 Will any participants be interviewed in situations which may compromise their ability to give independent informed consent, such as in prison, residential care, or in care of the local authority
No.

4.1 Could the study induce stress or discomfort beyond that which might be expected in ordinary life outside research? If yes, explain how you will deal with this
No.

4.2 Does the research involve any physically invasive or potentially physically harmful procedures
No.

4.3 Are you or any study researchers collecting data in locations where their safety could be compromised (e.g., in pubs, on the streets, in people's houses)? If yes, explain how you will deal with this
No.

5.1 Will any part of the research involve audio or film recording of individuals? What will you do with that recording after the data collection period has finished
No.

5.2 Who will be entitled to have access to the raw data? What steps have been taken to ensure that only entitled persons will have access to the data

Only myself and my supervisor, Holly Branigan, will have access to the raw data. The data will be stored securely on my computer to ensure that no one else will have access to it. The data will be stored confidentially for a period of two weeks following the study. Parents of all children involved will be informed (via consent form) that they may ask for their child's data to be destroyed during this period. After this period the data will be stored anonymously.

5.3 How will the results of the research be used

The results of the research will be used primarily as an appendix to my current PhD thesis. It is also possible that the results will be used as part of a publication or conference presentation at a later date or in a future grant proposal. There are no detailed plans of this nature at the current time.

5.4 Is any information likely to be passed on to external companies or organisations in the course of the research
No.

6.1 Will you need to apply to an external agency (such as the NHS) for ethical approval? If so, when was (or will) this be done, and when will you know the outcome
No.

7.1 Please confirm that you will comply with the outlined storage and disposal guidelines
Yes

Submission Signatories

Lani WATSON s1050535@sms.ed.ac.uk 16 Sep 2013 s1050535

Holly Branigan Holly.Branigan@ed.ac.uk 16 Sep 2013 holly