

Abstract for *Probabilistic Knowledge*

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Traditional theories of assertion and knowledge traffic in full beliefs. That grass is green, that you have hands, that you are not dreaming: these are propositions you can believe, assert, and know. In addition to these full beliefs, you have probabilistic beliefs. You have .5 credence that a certain coin landed heads, you have high credence that you have hands, and you have low credence that you are dreaming. How should theories of belief, assertion, and knowledge incorporate credences? This book defends three central theses. The first is a thesis in the philosophy of mind: we can believe probabilistic contents. The second is a thesis in the philosophy of language: we can assert probabilistic contents. The third is a thesis in epistemology: we can know probabilistic contents.

For example, consider your .5 credence that a certain coin landed heads. According to my third thesis, your .5 credence can be knowledge, in just the same sense that your full beliefs can be knowledge. Say you believe your friend Smith smokes, while you have .6 credence that Jones smokes and .3 credence that Brown smokes. Just as your full belief that Smith smokes can be knowledge, your .6 credence that Jones smokes can be knowledge, and so can your .3 credence that Brown smokes. The same goes not just for simple assignments of credence but for more complicated probabilistic beliefs, such as your belief that Jones is more likely to smoke than Brown, your belief that it is between .5 and .7 likely that Jones smokes, and the conditional probability judgment that if Smith smokes then it is fairly likely that Jones does too. These probabilistic beliefs can all be knowledge, namely *probabilistic knowledge*.

I give several kinds of arguments for my three central theses: independent arguments for each thesis, as well as arguments for each thesis that presuppose the other theses. The resulting theories of belief, assertion, and knowledge are strongest when accepted as a package. This package has implications for a wide range of philosophical questions, including the relation between full belief and credence, the correct analog of truth for probabilistic belief, what contents are represented in perceptual experience, whether knowledge is subject to pragmatic encroachment, how we should respond to peer disagreement, and whether decisions about transformative experiences constitute a problem for standard theories of rational decision making.

Chapter 1 of the book manuscript begins by distinguishing two ways of thinking about probabilistic beliefs. Probabilistic beliefs are often taken to be complex attitudes with simple contents. I argue that they are simple attitudes with complex contents. For instance, your .6 credence that your friend Jones smokes is not the *believing to degree .6* attitude toward the proposition that Jones smokes, but rather the *believing* attitude toward

a content represented by a set of probability spaces. In chapter 2, I give three foundational arguments for the claim that we can assert probabilistic contents. I contrast my theoretical arguments with most anti-propositionalist arguments developed in recent literature on epistemic modals, where the latter arguments rely on controversial felicity judgments about sentences containing epistemic vocabulary.

I develop my probabilistic theory of assertion by defending a formal semantics for epistemic modals in chapter 3 and indicative conditionals in chapter 4. This semantics improves on existing dynamic and expressivist semantic theories in virtue of explaining important facts about how modals and conditionals interact. Chapters 3 and 4 make self-standing contributions to formal semantics. At the same time, they illustrate the probabilistic theory of assertion defended in chapter 2, and they establish results that play a central role in my defense of probabilistic knowledge in chapter 7.

Chapter 5 introduces and defends the thesis that we can know probabilistic contents. In fact, we can get probabilistic knowledge in all the same ways we get propositional knowledge, including testimony, perception, inference, memory, and *a priori* reflection. Probabilistic beliefs can fail to be knowledge in virtue of intervening or environmental luck. They can count as knowledge according to traditional analyses of knowledge, and they can have the essential virtues that knowledge is traditionally taken to have. Chapter 6 answers a natural worry for my theory of knowledge, namely that probabilistic contents cannot be *true* and hence cannot be knowledge. In brief, ascriptions of probabilistic knowledge themselves have probabilistic contents, and their contents entail the contents of the knowledge they ascribe. If you know that Jones might smoke, for instance, then it is indeed true that Jones might smoke, which is just to say that Jones might smoke.

Chapter 7 answers another worry for my theory of knowledge. When you have high credence that Jones smokes, you may admit that it might turn out that Jones does not smoke and that your high credence that Jones smokes is therefore *wrong*. How can your high credence be knowledge, when you cannot rule out that it is wrong? I dissect this informal argument, distinguishing several skeptical challenges for probabilistic knowledge. Some challenges are simply versions of familiar skeptical arguments, addressed by probabilistic versions of familiar anti-skeptical strategies. Other challenges are unique to probabilistic knowledge, addressed by the theory of epistemic vocabulary defended in chapters 3 and 4. A final challenge is addressed by a theory of epistemic vocabulary under intensional operators. This theory provides an account of how probabilistic knowledge can have certain modal properties, such as safety and sensitivity.

The final three chapters of the book apply my theory of knowledge to a range of philosophical, political, and legal problems. I defend a probabilistic knowledge norm for credences, and I argue that this norm has useful consequences for current debates about higher-order evidence. I also defend probabilistic knowledge norms for action, thereby

reconciling the claim that what you should do depends on your credences with the claim that it depends on your knowledge. I defend a probabilistic knowledge account of legal standards of proof. For instance, I argue that the civil standard of proof requires that the factfinder know that the defendant is more than .5 likely to be liable in order to return a verdict of liability, and I argue that this explains why merely statistical evidence is not sufficient to sustain a verdict. Finally, I use probabilistic knowledge to spell out an argument against racial profiling. According to this argument, acts of racial profiling are not merely moral failures, but also exhibit a distinctively epistemic flaw. Insofar as these several applications of my theory are compelling, they constitute further arguments in support of my central thesis that probabilistic beliefs can indeed be knowledge.