Editorial: Folk Epistemology.
The Cognitive Bases of Epistemic Evaluation

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Folk epistemology refers to a range of cognitive skills that involve epistemic concepts such as knowledge and truth. As human beings we are able to assess the truth of an utterance by another agent or whether an inference someone makes is valid. We can evaluate to what extent sources we acquire information from are reliable and whether new information we acquire should lead to belief revision. We consistently produce, in particular, epistemic evaluations. We can judge, for instance, that: "*p* is true", "it is probable that *p*", "*A* is justified in thinking that *p*", "*B* is trustworthy when she says that *p*", or "*C* is lying". Epistemology is the normative study of how such epistemic evaluations should be made. By contrast, the study of folk epistemology focuses on epistemic evaluations that people actually make and on the processes that produce them. It is a descriptive research project on the beliefs and intuitions people have about knowledge, truth, reasons and other epistemic notions, as well as a research project on the psychological and cognitive processes that sustain them. We use the term "folk epistemology" to specify that the scope of this notion is not just epistemology as traditionally understood by philosophers, but the epistemology that reflects how people make epistemic evaluations; the term "folk" also refers to an established tradition in psychology that investigates "naive" or "folk" theories that ground the cognition of specific domains: folk physics, for instance, as the cognition of physical objects, or folk psychology, as the cognitive ability to ascribe intentions, beliefs and desires to others.

Research on folk epistemology, or folk epistemologies, spans the study of the form and content of epistemic evaluations, as well as their cognitive underpinnings.

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1 Form and Content of Epistemic Evaluations

The present issue addresses a first set of questions that bear on the nature of epistemic evaluations. Epistemic evaluations can be linguistically expressed through evidentials such as "it seems that p"; but they can also take the form of assent or dissent of, say, communicated propositions. They can be tacit, embodied in practices of knowledge acquisition and production. They can be innately driven intuitive judgments. They can also take the form of explicit theories formulated by philosophers, theologians, or myths. More formally, one can ask whether epistemic evaluations are full-fledged representations, or simple mechanisms monitoring belief formation; whether they are meta-representations of embedded propositions or linguistic utterances; whether they are a subset of folk-psychological beliefs or probabilities associated with beliefs. Epistemic evaluations can bear on the truth value of a proposition or on the reliability of the cognitive mechanisms that produced such propositions. They can rely on core concepts, which include BELIEF or KNOWLEDGE. They can refer to the epistemic status of beliefs of others (Clement, this issue; Nurmsoo et al., this issue) or one's own intuitions about self-knowledge (Engel, this issue).

2 Processes and Cognitive Capacities Producing Epistemic Evaluations

A second set of questions that this issue aims to address bears on the social and cognitive underpinnings of epistemic evaluations, or on the processes that we rely upon to produce them. Processes that produce epistemic evaluations can, on the one hand, be grounded in culture and be of a cultural nature, they can take place and be developed through social interactions and over a temporal scale that extends beyond an individual life span. Social history of science is probably the research field that has most contributed to the understanding of the socio-cultural processes at work in epistemic evaluation (see for instance the studies of local tacit epistemologies in science by Shapin and Knorr-Cetina). These processes, on the other hand, can also be studied at a psychological level.

The focus of this special issue is on the psychological basis of epistemic evaluations: on the mental processes and the cognitive capacities at work in producing such evaluations. What kind of input is the human cognitive system using to form epistemic evaluations? Candidates for input discussed in the present issue include testimonies (Clement; Nurmsoo et al.), one's own beliefs (Engel), reasons and inferences (Mercier, this issue), statistical properties of one's linguistic environment (Reber, this issue). We can then ask what the role of meta-representations is (if any) in accounting for processes that produce epistemic evaluations. Are these processes conscious at all? Are these processes implemented by dedicated cognitive systems? Articles in this issue put forward several arguments in support of the existence of dedicated systems for epistemic evaluation—especially in light of the prominent role of knowledge acquired through communication in human beings. Mercier, Spicer (this issue), and Hardy-Vallée & Dubreuil discuss evidence that domain-specific and cross-cultural capacities might underpin evaluations of the *truth* of mental representations and the *reliability* of processes for belief revision.

