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Introduction: Knowledge Ascriptions – their semantics, cognitive bases and social functions.

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**1: INTRODUCTION:** Knowledge ascriptions of the form "S knows that p" have been a staple of epistemological theorizing for a long time. However, during the last decade or so there has been an increased focus on knowledge ascriptions in epistemology and in debates about philosophical methodology.

The present anthology brings together a number of diverse strands of contemporary research that have focused on knowledge ascriptions. One such strand is the “*linguistic turn*” according to which knowledge ascriptions in ordinary language, together with the best linguistic theory of such ascriptions, provide important evidence for epistemological theorizing. Another is the “*cognitive turn*” in which research in cognitive science including, for example, the psychology of intuitive judgment, is invoked to shed light on the nature of knowledge ascriptions. Finally, recent years have witnessed a “*social turn*” within which the social functions of knowledge ascriptions are considered in relation to the growing field of social epistemology. These three “turns” have in common that they raise important methodological questions regarding the nature and aims of epistemological theorizing. Indeed, knowledge ascriptions have been the centrepiece of many discussions about philosophical methodology.

The three strands of investigation are often discussed in isolation. However, important questions arise about their interrelation. Are these different approaches in conflict, or are they ultimately compatible? For instance, within the debate concerning intellectualism about knowledge-how, some have argued that the linguistic and cognitive approaches are in conflict (e.g. Noë 2005, Johnson 2006, Devitt forthcoming), whereas others have argued that they address different questions (e.g. Glick forthcoming).

One main aim of the present volume is to explore the three turns simultaneously and so gain a better understanding of their interrelations. To this end, we begin with a broad introduction to each of these three turns, starting with the linguistic turn.

**2: THE LINGUISTIC TURN:** Linguistic considerations were central to philosophy in the early 20th century and epistemology was no exception to this trend. Appeal to linguistic considerations was often motivated by particular methodological approaches, such as verificationism and the mid-century ordinary language programme. Rorty characterises the latter as the view that “philosophical problems are problems which should be solved (or dissolved) either by reforming language or by understanding more about the language we presently use” (Rorty 1967/1992: 1). Despite the fact that most contemporary philosophers reject these methodological approaches, recent epistemology has been characterised by renewed interest in knowledge ascriptions (Ludlow 2005). In particular, the “new linguistic turn” has been prominent in two recent areas of epistemology: debates about knowledge-how and debates about the nature of knowledge and the meaning of knowledge ascribing sentences.

**2.1: The knowledge-how debate:** Epistemologists have traditionally distinguished between two kinds of knowledge, propositional knowledge and knowledge-how. Propositional knowledge involves a subject bearing a certain relation to a proposition, and is usually ascribed with a that-clause, as in “she knows that today is Tuesday”. By contrast, knowledge-how is usually attributed with such phrases as "she knows how to ride a bicycle", or "she knows how to swim".

One important question concerns how these two kinds of knowledge are related. Anti-intellectualists, such as Ryle, deny that knowledge-how is a kind of propositional knowledge (Ryle 1949). By contrast, intellectualists argue that knowledge-how is a kind of propositional knowledge (e.g. Stanley and Williamson 2001 and Snowdon 2003). The anti-intellectualist's position may be motivated in a variety of ways. First, it seems that one may know how to do something even though one lacks beliefs about how one does it or holds a mistaken belief about how one does it. Moreover, knowledge-how does not seem subject to some of the standard necessary conditions for propositional knowledge, such as the anti-Gettier condition. Anti-intellectualists have argued that someone can be credited with knowing how to do something even if she acquired this knowledge in a Gettier style case (Sgaravatti and Zardini 2008, Cath 2009). By contrast, Gettier cases are inconsistent with propositional knowledge (Gettier 1963).

Despite the intuitive appeal of anti-intellectualism, intellectualism is enjoying a revival. Stanley and Williamson (2001) suggest that the best contemporary linguistic analysis suggests that sentences ascribing knowledge-how should be regarded as ascribing a relation to a proposition. In this way they appeal to linguistic considerations to support their view that knowledge-how is a kind of propositional knowledge. In more detail, they suggest that knowing how to do something should be understood as knowing that *w* is a way to φ, where *w* is a practical mode of presentation of a way of φ-ing.

In reply, defenders of anti-intellectualism argue that whether it is useful to distinguish knowledge-how and knowledge that is a matter best left to cognitive scientists and philosophers of mind, and is not determined by the way in which we linguistically ascribe knowledge (Noë 2005, Johnson 2006, Devitt forthcoming; see Stanley forthcoming for a defence of intellectualism against this objection). In this way, the knowledge-how debate has raised in a particularly sharp way the relevance of linguistic data to an epistemological investigation into the nature of knowledge. Glick's contribution to this volume provides a defence of the anti-intellectualist claim that knowledge how is ability.

**2.2: Contextualist cases:** A second major debate in which linguistic data has played a prominent part is the current debate about what we will broadly label "contextualist cases". It will be useful to sketch out the major positions in this debate by discussion of a *first person contextualist case*, before discussing some of the methodological issues raised by appeal to linguistic data in this debate.

First person contextualist cases have the following overall structure. We consider a subject in two contexts, a low and high context. We stipulate that there is no difference between these contexts in the kind of factors traditionally regarded as determining whether a subject knows, such as whether she believes the proposition, whether it is true, her evidence, and the reliability of the relevant belief-forming process. However, we stipulate that the low and high contexts differ in other respects, in particular in the stakes and whether an error-possibility is salient to the subject.

For instance, in both the low and high contexts of DeRose's bank case, DeRose truly believes that the bank is open on Saturday on the same basis, namely his recent visit to the bank. Ordinarily, we take it that people can know such things as banks' opening hours on this kind of basis. In the low context, not much turns on whether the bank is open on Saturday and no one mentions any error possibility. In the low context, it seems appropriate for DeRose to self-ascribe knowledge, saying "I know that the bank is open on Saturday". By contrast, in the high context, it is practically very important to DeRose that the bank is open on Saturday. He stands to lose his house by defaulting on his mortgage if he is wrong about the bank's opening hours and so cannot deposit the needed money before Monday. Furthermore, an error-possibility is salient in the high context: DeRose's wife mentions the possibility that banks sometimes change their hours. In the high context, it no longer seems appropriate for DeRose to self-ascribe knowledge that the bank is open on Saturday. Furthermore, he may go so far as to deny that he knows, saying "I guess I don't know that the bank is open on Saturday" (DeRose 1992).

The differential propriety of DeRose's knowledge ascriptions in the two contexts seems connected to his practical reasoning situation. In the low context, it would seem unobjectionable for him to use the proposition that the bank is open on Saturday as a premise in his practical reasoning, for instance to reason from the claim that since the bank is open on Saturday, he may avoid the long Friday queue by going tomorrow, Saturday, instead. By contrast, in the high context, it would seem inappropriate for him to reason in a similar manner. In the high context, instead of just reasoning from the proposition that the bank is open on Saturday, he should check first.

First person contextualist cases, such as DeRose's bank case, can be used to introduce some of the main positions in contemporary debate. Contextualists use such cases to support their view on which knowledge-ascribing sentences are context sensitive in the sense that their truth conditions vary with the ascriber's context.[[1]](#footnote-1) By contrast, invariantists deny that knowledge-ascribing sentences are context sensitive. Contextualist cases seem to place at least some pressure on one version of invariantism, "strict invariantism" which combines the denial that knowledge ascribing sentences are context sensitive with the claim that knowledge is a function of truth-conducive factors such as whether the subject believes the proposition, whether the proposition is true, and the basis of the subject’s belief. Given that such factors are stipulated to remain constant across the low and high contexts, the divergent judgements made in these contexts seem to show that knowledge ascriptions vary with some further factor not mentioned in strict invariantist accounts. Some may defend strict invariantism by challenging this stipulation and suggesting that the high stakes may affect whether the subject believes, or the degree of her belief (e.g. Bach 2005 and Nagel 2008). An alternative way for an invariantist to accommodate contextualist cases would be to enlarge the set of factors on which knowledge depends to include such factors as the stakes for the subject. This version of invariantism, which we will call "subject-sensitive invariantism", has been defended by a number of recent authors (especially, Hawthorne 2004 and Stanley 2005). Subject-sensitive invariantism effectively combines a semantic and metaphysical thesis; it endorses the semantic thesis of invariantism and, in addition, embraces a metaphysics according to which knowledge depends on a larger range of factors than is traditionally thought. Let us call the latter metaphysical thesis "impurism". While subject-sensitive invariantism combines invariantism with impurism, it is potentially possible to combine impurism with contextualism (see Fantl and McGrath 2009).

