## Belief, Credence, and Contextualism

## Dissertation Prospectus

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## Abstract

There are two notions of belief commonly used by philosophers: a binary notion commonly employed by traditional epistemologists; and a degreed notion commonly employed by decision theorists and Bayesian epistemologists. So far, there is no widely accepted unified account of both notions of belief. The so-called Lockean thesis, according to which binary belief is belief to very high degree, leads to difficult paradoxes. Two responses to this situation are typical—either rejecting the possibility of a unified account (and, often, the usefulness of the binary notion of belief), or accepting the Lockean thesis despite the paradoxes it entails—but rarely is an alternative unified account suggested. Such an alternative is what I intend to supply.

I will draw on arguments from the literature on epistemic contextualism to argue that our (binary) beliefs change much more frequently than is usually acknowledged. What one believes depends on what possibilities one is taking seriously in a given context. This account, which explains binary belief in terms of degrees of belief in a particular context, is essentially analogous to subject-sensitive invariantism (SSI) about knowledge. I will argue that this account of belief is not susceptible to the problems the Lockean thesis leads to, and is not susceptible to some of the standard criticisms of contextualism and SSI about knowledge.

## Literature Review

*1. Belief and Subjective Probability*

The subjective interpretation of probability was first developed, independently, by Ramsey and by De Finetti. There are, of course, differences in the way the two developed the subjective interpretation; but except where noted below, these are irrelevant to our concerns. Both authors agree that at least some probability statements express degrees of belief. Under this interpretation, for me to say that the probability of *p* is close to 1 is just to say that I am quite sure that *p* is true; to say that the probability of *p* is close to 0 is to say that I am quite sure that *p* is false; to say that the probability of *p* is close to 1/2 is to say that I am equally doubtful of *p*’s truth and *p*’s falsity. Generally, the higher the probability of *p*, the more certain I am that *p* is true, the less I doubt it, the more surprised I would be if it turned out to be false.

But this is not quite enough to justify postulating *numerical* degrees of belief. Perhaps we can compare our degrees of belief in different propositions to arrive at an ordering, but we need more to arrive at a measure of the difference between these degrees of belief. For example, we might say that I have higher degree of belief that tossing this fair coin will give heads than that rolling this fair die will give a six, but what does it mean to say that my probability of heads is 1/2, while my probability of a six is just 1/6? This is where each author invokes his version of the betting test. According to the betting test, if I would accept a bet that costs *xS*, and pays *S* if *p* is true, for some stake *S* which could be positive or negative,[[1]](#footnote-1) then my degree of belief in *p* is *x*. (The rationale for the test is that believing *p* to degree *x* would produce the following expected utility calculation. Accepting the bet has probability *x* of yielding *S* – *xS* = (1 – *x*)*S*, and probability (1 – *x*) of yielding –*xS*. Thus, the expected value of the bet is *x*(1 – *x*)*S* + (1 – *x*)(–*x*)*S* = 0.)

Of course, for the betting test to work, we must abstract away from other reasons why an agent might reject a bet, such as risk aversion when the stakes are too high, or “reluctance to bother about trifles” when the stakes are too low, to use Ramsey’s phrase, or principled objections to gambling itself. Ramsey and De Finetti deal with these worries in different ways. Ramsey, first of all, takes gambling to be involved in just about every decision we make in our ordinary lives: choosing to go to the train station means betting that a train will really run; if one did not have sufficiently high degree of belief in that proposition, one would stay home or find some other means of travel, i.e., reject the bet. This deals with the worry about general reluctance to gamble. Second, Ramsey formulates his version of the betting test in terms of absolute utilities, rather than actual dollars. In fact, Ramsey derives both an agent’s degrees of belief and her utilities from her preferences among worlds, provided these preferences obey certain axioms of rationality. This deals with the worry about the stakes of a bet being too high or too low. De Finetti (1980), on the other hand, just stipulates that the betting test must use stakes (in actual dollars) that are neither too large nor too low, and that the agent is compelled to take the bet, but is allowed to fix the odds, i.e., to fix the value of *x*. However, in a 1964 footnote to that paper, De Finetti endorses Ramsey’s use of absolute utilities instead of money.

Richard Jeffrey largely endorses the De Finetti/Ramsey picture of subjective probability. He writes (1956) that it is a mistake to see scientists as determining which hypotheses we ought to accept; rather, scientists determine what degrees of belief we ought to have in the hypotheses they study. Accepting a hypothesis, for Jeffrey, means treating it as true in all situations. The position he is attacking is that scientists should, first, determine the probabilities of various hypotheses, and, second, determine based on these probability judgments which hypotheses we ought to accept. The first stage—the probability judgments—plug in to expected utility calculations when we are presented with choices on which the truth or falsity of a hypothesis might bear. But treating a hypothesis as true in all situations (and all choices) would mean ignoring these calculations. For example, consider a doctor deciding whether to accept the hypothesis that drug X is a safe and effective treatment for condition Y. Whether accepting this hypothesis maximizes expected utility depends on the circumstances of its application: if the decision is whether to treat a single, terminally ill patient after exhausting all other treatment options, the doctor need not have an extremely high degree of belief in the hypothesis to act on it; on the other hand, if the decision is whether to recommend the hospital adopt a policy of using drug X to treat all patients with condition Y, the doctor must have a much higher degree of belief in the hypothesis for acting on it to maximize utility (cf. Jeffrey 1956: 20-21). Thus, if we suppose that the doctor ought to accept or reject the hypothesis across all scenarios based just on a probability judgment, and if her degree of belief in the hypothesis is high enough to accept it in the single-patient scenario, but not high enough to accept it in the hospital-policy scenario, she will fail to maximize utility in one scenario or the other.[[2]](#footnote-2)

