Abstract for *Probabilistic Knowledge*

Sarah Moss

ssmoss@umich.edu

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 that you can believe, assert, and know. In addition to these full beliefs, you have probabilistic beliefs. You have .5 credence that a certain fair coin landed heads, you have high credence that you have hands, and you have low credence that you are dreaming. How should our theories of assertion and knowledge incorporate probabilistic beliefs? This book manuscript defends two central theses. The first thesis is that just as contents of belief can be probabilistic, the same goes for contents of assertion. The second thesis is that the same goes for contents of knowledge.

I give four kinds of arguments for my two central theses: independent arguments for each thesis, as well as arguments for each thesis that presuppose the other thesis. The resulting theories of 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. I give three foundational arguments for the claim that we can assert probabilistic contents. I contrast my theoretical arguments with arguments developed in recent literature on epistemic modals, where the latter arguments rely on more empirical claims about ordinary language use of epistemic vocabulary.

I develop my probabilistic theory of assertion by defending a formal semantics for epistemic modals in chapter 2 and indicative conditionals in chapter 3. This semantics improves on existing dynamic and expressivist semantic theories in virtue of explaining important facts about how modals and conditionals interact. Chapters 2 and 3 make self-standing contributions to formal semantics. At the same time, they illustrate the
probabilistic theory of assertion defended in chapter 1, and they establish results that play a central role in my defense of probabilistic knowledge in chapter 6.

Chapter 4 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 5 answers a worry for my theory of knowledge, namely that probabilistic contents cannot be true and hence cannot be contents of factive mental states. 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 returns to answer further questions about factivity by developing 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.

Chapter 6 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 2 and 3. As long as we can use substantive epistemic vocabulary and we can have any knowledge at all, we can have substantive probabilistic knowledge.

Chapters 8 and 9 apply my theory of knowledge to a range of philosophical, political, and legal problems. The knowledge norm for probabilistic belief has consequences for current debates about higher-order evidence and rational reflection principles. I defend multiple probabilistic knowledge norms for action, reconciling the claim that what you should do depends on your credences with the claim that it depends on your knowledge. I argue that probabilistic knowledge plays an important role in explaining what is wrong with racial profiling, and that we should understand legal standards of proof as requiring probabilistic knowledge. Insofar as these applications of my theory are compelling, they constitute further arguments in support of my central thesis that probabilistic beliefs can indeed be knowledge.