Whereas first person contextualist cases may seem to equally support contextualism and subject-sensitive invariantism, participants in these debates have appealed to a much larger range of data to support their respective positions. Without attempting to detail the complexities of this debate, let us give some indication of its larger features. An important source of data comes from third person contextualist cases in which the attributer of knowledge is distinct from the subject of the knowledge attribution. According to contextualism, the content of a knowledge ascription depends on the attributer's context. By contrast, subject-sensitive invariantism holds that whether a subject knows depends on the stakes for her. As a result, we may expect these positions to have different results in cases in which the attributer and subject are distinct. Contextualists have argued that subject-sensitive invariantism has a hard time explaining third person contextualist cases in which it seems appropriate for an attributer in a high context to deny knowledge to a subject in a low context (e.g. DeRose 2004). By contrast, subject-sensitive invariantists suggest that contextualists have a hard time explaining third person cases in which it would seem inappropriate for an attributer in a low context to attribute knowledge to a subject in a high context. Much recent debate has explored the best options for the defenders of each position to respond to the potentially problematic cases. Subject-sensitive invariantists have argued that they can explain high-attributer low-subject cases while denying contextualism (e.g. Hawthorne 2004: 160-166; and, Stanley 2005:101-102). By contrast, Fantl and McGrath suggest that an impurist may attempt to explain high-attributer low-subject cases by combining impurism with contextualism (Fantl and McGrath 2009: 54-55). DeRose (2009) has argued that contextualists can deal with problematic low-attributer high-subject contextualist cases by suggesting that the conversational context of the attributer can select the stakes for the subject of the knowledge attribution, rather than the stakes for the attributer. Furthermore, recent discussions have concerned more complicated kinds of data than simple ascriptions or denials of knowledge, such as disquotation and retraction data. Defenders of invariantism allege that disquotation and retraction data undermine the suggestion that knowledge-ascribing sentences are context sensitive (e.g. Hawthorne 2004, Stanley 2005, MacFarlane 2005). More broadly, invariantists question whether there is any existing context-sensitive expression which provides a good model for the alleged context-sensitivity of knowledge-ascribing sentences (see, especially, Stanley 2005). This has generated discussion concerning how to weigh simple against complicated data in semantic theorising, the behaviour of context sensitive expressions, and what is the best model for contextualism about knowledge ascriptions.

As this brief and selective summary indicates, much of the data appealed to by contextualists and their opponents consists of linguistic data. DeRose is especially clear about the role which he thinks linguistic data plays in the contextualism debate. He says

the best grounds for accepting contextualism concerning knowledge attributions come from how knowledge-attributing (and knowledge-denying) sentences are used in ordinary, non philosophical talk: What ordinary speakers will count as "knowledge" in some non-philosophical contexts they will deny is such in others (DeRose 2005, 172).

This view raises a number of important methodological issues. First, while contextualists do, and arguably must, defend their position by appeal to how the folk attribute knowledge, it is less clear that impurists must do so. While contextualism is a semantic thesis, impurism is a metaphysical position concerning the determinants of knowledge and it may be combined with either a contextualist or invariantist semantics. So, it is much less clear that impurism need be defended by empirical data about folk knowledge-ascriptions (see Brown 2011, Fantl and McGrath this volume). Second, to the extent that contextualism is supported by empirical claims about what ordinary speakers would say, it is open to empirical investigation. As we will see later (Section 3), some have questioned the contextualist description of the relevant linguistic data. However, for now we will set aside this issue to examine a different response to contextualist cases. This response accepts that, in the contextualist cases, it is appropriate in the low, but not the high context, for DeRose to attribute knowledge. However, it attempts to reconcile this data with strict invariantism by appeal to the semantics-pragmatics distinction

**2.3: Semantics vs. pragmatics.** Suppose contextualists are correct to claim that it is appropriate for DeRose to self-ascribe knowledge in the low, but not the high context, of the bank case. In taking this linguistic data to support contextualism, contextualists are in effect assuming that the pattern in ordinary speakers' knowledge ascriptions reflects the truth values of those knowledge ascriptions. However, speakers' dispositions may be affected not only by what it is true to say, but also what it is conversationally appropriate to say. As Grice famously argued, these properties may come apart (Grice 1989). To take one of Grice's examples, even if there is a garage around the corner, it may seem inappropriate to say so if this would misleadingly convey the information that the garage is open. To take another example, even if it is literally true to say that a student, for whom one is writing a reference, has excellent handwriting and dress sense, it would seem inappropriate to concentrate on such qualities to such an extent that it conveys the misleading impression that the student is no good as a philosopher. Thus, a promising response to contextualist data consists in the claim that the different attributions in the low and high contexts do not reflect the truth values of the knowledge ascriptions, but rather what it is conversationally appropriate to say (e.g., inter alia, Rysiew 2001, Pritchard 2005, Brown 2006).

Such attempted pragmatic explanations of the data have led to discussion about the rules for offering such pragmatic explanations and when such pragmatic explanations are legitimate. This exemplifies how disputes about knowledge ascriptions may contribute to a larger principled debate in the philosophy of language. A first constraint on pragmatic explanation is that the allegedly pragmatically conveyed information can be explained by appeal to standard conversational principles, such as Grice's principles. Defenders of pragmatic accounts have attempted to meet this criterion (e.g. see Rysiew 2001, 2007, Brown 2006).

A second, more controversial, issue concerns what specific data can be explained pragmatically. To see the issue, let us return to DeRose's bank case. A non-sceptical strict invariantist not only needs to explain why DeRose fails to self-ascribe knowledge in the high context of the bank case, but also why he goes so far as to deny that he knows. Assuming that DeRose does in fact know in the high context of the bank case this involves both explaining why DeRose does not ascribe a truth (namely, why he does not self ascribe knowledge) and why he goes so far as to state a falsehood (namely, that he does not know). The general form of the attempted pragmatic explanation of the propriety of DeRose's denial of knowledge would presumably be that it can seem appropriate to utter a falsehood if by doing so one conveys a conversationally relevant truth. But, the critics claim, we cannot explain how a literally false knowledge ascription can seem true by conveying a truth (DeRose 1998, 2002, Iacono 2008). For instance, DeRose says,

even if you can come up with a good explanation of why the assertion would generate some true implicature, this wouldn't seem to help much. Don't we want to avoid falsehood both in what we implicate and (especially!) in what we actually say? So, it would seem that it would be unwarranted to assert a falsehood, even if doing so generates a true implicature (DeRose 1998:200 and 2002 section 3.2).

This second alleged criterion concerning the success of pragmatic explanations has been contested by defenders of such explanations (e.g. Brown 2006), and is connected to the broader and contentious question of the distinction between semantics and pragmatics.

As we've seen, appeal to the semantics-pragmatics distinction provides one way in which one might seek to deny that contextualist data reflects the truth values of the relevant knowledge ascriptions. A second way of doing so involves claiming that at least one, or perhaps both, of the knowledge ascriptions are the result of error on the part of the ascriber. Such an approach may[[2]](#footnote-2) be defended by appeal to cognitive psychology. So, we will consider it in our discussion of the cognitive turn (Section 3).