Jeffrey concludes that scientists should stop at the first stage identified above: they should make probability judgments, and go no further. Jeffrey (1968) extends this claim from science to everyday rationality: he argues that we ought to do away with the concept of knowledge, and only worry about rational degrees of belief, understood probabilistically. For Jeffrey, pursuit of knowledge means pursuit of certainty; and certainty in a hypothesis means accepting it across all scenarios, which we have seen leads to problems when there is any reason to doubt a hypothesis. The failure of the Cartesian project makes it clear that, in general, we should expect to have some reason to doubt almost any non-trivial hypothesis. Instead of seeking sources of certain knowledge, then, we ought to concern ourselves with developing the skill of making correct probability judgments (1968: 40-41).

A common thesis about the relation between degrees of belief and full belief is the so-called Lockean thesis, finding its source in Locke’s *Essay*, especially Book XV, chapters 15 and 16. The Lockean thesis is a threshold view, holding that it is rational to fully believe a proposition just in case one’s (rational) degree of belief in it is high enough. This is a natural enough view—and indeed it is suggested by the very terms “degree of belief” and “full belief”—but it runs into paradoxes, notably those of the lottery and the preface. Before explaining these paradoxes, we should point out that it is rarely claimed that the correct threshold is 1, i.e., that rational belief requires certainty. For, according to the betting test, belief in *p* of degree 1 would mean that one would accept a bet on p at any odds; and it is very rare that it would be rational to accept a bet at any odds on a non-tautological proposition. It is, I think, rational for me to believe that I am not a brain in a vat if it is rational for me to believe anything, but I would not accept a bet at infinitely long odds on that proposition, because I have at least a sliver of doubt in it—which is why skepticism has been of interest for so long. If we set the threshold for rational belief at 1, we run the risk of allowing no non-trivial rational beliefs. Let us, then, agree that the threshold for belief must be less than 1, and move on to consider the lottery and preface paradoxes.

The lottery paradox goes back to Kyburg (1961). We are to imagine a rational agent who holds a ticket in a fair lottery with *n* tickets total. The agent knows that each ticket has a one in *n* chance of winning, and that exactly one ticket will win. Therefore, the agent’s (rational) degree of belief in the proposition that his ticket will lose is (*n* – 1)/*n*. This will be a very high degree of belief if *n* is very large; and we can choose *n* as high as we like. Suppose that *n* is large enough that the agent’s degree of belief in the proposition that his ticket will lose is high enough to meet the Lockean thesis’s threshold, so that it is also rational for him to believe that his ticket will lose. But he has exactly the same evidence about his own ticket that he has about each of the remaining (*n* – 1) tickets, so he will have just the same degree of belief that each of them will lose; so it will be rational for him to believe that each of them will lose. Thus, it is rational for him to believe of each ticket that it will lose; but by hypothesis, since he knows that the lottery is fair, it is rational for him to believe that it is false that each ticket will lose. Our rational agent is forced into believing a contradiction.

The preface paradox was first stated by Makinson (1965). Here we imagine an author who has written a scholarly work, which we can think of as a series of claims, each of which she believes, and has excellent evidence for. But because for each claim, there is some chance that she is mistaken about that claim, and because there are very many of these claims, she realizes it is very unlikely that she was not mistaken about any of them. Therefore, in the preface to the book, she writes that she believes everything she has written in the book, but she also believes that at least one of her claims is false. This seems perfectly rational—and, on the Lockean thesis, it is—but it means believing an inconsistency. For she believes each claim in the book, but also believes the negation of their conjunction.

Foley (1993: 165-170) sees the lottery and preface paradoxes as generating a problem for the Lockean thesis *plus* a “conjunction rule,” to the effect that if it is rational to believe *p* and it is rational to believe *q*, then it is rational to believe the conjunction *p*&*q*. Rather than give up the Lockean thesis, he gives up the conjunction rule. It may be rational, he says, to believe that *p* and that *q*, yet not believe that *p*&*q*. This, with the Lockean thesis, nicely accounts for the preface paradox: it can be rational to believe all the book’s claims individually because one has high enough degree of belief in each, but disbelieve their conjunction because one’s degree of belief in the conjunction—the product of one’s degrees of belief in the individual claims, if one’s degrees of belief are coherent—is too low.