The psychological bases of folk epistemology appear to be strongly dependent on folk psychology and mindreading abilities on the one hand and on metacognition (the ability to think about and/or monitor one's own cognitive processes) on the other hand. Folk epistemology is intimately connected to folk psychology insofar as both are capacities that process mental states. One may therefore argue that folk epistemology is just the part of folk psychology that deals with mental states about epistemic facts (such as truth or the consistency of a set of beliefs). The relations between folk psychology and folk epistemology are well investigated in the present issue: Clement and Nurmsoo et al., for instance, review developmental results on trusting behaviour in testimony. If trusting is modulated by the representation of the trustworthiness of the testifier, then it involves ascribing and understanding mental states of other agents. Likewise, Mercier and Hardy-Vallée & Dubreuil discuss the connections between folk epistemology and the adaptive advantages of being able to understand and predict the mental states of others (e.g. by trusting only those testimonies that are really likely to be true) as well as manipulating these mental states (e.g. by persuading other agents).

There are, however, reasons to question the reduction of folk epistemology to folk psychology. For instance, Engel argues that some epistemic intuitions regarding self-knowledge cannot be accounted for in terms of mindreading one's own mind. Also, rather than being a subdomain of folk psychology, folk epistemology can be thought of as a specific form of meta-cognition: one that is of a representational nature and involves representations of epistemic values while other metacognitive processes do not necessarily rely on or produce mental representations of epistemic valuation.

3 Normative Epistemology and Folk Epistemology

Philosophers have long studied epistemic evaluations from a normative perspective. Epistemology is the study of the conditions under which knowledge, rather than mere belief, is acquired. Epistemologists have thus pondered on the norms which, when complied to, justify belief formation. What are the relations between the norms described by epistemology and the actual psychological processes underpinning evaluation of truth and epistemic reliability? In this issue, Reber & Unkelbach; Sperber and Engel tackle specific aspects of this question.

The articles in this issue remain strongly connected with philosophical traditions also because they refer to theories, assumptions and case studies typically referred to by epistemologists. Yet they seek empirical evidence or formulate empirical hypotheses to contrast, complement or help articulate philosophical theories. They span issues such as self-knowledge (Engel), Gettier's problems (Spicer; Hardy-Vallée & Dubreuil), credulity (a question going back at least to Hume, see Clement and Nurmsoo et al.), but also the interpretive traditions (Sperber) and key philosophical notions such as "reason" and "rationality" (Mercier). Yet, all contributions are geared towards psychological theory and experimental evidence; as such they offer as a whole a naturalistic account of epistemic evaluations. They do so from several disciplinary lenses, spanning social epistemology; evolutionary, developmental and cognitive psychology; communication theory.

4 Overview of this Issue

The issue opens with a first series of articles setting the research agenda of folk epistemology in the broader context of normative social cognition and communication.

Hardy-Vallée and Dubreuil criticise the current segregation in research between studies focusing on epistemic theory and those focusing on epistemic intuitions and advocate an integrated approach to folk epistemology. They argue that folk epistemology, understood as the capacity by which we assess the validity of assertions, is typically deployed as part of the "Game of Giving and Asking for Reasons". As such it is a primarily social phenomenon and should be studied as a capacity that taps into the same social cognitive processes that help us make sense of the actions of other agents. Evaluating assertions, they propose, is equivalent to evaluating a specific class of intentional actions and our analytical and empirical tools deployed to study human understanding of intentional action should also be adopted to study folk epistemology.

The link between epistemic evaluative processes and social cognition is also analysed in *Mercier*'s contribution, which presents a radical proposal on the bases of reasoning. Arguing against traditional accounts of its function (a set of individual processes for acquiring true beliefs), Mercier submits that reasoning is a folk epistemological capacity whose function is to produce and assess reasons in communicative contexts. The primary function of reasoning is to manipulate other agents' beliefs through argumentation and avoid the risk of being deceived by monitoring others' arguments. Several empirical consequences of this hypothesis, both on individual and collective reasoning and decision-making, are reviewed in the article.