**2.4: Methodological considerations and the linguistic turn:** Some participants in the contextualism debate describe the data not in terms of what ordinary speakers would say about the cases, but rather in terms of direct intuitive judgments about whether the subject in the case knows or not. For instance, on one interpretation, Stanley's (2005) defence of subject-sensitive invariantism involves central appeal to intuitions about cases. In some ways, the shift to talk about intuitions about contextualist cases is importantly different from talk about what ordinary speakers would say about such cases. First, most obviously, intuitions do not seem to constitute linguistic data since intuitive judgments about cases are mental states, not utterances. Second, the contents of intuitive judgments need not be metalinguistic. For example one could specify the content of the standard intuition about the low context of DeRose's bank case as that DeRose does know. It is implausible that such an intuition always has a metalinguistic content pertaining to the word "knowledge". It seems, then, that many intuitions about cases are not properly regarded as a form of linguistic data.

Despite these differences, some of the same issues arise in evaluating the epistemic force of linguistic considerations and intuitive judgments. First, it seems that, like linguistic data, intuitions may be affected by pragmatic and semantic factors. Second, to the extent that someone defends their position by appeal to either the linguistic data or a claim about the intuitions of most people, their claims are empirically testable. Third, even if some position can be defended by appeal to intuitions and/or linguistic data, it doesn't follow that this is the only way to support the view. For example, impurism can be defended by an inference to the best explanation of intuitions about knowledge in the bank cases. Alternatively, it may be defended by an argument that does not appeal to such intuitions, but instead, the putative knowledge norm for practical reasoning (e.g. Brown 2011, Fantl and McGrath this volume).

Although appeal to knowledge-ascriptions and/or intuitions is ubiquitous in recent epistemology, some have sought to challenge that appeal. For instance, Kornblith (2002) argues that knowledge is a natural kind to be studied by the science of cognitive ethology. He criticises appeals to both linguistic data about knowledge ascriptions and intuitions about cases. Less radically, some argue that in constructing a theory of knowledge we should balance fit with intuitions against other desiderata such as naturalness (e.g. Weatherson 2003). However, we can explicitly consider only some challenges to traditional philosophy within this introduction. Our choice here is guided by the aim of explaining the three recent turns in epistemology: linguistic, cognitive and social. Thus, we will leave aside Kornblith’s and Weatherson’s challenges to traditional reliance on intuitions. Instead, in the next main section, we will examine challenges to appeal to intuitions provided by the cognitive turn according to which epistemological theorising should be informed by cognitive psychology. (The challenges raised by Kornblith and Weatherson are discussed in Brown's contribution to this volume.)

In conclusion, the new linguistic turn in epistemology is exciting in part because it provides opportunities for interdisciplinary work. On the one hand, epistemologists have benefitted from applying tools from linguistics. On the other hand, the debates about know-how and contextualist cases have uncovered a wide range of phenomena that are of interest to linguists and philosophers of language. However, as we have indicated, reliance on linguistic data raises wide-ranging methodological issues concerning the relationship between data and theory in epistemology.

**3: THE COGNITIVE TURN:** According to the recent cognitive turn, epistemological theorising should be informed by relevant empirical findings. Some of those advocating a cognitive turn subscribe to a version of Quine’s naturalised epistemology (Quine 1969). Naturalistic proponents of the cognitive turn tend to criticise appeals to intuitions and, more generally, armchair philosophy. However, other proponents of the cognitive turn see the appeal to recent cognitive psychology as a supplement to, rather than a replacement for, traditional philosophical theorising.

**3.1: Cognitive accounts of contextualist cases:** The contextualist cases discussed above may be accounted for in a manner consistent with strict invariantism, if the common intuitive judgements about them could be argued to be *mistaken*.

One possible, but quite radical, such account is an error theory according to which speakers are utilising an incorrect tacit theory of what is required for knowledge. A related error-theory does not ascribe a mistaken tacit theory of knowledge or lack of competence in our ascriptions of knowledge but rather a general inability to reliably exercise such a competence. But such an error-theory is also quite radical postulating, as it does, considerable scepticism about our judgements about knowledge.

Consequently, theorists have been more inclined towards far more restricted *cognitive bias* accounts of the contextualist cases. Very roughly, such accounts claim that intuitive judgements about knowledge ascriptions are based on cognitive heuristics which are normally reliable but systematically fallible. They only make the restricted claim that the contextualist cases exemplify a systematic fallibility in our intuitive judgements about knowledge and knowledge ascriptions. Such an account is plausible only if an independent explanation can be offered as to why we are prone to make the relevant error in the cases in question. At this point, many contemporary epistemologists have turned to cognitive psychology and the empirical literature on heuristics and biases in intuitive judgement (for overviews, see, e.g., Stein 1996, Kahneman 2003, Nagel 2007, Rysiew 2008).

For example, John Hawthorne and Timothy Williamson have suggested that the salience of error in the high context may lead us to overestimate the likelihood of error and so deny that the subject knows (Hawthorne 2004, Williamson 2005). They support this account by appeal to a well-known psychological bias associated with the *availability heuristic* which – like other heuristics – is generally reliable but systematically fallible (Tversky and Kahneman 1973, Kahneman 2003). However, this specific psychological account has been criticized by Jennifer Nagel who, following Oppenheimer (2004) and others, argues that an error-possibility that is available is not invariantly taken seriously, and may even be *discounted* in intuitive judgment (Nagel 2010).

Nagel pursues an alternative psychological account of contextualist cases arguing that when a possibility of error is salient to the ascriber but not the subject, the ascriber will tend to form incorrect intuitive judgments about whether the subject knows (Nagel 2010, 2011, this volume). More specifically, Nagel proposes that the relevant psychological bias is an *egocentric bias* which, in Nagel’s words “…impairs our ability to suppress privileged information when evaluating the judgments of others” (Nagel 2010:16). Nagel supports her suggestion that egocentric bias is responsible for the faulty intuitive judgments in cases featuring salient error-possibilities by appealing to empirical research in cognitive and social psychology (see, e.g., Pohl 2004, Royzman et al 2003). Various alternative or complimentary psychological accounts according to which the intuitive judgments about knowledge ascriptions may be inaccurate, or even amount to cognitive illusions, have been proposed (Spicer 2007, Gerken *this volume*).

Given these distinct approaches, it may be worthwhile reflecting on some of the general constraints on psychological accounts of knowledge ascriptions as well as some of the resources from psychology that may reasonably be invoked. Generally, a psychological account faces a twofold challenge. First, the account must be independently motivated by appeal to empirical accounts of how we form intuitive judgments about knowledge ascriptions. Second, to steer clear of higher-order skepticism about the general reliability of our knowledge ascriptions, the account must provide some specification of when our intuitive judgments about knowledge ascriptions are and are not reliable.

In order to meet this twofold challenge, proponents of psychological accounts have considered a wide range of empirical data from cognitive, developmental and social psychology. For example, the considerable body of literature on mental state ascription (mindreading) is highly relevant insofar as a knowledge ascription entails the ascription of a mental state. Some – notably Williamson – claim that knowledge does not merely *entail* a mental state but that it *is* a mental state: the most general factive one (Williamson 2000, Chap. 1). But in either case, the reliability and fallibility of knowledge ascriptions may be illuminated by appeal to empirical research on mental state ascription and how mental state ascription may go awry (see, e.g., Keysar *et al* 2003, Saxe 2005, Doherty 2008, Apperly *et al* 2009, and Apperly 2011).

This focus on mental state ascription may be integrated with general considerations regarding the limitations of our intuitive judgments. In the broad heuristics and biases tradition, mistakes attributed to the limitations of simple heuristics that underlie intuitive judgments are often taken to be correctible upon reflection (Tversky and Kahneman 1973, 1983, Kahneman 2003). Similarly, in the more recent broad dual process framework intuitive (type 1) processes may be corrected by more sophisticated (type 2) processes (Evans 2008, Evans and Frankish 2009). Moreover, the dual process framework has been explicitly invoked in accounts of the fallibility of mental state ascription (Apperly and Butterfield 2009, Apperly 2011). Such empirical findings may provide some comfort for philosophers who felt the intuitive pull of the contextualist cases but, on reflection, found implausible the contextualist conclusion that there is a difference in the truth value of knowledge ascriptions across the two contexts. In general, the psychological approach promises a broad rationale for assuming that our knowledge ascriptions are generally reliable but that in particular cases, including some cases central to epistemology, we form mistaken judgments that we can resist by further reflection (Nagel forthcoming, Nagel *this volume*, Gerken *this volume*).

However, there are considerable challenges in developing such a psychological approach to contextualist cases in detail. For example, fast and frugal heuristics may in some cases outperform more reflective modes of cognition (Gigerenzer and Todd 1999). Furthermore, the account calls for a principled explanation of why we form reliable intuitive judgments about knowledge ascriptions in some cases (e.g., the low version of the contextualist case, Gettier cases) but not in others (e.g., the high version of the contextualist case). Moreover, the operative biases should be identified. For example, it is not clear that a uniform account can be given for cases with stakes variation and cases that vary in salient error-possibilities. Finally, it should be determined whether a psychological account of contextualist cases is to be regarded as complementing or competing with the pragmatic account sketched above (Section 2.3). All in all, there is plenty of work to be done in this strand of the cognitive turn on knowledge ascriptions.

**3.2: Experimental philosophy and responses:** Another prominent twist in the new cognitive turn in epistemology comes from the experimental philosophy movement (Knobe 2007, Knobe and Nichols 2008, Pinillos *forthcoming*). There are two distinguishable strands of this movement. According to the positive, or “proper foundations”, approach, experimental philosophy can positively contribute to traditional philosophical investigation into, for example, knowledge (e.g. Knobe 2007). According to the negative approach, experimental philosophy casts doubt on philosophers’ practice of appealing to intuitive judgements about cases (e.g. Weinberg, Nichols and Stich 2001; and, Alexander and Weinberg 2007). Both strands have figured prominently in recent debates about knowledge ascriptions.

Much recent experimental work attempts to characterise ordinary speakers’ reactions to classic contextualist cases. By verifying, or refuting, philosophical claims about what ordinary speakers would say, or judge, about contextualist cases, experimentalists may see themselves as positively contributing to the philosophical investigation of knowledge. In a number of studies, experimental philosophers failed to produce the results congenial to contextualism and subject-sensitive invariantism (e.g. Buckwalter 2010, Feltz and Zarpentine 2010, May et al 2010). For example, May and colleagues claim that “neither raising the possibility of error nor raising the stakes moves most people from attributing knowledge to denying it” (May et al 2010: 265).

In response, the design of these studies has been criticized and alternative studies have produced results more congenial to the contextualist case. For example, Knobe and Schaffer as well as Nagel report studies that find that participants are less inclined to ascribe knowledge when an error-possibility is salient (Knobe and Schaffer *forthcoming*, Nagel *this volume*). Moreover, Ángel Pinillos provides a study which he argues provides evidence for a stakes-effect (Pinillos *this volume*).

While we can see some experimentalists as attempting to provide positive data about the way in which ordinary folk ascribe knowledge for use in philosophical theorising, others have used experimental studies of knowledge ascriptions to attempt to cast doubt on epistemologists' appeal to intuitions more generally. For example, Nichols, Stich and Weinberg (2003) have argued that the intuitions relevant to assessing scepticism are not universal but vary with a range of factors including cultural background, socioeconomic status and educational background (see also, Weinberg, Nichols and Stich 2001). Likewise Swain, Alexander and Weinberg (2008) have investigated Keith Lehrer’s case of True-Temp – an individual whose ability to form true beliefs about the temperature is due to a brain rewiring that he is unaware of (Lehrer 1990). They found that intuitive judgments about this case were “unstable” due to an ordering effect. Participants were less likely to ascribe knowledge to True-Temp when the case was preceded by a clear case of knowledge than when the case was preceded by a clear case of non-knowledge. The authors conclude that the instability about the True-Temp case “…undermines the supposed evidential status of these intuitions, such that philosophers [and others] who deal in intuitions can no longer rest comfortably in their armchairs” (Swain, Alexander and Weinberg 2008:1).

Various responses to the negative programme of experimental philosophy have been provided. Some responses seek to rebut the challenge from experimental philosophy by empirical means. For example, Jennifer Cole Wright replicated the order effect for the True-Temp case but found no such effect for a paradigm case of knowledge (by testimony) and a paradigm case of lack of knowledge where the subject’s true belief was formed by a coin-flip (Wright 2010). Moreover, Cole Wright found that “…participants’ themselves introspectively tracked this intuitional stability” (Wright 2010: 493). Consequently, she concluded that “…people’s intuitions stabilize around paradigmatic cases – cases that are clear instances of our concepts – and so are not vulnerable to the sorts of biasing factors that Swain and colleagues argue undermines intuition’s evidential status” (Wright 2010: 495). Simon Cullen (2010) claims to have eliminated the order effects found by Swain et al by rephrasing the wording of the leading question, asking participants to "independently consider each question" in the subsequent survey. In addition, he argues that the impact of culture on survey responses may be explained by a failure to control for how culture may affect how subjects interpret survey questions.

Other responses seek to challenge the philosophical significance of existing experimental work. Some argue that experimental work has focused on the wrong kind of data, either because it focuses on the wrong kind of judge or judgement.

According to the first response, the relevant data for philosophical theorising does not concern the intuitive judgements of the folk, but instead, the judgements of philosophers. It is alleged that these are likely to be of *greater epistemic worth* than those of lay-folk. For example, it has been claimed that philosophers can be expected to have a greater expertise in understanding thought experiments and their philosophical significance, in handling the semantics-pragmatic distinction and in applying the relevant concepts (e.g. Ludwig 2007, and Williamson 2007). This expertise move has now generated a burgeoning literature of its own concerning whether philosophers can be expected to have more relevant expertise than lay folk, and whether they can be expected to exhibit the kinds of cognitive bias which affect lay judgements (e.g. see Weinberg 2009, Williamson 2009, Weinberg et al forthcoming).

According to the second response, experimental philosophers have focused on the wrong kind of judgement. Many philosophers reject a reductionist view on which intuitions are just judgements, or dispositions to judge, unrestricted. Instead, some argue that intuitions are judgements, or dispositions to judge of a special kind. They may restrict intuitions to judgements (or dispositions to judge) with a certain aetiology (say, arising from conceptual competence), a certain kind of content (abstract or modal), and/or phenomenological character (e.g. Ludwig 2007, Sosa 2007). Alternatively, some argue that intuitions are sui generis mental states and not merely some kind of judgement or disposition to judge (Bealer 1998, Huemer 2007, and Chudnoff 2011). On any of these views, even if a knowledge ascription is sincere, it need not express an intuition. As a result, some question whether the relevant experimental surveys investigate intuitions (e.g. Ludwig 2007). In particular, it is not clear that experimentalists have ensured that the judgements they study meet the further conditions some philosophers place on intuitions, such as that the judgements have a certain aetiology, content, or phenomenology.

Even if an experimentalist can convincingly argue that they have focused on the right kind of judge and judgement, a further question arises about the philosophical significance of their findings. A number of philosophers suggest that the findings do not establish any general scepticism about philosophy. For instance, Sosa (2007) argues that we need not see inter-cultural variation as undermining our epistemological judgements but simply as revealing that different cultures employ different but equally legitimate epistemic evaluations. Williamson (2007) questions whether the survey results reveal that the intuitive judgments in question are in a worse state than other judgements about which scepticism would be implausible. Other philosophers suggest that intuitions may play a different or less central role in philosophy than experimentalists assume. Whereas experimentalists tend to think that traditional methodology treats intuitions about cases as data to be explained by philosophical theory, other roles have been suggested for thought experiment judgements, such as their role in persuading thinkers to make perspective shifts, for instance to persuade subjects to take up a moral perspective (e.g. Gendler 2007). Some philosophers challenge the experimentalists' assumption that intuitions play a central role in philosophy (e.g. Deutsch forthcoming, Cappelen forthcoming).