Spicer focuses on recent experimental results in the study of epistemic intuitions that show cultural variability. He identifies two possible accounts for cross-cultural variability of such intuitions: one that is consistent with the universality of folk epistemology and one that asserts that folk epistemology is culturally variable. Evidence that epistemic judgments vary across cultures, he argues, is consistent with the hypothesis that folk epistemology is universal because it is possible that the same cognitive architecture for folk epistemology—consisting of a large set of heuristics for knowledge ascription—may yield culturally variable epistemic judgments because the same set of heuristics are differentially triggered by culture-specific cues.

The second part of the issue explores the developmental aspects of folk epistemology with two contributions focussed on trust and testimony. How far can we track back in cognitive development the emergence of capabilities that help agents assess the validity of assertions and the reliability of agents that assert them? Is the ability to accurately ascribe knowledge the result of partially innate mechanisms that deploy earlier and systematically in infants and children as part of their cognitive development?

Clément reviews psychological results that help us understand how infants and children deal with testimonies and how they consequently update their beliefs. Contrary to the assumption that children are gullible—their attitude towards testimony being supposedly relatively blind and unsophisticated—Clément presents developmental evidence that reveals a variety of strategies used by young children to

assess testimonies, integrate information on the reliability of testifiers and perform consistency checks to verify the accuracy of testimonies and the trustworthiness of their sources. He concludes by suggesting how the development of children's folk epistemology may shed light on (and in turn be informed by) a well-known landmark in the acquisition of mind-reading capabilities, the 3-year-old's ability to pass the *False Belief Task*.

Nurmsoo, Robinson and Butterfill add a further contribution on the developmental aspects of folk epistemology by describing children selectivity in identifying good informants and reliable information. Articulating the empirical evidence on the parallel ontogeny of trust and mind-reading abilities, they review the developmental stages that determine children's ability to assess individual statements from other agents, to track others' long-term knowledge and expertise and eventually to map current mental states of other agents onto their overall reliability. Their conclusion is consistent with Clément's in representing children's folk epistemological abilities as sufficiently sophisticated to allow them to cope with both an informant's history of reliable testimony and with the varying contextual factors that determine a speaker's competence and accuracy as an informant.

The last three articles delve into specific case studies of folk epistemological capacities when embedded in communicative contexts and when targeted to self-knowledge.

Reber and Unkelbach discuss empirical results supporting a connection between the frequency of true statements in one's linguistic environment and the fluency with which we process them. They suggests that, since higher exposure is systematically associated with higher processing fluency, then fluency can be taken as a reliable cue to truth when hearers are exposed to true statements in their linguistic environments with a high frequency.

In "The Guru Effect" *Sperber* discusses the effects of the perceived authority of a source on the interpretation of obscure statements produced by that source. While the standard view takes epistemic evaluation as operating on understood propositions only, Sperber describes the effect of epistemic evaluation of the source on how obscure statements from this source are understood and interpreted. Epistemic evaluation, he submits, drives the very interpretation of what is communicated.

Engel also considers a specific case in which epistemic evaluations constitute the very content of one's beliefs rather than just a process by which one selects already well-formed potential beliefs. His case is self-knowledge and the relevant epistemic evaluation is that we have true knowledge of what we actually believe, we are "entitled" to self-knowledge. Reviewing the philosophical literature on this issue, Engel advocates a naturalist understanding of a constitutive view of self-knowledge. He thus sets a research agenda for the empirical study of the relations between self-knowledge and folk-epistemic intuitions about one's own beliefs.

The works published in this issue offer a series of key contributions framing a research programme on one aspect of human cognition that will definitely gain momentum in the coming years. The phenomena that form the subject of folk epistemology lie at the intersection of major, but still relatively segregated research fields, dealing with epistemic intuitions, social cognition, trust and reputation, testimony and communication. Research attempting at bridging these fields and

identifying possible shared cognitive mechanisms underlying epistemic evaluation functions is still in its early days. However, folk epistemology might be one of the distinctive features of human cognition as opposed to cognition in other species and as such play a prominent role in explaining human-specific aspects of cognitive skills. The effects of folk-epistemic evaluations on cognitive mechanisms (both individual and collective) also play a prominent role when considered in the context of the information society and in the light of a growing research interest in knowledge acquisition from unknown sources and mediated by information and communication technologies.