In summary, there are a variety of ways of attempting to answer experimentalist challenges to traditional armchair philosophising, including experimental work, and examining the role which intuitions and thought experiments play in philosophical theorising.

**3.3: Methodological considerations and the cognitive turn:** Work by experimental philosophers on knowledge ascriptions and the cognitive psychology of intuitive judgement providesa fertile ground for interdisciplinary work. However, each approach raises a number of wide-ranging methodological issues.

One overarching issue concerns the interpretation of experimental results. Recent experimental work has offered new results about how knowledge ascriptions are affected by a variety of surprising factors, and have indicated various psychological resources which epistemologists may use to explain knowledge ascriptions. However, by themselves, experimental results often leave unanswered crucial questions of philosophical interest, such as which of several knowledge ascriptions made under different conditions are correct. To see the point, it may be useful to look at a different example from the psychological literature on intuitive judgement. In Kahneman and Tversky’s famous Linda problem, the approximately 85% of the participants who think it is more probable that Linda is a feminist bank teller than a bank teller are regarded as making a mistake. However, the assumption that they are making a mistake is not justified by cognitive psychology, but rather by the probability calculus. Similarly, appeal to cognitive psychology does not always tell us whether both, neither, or just one of the knowledge ascriptions made in the high and low contexts of contextualist cases are correct. There are subtle methodological questions here about when it is legitimate to appeal to an epistemological theory (e.g., strict invariantism) or principle (e.g., closure principles) in interpreting experimental data. Some of these questions are discussed in Gerken's contribution to this volume.

More generally, both the role of philosophers’ judgments about cases and the role of lay reactions to cases involving knowledge ascriptions stand in need of clarification and the cognitive turn has made this need more urgent.

**4: THE SOCIAL TURN:** Social epistemology is a rapidly expanding field that in many ways departs from the traditional preoccupation with knowledge ascriptions. Nevertheless, several important connections between social epistemology and knowledge ascriptions have been developed. Some such developments have originated from a purported new and distinctively social methodology proposed by Craig (Craig 1986, 1990). Developments have also arisen from reflection on a wider range of knowledge ascriptions in the social realm, such as knowledge ascriptions to groups and new technological devices.

**4.1: Social functions of knowledge ascriptions:** Since much of the contemporary debate about the social functions of knowledge ascriptions derives from Craig’s *Knowledge and the State of Nature*, we will take that as our point of departure (Craig 1990).

Craig seeks to replace traditional conceptual *analysis* with what he labels a “conceptual *synthesis*” – an attempt to provide a hypothetical historical account of how the concept of knowledge was developed. Thus, Craig characterizes his methodology as a *genealogy* of the concept of knowledge. The genealogy has two stages. The first stage consists in an account of how an ancestor of *our* concept of knowledge originated in what Craig labels an “epistemic state of nature”. We will follow Martin Kusch in calling this ancestor of our concept of knowledge, “the concept of proto-knowledge” (Kusch 2009, 2011). The epistemic state of nature is an imaginary (although empirically constrained), early, social community of language-using and co-operating humans. The second stage of Craig’s account consists in an account of how our concept of knowledge came to replace the concept of proto-knowledge.

Craig characterizes his methodology as follows:

Instead of beginning with ordinary usage, we begin with an ordinary situation. We take some prima facie plausible hypothesis about what the concept of knowledge does for us, what its role in our life might be, and then ask what a concept having that role would be like, what conditions would govern its application. (Craig 1990: 2).

Interestingly, given our present concerns, Craig approaches the genealogy of the *concept* of knowledge by considering linguistic knowledge ascriptions. More specifically he focuses initially on the *function* that the ascription of proto-knowledge serves in the epistemic state of nature. In consequence, he is particularly preoccupied with “a practical explication” of the *social* roles and functions of knowledge ascriptions. We can consider each stage of his genealogy with emphasis on this preoccupation (Craig 1986, 1990).

At the first stage, Craig argues that our imaginary ancestors needed to depend on each others as informants. This leads Craig to suggest that our imaginary ancestors needed a concept to evaluate informants. So, he hypothesizes that the concept of proto-knowledge originated in response to this need. Specifically, Craig postulates that the function of the concept of proto-knowledge was to flag good informants (Craig 1990: 11).

Craig seeks to specify the plausible conditions of application of the concept of proto-knowledge by looking at the features that an inquirer would like an informant to exhibit. However, he emphasizes, in accordance with his denunciation of conceptual analysis, that those are neither independently necessary nor jointly sufficient. Rather, they are features that are instantiated by a proto-typically good informant. Craig lists the relevant features of a good informant as follows:

(1) He should be accessible to me here and now.

1. He should be recognisable by me as someone likely to be right about *p*.
2. He should be as likely to be right about *p* as my concerns require.
3. Channels of communication between me and him should be open (Craig 1990: 85)

Of course, these features will at best characterize a concept that is rather different from our concept of knowledge. So, in the second stage of his genealogy, Craig argues that our concept develops from the concept of proto-knowledge via a “process of objectivisation.” According to Craig, objectivisation consists, very crudely, in a process in which the situational or perspectival aspect of proto-knowledge is weakened. For example, the idea that the proto-knower should be as likely to be right about p as the inquirer's concerns require is “objectivised away” in favour of a more robust reliability connection. In Craig’s words, we want someone who is a "…good informant as to whether *p* whatever the particular circumstances of the inquirer". He concludes that that “…means someone with a very high degree of reliability, someone who is very likely to be right – for he must be acceptable even to a very demanding inquirer” (Craig 1990: 91).

What we wish to highlight here, however, is not the details of Craig’s story but his methodology – in particular with regards to knowledge ascriptions. Craig’s conceptual synthesis is distinctive in its focus on the *social functions* of knowledge ascriptions. Moreover, rather than considering the social functions of knowledge ascriptions synchronically, Craig considers them genealogically beginning with the imagined state of nature. This, says Craig, “will be likely to provide a more illuminating account of the concept of knowledge than will any other method” (Craig 1990: 95).

As mentioned, Craig’s approach marks an intersection between traditional philosophy’s focus on knowledge ascriptions and an overtly social epistemology fuelled by a novel methodology. In consequence, it has been widely debated. Some criticism is related to the cognitive turn insofar as Craig has been criticized on the grounds that his genealogy and imaginary “epistemic state of nature” is far too speculative and, hence, too far afield from relevant empirical investigations of the origin of concepts (Gelfert 2011, Kornblith 2011).

Others have worried that Craig misidentifies the central function of the concept of knowledge as that of flagging good informants. Rather, it has been proposed that the relevant function concerns whether the subject of the knowledge ascription is in a position to terminate inquiry (Kappel 2010, Kelp 2011, Rysiew *this issue*). This idea is, of course, very close to the idea that knowledge is the norm of practical reasoning that has been postulated on independent, although not unrelated, grounds (Hawthorne 2004, Stanley 2005, Fantl and McGrath 2009; for criticism, see Neta 2007, Brown 2008, Gerken 2011, and Reed 2011).

Despite much criticism, Craig’s approach to knowledge ascriptions and its focus on their social functions has found applications. Of special interest here is Henderson’s attempt to provide a novel motivation for contextualism by appeal to Craig’s idea that the function of knowledge ascription is to flag good informants (Henderson 2009, 2011).

In sum, Craig’s controversially novel approach to the theory of knowledge has resulted in a number of methodological oriented debates that have illuminated the relation between knowledge ascriptions and social epistemology. Both Beebe’s and Rysiew’s contributions to the present volume continue this trend.

**4.2: Knowledge ascriptions to groups, institutions and information technology.** Social epistemology also bears importantly on the topic of the proper scope of knowledge ascriptions. Traditionally, knowledge ascriptions of the form “S knows that p” have primarily concerned cases in which the subject of the knowledge ascription is an individual person. However, the high degree of social cognitive interdependence, illustrated by contemporary reliance on information technology, calls for investigation of knowledge ascriptions to entities other than individual persons (Goldman 2004, Tuomela 2007, Lackey *this volume*).

For example, assume that a logic teacher is going away for a conference and needs to explain to her colleague who will be teaching the class for the week what she should teach. In doing so, she might well say something like: “The students know that propositional calculus has limited expressive power but they don’t know that its power can be increased by adding quantifiers”. Even if we had a fully fledged reductive analysis of the truth-conditions of knowledge ascriptions to an individual, the truth-conditions for the logic teacher’s knowledge ascription would remain unclear. For example, the knowledge ascription in the first conjunct would seem to be true even if one student had missed the point. Likewise, the knowledge denial in the second conjunct would appear to be true even if a student had read ahead. More generally, it is debated whether group knowledge ascriptions are *summative* in the sense that the knowledge of the group is reducible to the knowledge of all or some of the members that constitute the group. Highly relevant to this issue is the considerable literature on judgment aggregation (see, e.g., List 2005, Dietrich and List *forthcoming*).

We should note that, although very little work has been done on the issue, it is equally natural to give positive and negative group knowledge-*how* ascriptions. For example, our logic teacher might well give her colleague the following heads up: “The students know how to get to class but they don’t know how to behave once they are there”. The attribution to groups of knowledge-how and knowledge-that raises the question of whether the truth-conditions of group knowledge ascriptions differ in principled ways from the truth-conditions of individual knowledge ascriptions. For example, it has been proposed that there can be group knowledge without group belief (Hakli 2007).

A further issue concerns knowledge attributions to institutions. For example, someone might say: “WHO knows that malaria is on the rise in Borneo but WHO does not know that the main cause of it is deforestation”. Likewise, positive and negative knowledge-how attributions may be ascribed to institutions as when someone says: “The UN knows how to promote democracy but the UN does not know how to get the funding it requires”. One view of knowledge ascriptions to institutions is that it simply amounts to a knowledge ascription to the members of the institution and that it is, therefore, no different from group knowledge ascriptions. But, instead, one might argue that institutional knowledge ascriptions differ from both group knowledge ascriptions and from individual knowledge ascriptions. In any case, it may be argued that the species of knowledge we ascribe to (groups and) institutions differs in kind from the species of knowledge that we ascribe to individuals. For example, Tuomela distinguishes between two radically different kinds of knowledge: “…natural knowledge and constitutive knowledge related to social (especially institutional) matters” (Tuomela 2007). Finally, let us briefly consider cases in which we appear to ascribe knowledge to informational technology or to individuals or groups that rely on it. For example, someone might say “the GPS knows the way to Larissa” or “the GPS knows how to get to Larissa” or “the GPS already knows that the normal way to Larissa is jammed”. One might take such knowledge ascriptions to be quasi-metaphorical or short-hand or derivative from genuine knowledge ascriptions. For example, one might give a pragmatic account of them. According to one such account, knowledge ascriptions are strictly speaking false but a conversationally appropriate way to convey that, say, the GPS will enable the party to get to Larissa.

Alternatively, one could hope to deal with ascriptions of knowledge to informational technology by appeal to the extended mind hypothesis (Clark 2008, Menary 2010). According to the extended mind hypothesis, information carrying devices that a subject relies on in certain ways are literally part of her mind. Such views can provide an account of knowledge ascriptions to individuals who rely on information technology in certain ways. For example, one might say: “Of course I know my mother’s number – it is stored in my phone” or “He no longer knows the way to Larissa – his GPS just broke down”. One might hope to extend this account so that an information carrying device itself, such as the GPS, might be said to possess knowledge.

According to the epistemological version of the extendedness hypothesis such knowledge ascriptions are not only natural but true. But, of course, this stance leads back to the methodological issues concerning the role of such linguistic data. A proponent might argue that it is a desideratum for the theory of knowledge to preserve the truth of such linguistic phenomena. An opponent, in turn, might insist that our theory of knowledge should constrain our interpretation of the knowledge ascriptions in question and that they, therefore, should be given a pragmatic account.

While the debates about these issues are in their infancy, knowledge ascriptions to groups, networks, information technology, institutions and so forth raises a wide range of novel phenomena. Arguably, a fully general account of knowledge ascriptions and their role in epistemology should account for these novel phenomena.

**4.3: Methodological considerations and the social turn:** Social epistemology is sometimes regarded as setting aside the traditional concern with knowledge ascriptions in favour of other epistemic phenomena. However, as we have indicated, the traditional focus on knowledge ascriptions is, in fact, extremely important for social epistemology. For example, as Craig’s approach illustrates, knowledge ascriptions, and, perhaps, knowledge itself, may be illuminated by considering their social functions. More generally, it appears that knowledge ascriptions play a significant role in our social cognitive ecology (Gerken *et al* 2011). For example, we tend to trust, collaborate with or vote for individuals, groups and institutions that we ascribe knowledge to. Moreover, an important aspect of social epistemology concerns the scope of knowledge ascriptions. In ordinary language, we sometimes ascribe knowledge to groups, institutions and even to information carrying devices. Consequently, a philosopher who focuses on knowledge ascriptions is confronted with a vastly larger set of complex phenomena. This fact raises methodological questions about the way in which epistemological theorizing may contribute to empirical investigations of the social phenomena in question. Is it, for example, legitimate to assume that it is false to ascribe knowledge of the way to Larissa to a GPS on the grounds that the GPS does not have beliefs and the traditionalist assumption that knowledge entails belief? Or is it rather appropriate to revise the traditionalist assumption in order to preserve the truth of such knowledge ascriptions? These methodological questions call for answers and they are only examples of the sort of questions that arises with the social turn in epistemology.

Indeed, we should emphasize that it is only due to limitations of space that we have not discussed the role of knowledge ascription in the fields of social epistemology that concern transmission of knowledge, epistemic disagreement, expert knowledge and science and technology studies. These areas too bear importantly on knowledge ascriptions and vice versa. So, in general, the traditional focus on knowledge ascriptions is more likely to be *expanded, rather than replaced,* by the social turn in epistemology.

**5: THE CONTENTS OF THE VOLUME:** The contributions to the volume address, directly or indirectly, methodological issues concerning how to undertake epistemology, or how to defend particular epistemological positions. In doing so, they exploit a variety of methodologies, including appeal to linguistic data and theory, cognitive psychology and experimental philosophy, and the social role of knowledge ascriptions. Some authors mainly exploit just one of these sources of evidence. Others combine a number of alternative approaches to defend a single position.

In her contribution, **Jessica Brown** examines the relation between the subject matter and methodology of epistemology. According to a currently popular conception, the primary subject matter of epistemology is nonconceptual and nonlinguistic (e.g. Kornblith 2002, Williamson 2007, and Kvanvig 2009). As it is sometimes put, epistemologists are interested in the nature of knowledge itself, not the concept of knowledge or the word "knowledge". Despite this, contemporary epistemologists continue to make central appeal to linguistic considerations and judgements about thought experiments. Some argue that the nature of epistemology’s subject matter undermines the appeal to linguistic considerations and thought-experiment judgements, whether studied from the armchair or empirically (see, inter alia, Noë 2005, Kornblith 2002, and Devitt forthcoming). For example, Kornblith says "since our ultimate target is extramental phenomena, we would do better to study these extramental phenomena directly rather than study our own, admittedly theory-informed, concepts" (2007:36). Others seem to detect no tension between the subject matter claim and the methodology of the discipline (for instance, Jackson 1998 and Williamson 2007). Brown examines a variety of readings of the subject matter claim and argues that none of them are both plausible and also undermine the appeal to linguistic considerations and thought-experiment judgements in epistemology.

In their contribution, **Jeremy Fantl** and **Matthew McGrath** address the methodological question of how best to defend what they call "shifty epistemology". According to shifty epistemology, the truth values of knowledge ascriptions vary not merely with differences in traditional factors such as belief, truth, and evidence etc, but also with non-traditional factors like the salience of error possibilities and practical stakes. Shifty epistemology includes both contextualism and impurism. Shifty epistemologists assert an existential claim to the effect that there is a least one pair of cases in which the relevant knowledge ascriptions differ in their truth values due to variation in some non-traditional factor. Fantl and McGrath distinguish two different strategies one could use to establish this existential claim. The first "argument-from-instances" strategy attempts to provide instances of the existential. By contrast, the second "argument-from-principles" strategy defends the relevant existential claim by argument from further general claims or principles. Fantl and McGrath suggest that the relevant principles include fallibilism about knowledge, and a principle connecting knowledge and action (that if one knows that p, then no epistemic shortcomings in your relationship to p stand in the way of relying on p as a basis for action). As Fantl and McGrath point out, although even the argument-from-principles strategy relies on some intuitions, there are important differences between the two strategies. Whereas the first, argument-from-instances strategy relies on intuitions about the truth of knowledge ascriptions, the argument-from-principles strategy rests on general principles concerning knowledge and its relation to action. These principles may be supported in a variety of ways which go well beyond the kind of data used in supporting the argument-from-instances strategy. For instance, fallibilism can be defended on pain of scepticism. The relevant principle linking knowledge and action can be defended by appeal to a range of data concerning how we criticise and defend actions. In this way, they suggest, the argument-from-principles strategy is less affected by various problems than the argument-from-instances strategy.

**Brian Weatherson** offers a novel argument for the interest relativity of knowledge according to which knowledge ascriptions are interest relative in a way which goes beyond the interest relativity of the corresponding belief ascriptions. His argument relies on the claim that knowledge plays a key pair of roles in decision theory. First, that it is legitimate to write something onto a decision table if and only if the decision-maker knows it to be true. Second, that it is legitimate to leave a possible state of the world off a decision table if and only if the decision-maker knows that it does not obtain. Weatherson argues that by considering decision theory, he can provide an argument for the interest relativity of knowledge from premises much weaker than those used in other arguments for the position, such as that offered by Fantl and McGrath in their contribution. In particular, he claims that his argument does not assume that knowledge of a proposition is either sufficient or necessary for one to be in a good enough epistemic position to act on that proposition. Instead, it only involves the claim that, in certain cases, it is rationally impermissible to take a dominated option. Further, he argues that one cannot account for the interest relativity of knowledge by holding that whether one believes is interest relative. He suggests that interest may affect knowledge by providing a defeater for knowledge without undermining belief or justification to believe.

Two of the contributions, those by Michael Blome-Tillmann and Ephraim Glick, aim to cast light on knowledge and knowledge ascriptions by appeal to linguistic data and/or linguistic theory. **Michael Blome-Tillmann's** paper defends a particular version of epistemic contextualism, namely presuppositional epistemic contextualism, or PEC. PEC is a broadly Lewisian version of contextualism, according to which x satisfies "knows p" in a context c if and only if x’s evidence eliminates every not p-world, except for those that are properly ignored in c. However, PEC differs from Lewis's own version in replacing Lewis's rule of attention with an alternative rule of presupposition according to which a possibility that is compatible with the speaker's pragmatic presuppositions in a context is not properly ignored in that context. A key motivation for this difference is that it is compatible with the idea that we can attend to a sceptical possibility and nonetheless properly ignore it. As a result, PEC is less concessive to scepticism than Lewis's original version of contextualism.

Blome-Tillmann's contribution deals with the problems raised for PEC by two cases, *previously high stakes* and *Thelma and Louise*. The problem in both cases is that the speakers make knowledge attributions from a context in which some proposition, p, is known and so pragmatically presupposed. As a result, his rule of presupposition allows that all not-p possibilities are properly ignored by the ascribers. However, in each case, the ascribers of knowledge are talking about some subject who should take some not-p proposition seriously. The ascribers quite rightly deny that the subject knew, but it's hard to explain this given PEC since, in the ascribers’ context, the proposition p is pragmatically presupposed. Blome-Tillmann suggests that we can accommodate such cases by supplementing his Lewisian version of contextualism with a new rule, his rule of evidence-based ignoring: if the speakers in a context, c, ignore a possibility because that possibility is eliminated by their evidence, then that possibility is not properly ignored in the context c. The upshot of this rule is that it is correct for the ascribers in, say, *previously high stakes* to attribute knowledge to the subject only if the subject can eliminate the relevant not-p possibility. But, since she cannot do so, it is correct for the ascribers to deny that she knows.

In his contribution, **Ephraim Glick** appeals to both linguistic data and theory to defend the standard anti-intellectualist claim that (some) know-how is ability. Intellectualists and anti-intellectualists typically differ over both the relation between knowledge-how and knowledge-that and the relation between knowledge-how and ability. In particular, they differ over the following claims:

1. Each kind of knowledge how to ø is a kind of knowledge-that.
2. No kind of knowledge how to ø is the ability to ø.

Intellectualists typically defend both of these claims, whereas anti-intellectualists typically deny both. In his contribution, Glick defends the traditional anti-intellectualist view by arguing that some (kind of) know-how entails ability. He takes that to motivate the stronger identity claim that some (kind of) know-how is ability and so he rejects (2). Central to his argument is the idea that there is a kind of learning that requires the acquisition of ability, a kind of learning that takes place, for example, when someone learns to swim. Where there is learning, there is coming to know. So, Glick concludes that there is a kind of knowledge that requires possession of ability, a kind of knowledge possessed by anyone who has learnt to swim and retains what she thereby acquired. He suggests that the expression "knows how to swim" is the locution by which we express this kind of knowledge. He then goes on to defend the stronger claim that some know-how just is ability by offering replies to the standard counterexamples to the claim that ability is necessary and sufficient for know-how. He does so both by appeal to what it is appropriate for ordinary speakers to say and by appeal to Kratzer's linguistic analysis of modal claims. Thus, we can see Glick as defending the traditional anti-intellectualist approach to knowledge-how in part by appealing to linguistic data concerning what ordinary speakers say, and by appeal to more formal linguistic analyses of modal claims.

Several contributions appeal to experimental results and broader cognitive psychological theories, including the contributions by Mikkel Gerken, Jennifer Nagel, and Ángel Pinillos. **Mikkel Gerken** develops an *epistemic focal bias* account of certain patterns of judgments about knowledge ascriptions by integrating it with a general dual process framework of human cognition. According to the focal bias account, judgments about knowledge ascriptions are generally reliable but systematically fallible because the cognitive processes that generate them are affected by what is in focus.

The paper begins by considering some puzzling patters of judgments about knowledge ascriptions that are found both among philosophers and participants of various experiments. These include both a salient alternative effect and a contrast effect. Gerken sketches how a *basic* focal bias account seeks to account for them. However, he argues that the basic focal bias account should be integrated in a more general framework of human cognition. Consequently, he presents the central aspects of a prominent general dual process theory of human cognition and considers how focal bias may figure at various levels of processing. On the basis of this discussion, he offers a provisional categorisation of the relevant judgments about knowledge ascriptions. He draws on this categorisation to argue that the basic epistemic focal bias account of certain contrast effects and salient alternatives effects can be integrated with the dual process framework. In doing so, Gerken argues that a strict invariantist account of knowledge is compatible with the impact of salience of error and contrast effects on knowledge ascriptions. However, Gerken acknowledges and discusses some methodological problems with strict invariantists’ appeal to cognitive psychology.

**Jennifer Nagel** examines the trustworthiness of epistemic intuitions in light of what is known about their psychological foundations. The question of when to trust our intuitions has particular urgency for epistemologists who want to use some intuitions to support their theories while discounting other intuitions as misleading. Nagel’s paper focuses on the viability of endorsing the legitimacy of Gettier intuitions while resisting the intuitive pull of scepticism – a combination of moves that most mainstream epistemologists find appealing. Awkwardly enough, the “good” Gettier intuitions and the “bad” sceptical intuitions seem to be equally strong among the folk. In their empirical research on intuitive epistemic assessments, Nagel and colleagues found that a roughly similar proportion of respondents have the standard response of denying knowledge in sceptical and Gettier cases. She argues that it is not a coincidence that these two types of intuition register with equal force. Specifically, Nagel claims that they are generated by a common mechanism. Her account exploits the fact that we have various cognitive strategies for answering questions. These differ in whether they are quick and heuristic, or demand greater effort and deliberate sequential consideration of various alternatives. She suggests that in both Gettier and sceptical cases we ascribe a cheap heuristic strategy to the subject but assess this strategy in comparison with a more demanding strategy we intuitively register as appropriate. The trigger for this is that in both Gettier and sceptical cases we are invited to contemplate potential inputs, namely evidence that could have been collected but wasn't. As a result, we are pushed into a higher cognitive strategy for the problem the subject faces. We intuitively take the propriety of our own cognitive strategy for granted and then judge that the subject should have adopted this more demanding strategy but failed to do so. So far, sceptical and Gettier cases are on a par. However, Nagel argues that the more demanding strategy is in fact required in the Gettier cases but not in sceptical pressure cases. In this way, she aims to explain the equal strength of our knowledge denials in Gettier and sceptical cases while endorsing the former but not the latter.

**Ángel Pinillos** presents new data which he claims supports "interest relative invariantism", according to which knowledge depends on the stakes. The design of his experiment aims to help control for a potential problem with some other surveys which did not indicate any stakes effect on knowledge ascriptions. In these other experiments, participants were asked if the protagonist of the vignette knows a proposition. A potential problem for this kind of experiment is to ensure that participants assume that the protagonist has the same amount of evidence in the various scenarios. To overcome this issue, Pinillos asked participants how much evidence they think a subject needs to gather before he knows. For example, in one study, participants were presented with a low or high-stakes scenario and then given the prompt "How many times do you think that Peter has to proofread his paper before he knows that there are no typos? \_\_ times". Pinillos found that, as the stakes increase, participants cited higher numbers as their answer. In addition to questions concerning the evidence required to know, Pinillos also asked questions focusing on how much evidence is needed for action. For example, in one study, participants were assigned either a low or high-stakes vignette and given the prompt "Peter should count the pennies in the jar at least\_\_ times before turning in his final answer". As the stakes increased, respondents gave higher answers. Moreover, these answers were very similar to the answers given to the parallel questions about ‘knowledge’. Pinillos takes this and further data to support the claims that folk knowledge attributions are sensitive to the stakes and that the folk treat knowledge as the norm of action. Indeed, he regards these results as mutually reinforcing since the knowledge norm of action can be used in combination with fallibilism about knowledge to argue for interest relative invariantism.

Several of the contributions illustrate the social turn, including the contributions by Beebe, Lackey, and Rysiew. **James Beebe’s** paper can be said to represent both the cognitive and social turn since he invokes experimental philosophy and evolutionary game theory to shed light on the social functions of knowledge ascriptions. Specifically, Beebe suggests a further function for knowledge attributions than Craig's suggestion that they serve to flag reliable informants. Beebe suggests that a central function of knowledge ascriptions is to enable us to make important distinctions between different kinds of blameworthy and blameless behaviours. Beebe’s appeal to experimental results and evolutionary game theory contrasts with Craig’s own appeal to a hypothetical genealogy.

Beebe argues that human beings need to engage in acts of social exchange, that is acts of cooperation for mutual benefit. As a result, they need strategic information about others they interact with. It would be advantageous for them to be able to distinguish not only the behaviour of those who cooperate from those who do not, but also the behaviour of those whose failure to cooperate is intentional from those whose failure is unwitting. By making the latter distinction they can avoid losing exchange partners who fail to reciprocate due to forces beyond their control. Consequently, Beebe suggests that one important social function of the concept of knowledge is to mark this distinction. He supports this claim by drawing on conceptual connections between knowledge and attributions of blame, pointing out that, ceteris paribus, agents are deemed more blameworthy for norm violations when they knew that the action was norm violating (as we say, "she knew full well"). Further, he draws on recent experimental philosophy which reveals a robust tendency to over attribute knowledge to blameworthy agents. With his collaborators, he shows that participants' assessment of the goodness of an action affects their epistemic assessment of the agent of the action. In particular, survey respondents are more likely to say that an agent knew that her action would bring about a certain side-effect if that side-effect is bad rather than good. Beebe suggests that these effects reveal the role of the concept of knowledge in flagging degrees of blameworthiness of norm violations.

Two other authors consider and criticise Craig's hypothesis that the function of knowledge attributions is to tag reliable informants. **Jennifer Lackey** argues that Craig's hypothesis is undermined by a phenomenon that has, she suggests, received insufficient attention from epistemologists, namely the phenomenon of attributions of knowledge to groups.  She considers three different kinds of paradigmatic group knowledge attributions and argues that such attributions systematically fail to identify or flag reliable informants.  One of Lackey’s arguments relies on Craig's further claim that a subject is a reliable informant with respect to the question whether p only if either p and the subject believes that p or not-p and the subject believes that not-p.  Lackey provides a number of cases in which although knowledge is plausibly attributed to a group, no account of group belief supports there being a reliable believer in Craig's sense.  On the basis of these cases, she argues that the notion of a reliable informant is better understood in terms of being a reliable testifier.  Lackey then argues, however, that even on this reading, there are paradigmatic cases of group knowledge attributions that fail to identify reliable testifiers.  Along the way, she considers but rejects two responses to her arguments: first, that an inflationary account of group attitudes can avoid the problems raised and, second, that Craig's thesis should be restricted only to individuals.  Finally, Lackey argues on behalf of her preferred reliable source of information view of knowledge attributions, according to which a central purpose of knowledge attributions, individual or group, is to identify or flag reliable *sources of information*.  This view provides conditions that are neither strictly necessary nor sufficient for proper knowledge attributions, but they purport to capture what is broadly defensible in spirit about Craig's account.

**Patrick Rysiew** makes the alternative suggestion that a central purpose of knowledge attributions is to certify information as being such that it may, or even should, be taken as settled for the purposes of one's practical and theoretical deliberations. One might think that this "certification view" would support some non-traditional account of knowledge such as contextualism or subject sensitive invariantism. For, whether one should rely on a proposition in one's practical deliberations varies with the stakes. However, Rysiew argues that the certification view is compatible with a moderate insensitive invariantist semantics for "know". He argues that the certification view and insensitive invariantism may be combined by distinguishing the semantic content of knowledge ascriptions from what they pragmatically convey. In particular, he suggests that knowledge ascriptions pragmatically convey that what is known can, in the context, be relied on in practical and theoretical deliberation. For Rysiew, his argument illustrates the difficulty of drawing conclusions about the semantics of knowledge ascriptions from facts about a prominent function of knowledge ascriptions. In his view, this difficulty is exacerbated by the fact that it is plausible that knowledge ascriptions serve a multiplicity of functions, some of which seem to more naturally go with an invariantist semantics and some of which seem to more naturally go with some kind of shifty semantics. Overall, he concludes that it is far from obvious that an invariantist semantics is in a worse position than a shifty semantics to accommodate the certification role knowledge ascriptions often play.

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1. Notice that non-indexical contextualists, such as Brogaard and MacFarlane, deny that the truth-*conditions* of knowledge ascriptions vary with conversational context. Instead they claim that only the truth-*values* vary with variation in the circumstances of evaluation of the knowledge ascription (MacFarlane 2005, Brogaard 2008). [↑](#footnote-ref-1)
2. It need not be so defended. For instance, sceptics will claim that the knowledge ascription in the low context is incorrect. [↑](#footnote-ref-2)