But, Foley acknowledges, rejecting the conjunction rule creates new problems. For example, it is no longer clear what one’s attitude ought to be to the deductive consequences of one’s beliefs; in particular, *reductios* seem to lose their teeth if there is nothing wrong with having an inconsistent set of beliefs like {*p*, *q*, ~(*p*&*q*)}. Foley has two main lines of response to these objections. First, he points out that there are several attitudes closely allied to belief for which the conjunction rule does hold: presuming, positing, assuming, supposing, hypothesizing. What he singles out as the salient difference between these attitudes and belief is that they are context-relative, and belief is not.[[3]](#footnote-3) Second, and more importantly, Foley denies that it is always a significant cost that one’s beliefs are inconsistent. Provided that the inconsistency comes from a set of beliefs (a) which is not so theoretically “tight” that they tend to stand or fall together, (b) the weakest individual member of which has strong support, considered on its own, and (c) which is relatively large, then the consequent inconsistency does not provide a strong argument against any individual belief. Without a strong argument against any individual belief, and when each belief is well supported on its own, it is not obvious that the rational response to the discovery of inconsistency should be to reject any of the beliefs giving rise to that inconsistency. This is, of course, not to say that inconsistency is not to be avoided. Rather, Foley just means to claim that inconsistency among a large and theoretically loose set of beliefs is not by itself sufficient to make it irrational to hold those beliefs.

Maher (1992) is one of the few to see flaws in the Lockean thesis, and look for another way of reconciling full belief with degrees of belief rather than embracing one concept at the expense of the other.

Maher treats acceptance[[4]](#footnote-4) as an action, the rationality of which is evaluated the same way as any other: it is rational to accept *p* iff doing so maximizes expected utility. What’s special about acceptance is that the utilities involved are *cognitive*. Maher writes that there are two competing considerations in determining the cognitive utility of accepting various hypotheses. First, we value true hypotheses over false ones; and second, we value informative hypotheses over uninformative ones. These are competing considerations in that seeking truth pushes us to accept more probable, and correspondingly weaker, hypotheses, while seeking informativeness pushes us to accept stronger ones, which are correspondingly less probable. For example, suppose we are trying to determine the value of some physical constant *x*. Let *A* be the proposition that *x* is between 1.5 and 2.5; let *B* be the proposition that *x* is between 1.75 and 2.25. *A* is more likely to be true than *B*, since the latter implies the former; but *B* is more informative than *A*. The informativeness of *B* makes it more beneficial to accept *B* in case *B* is true than it is to accept *A* in case *A* is true. To decide which hypothesis we ought to accept, we determine the probability that each is true, and use this probability together with the utilities determined by the respective informativeness of *A* and *B* to determine the expected utilities of accepting one hypothesis or the other. (Maher, like Ramsey, uses a representation theorem to derive utilities and probabilities from preferences, provided the preferences meet certain axioms of rationality.)

*2. Contextualism in Epistemology*

Contextualism in epistemology is a thesis about the semantics of “knows”. Contextualists hold that the truth conditions of knowledge attributions (“*S* knows that *p*”) vary with facts about the context of their utterance. Just what the relevant facts are depends on the particular contextualist view under consideration; but contextualists commonly suppose that, for example, the salience (to the attributor) of alternatives to *p* means that *S* must be able to rule out those alternatives for “*S* knows that *p*” to be true. There are two central reasons for accepting contextualism, which I will describe below: because contextualism provides the best treatment of the linguistic data in examples such as the Bank Case (DeRose 1992: 913) and the Airport Case (Cohen 1999: 59ff); and because contextualism can explain both why skeptical arguments are persuasive and why they are flawed.

First, let us look at Cohen’s Airport Case, taking it as a representative of the range of cases contextualists have offered to show that our everyday use of “knows” is best explained by a contextualist semantics.

Mary and John are at the L.A. airport contemplating taking a certain flight to New York. They want to know whether the flight has a layover in Chicago. They overhear someone ask a passenger Smith if he knows whether the flight stops in Chicago. Smith looks at the flight itinerary he got from the travel agent and responds, “Yes, I know—it does stop in Chicago.” It turns out that Mary and John have a very important business contact they have to make at the Chicago airport. Mary says, “How reliable is that itinerary? It could contain a misprint. They could have changed the schedule at the last minute.” Mary and John agree that Smith doesn’t really *know* that the plane will stop in Chicago. They decide to check with the airline agent. (Cohen 1999: 59)

Cohen goes on to argue that we would ordinarily consider both Smith and Mary to be speaking truly. That is, when Smith claims to know that the flight stops in Chicago, he says something true, and when Mary says that Smith does not know that the flight stops in Chicago, she also says something true. The contextualist explains these apparently conflicting verdicts by assigning different truth conditions to the two knowledge ascriptions. Because the practical “stakes” are higher for Mary and John than they are for Smith, the alternative possibilities Mary mentions (a change in the schedule, a misprint) are salient in their conversational context, but they are not salient in Smith’s conversational context. Thus, Mary’s claim that Smith does not know is true because Smith cannot rule out possibilities salient to Mary; and Smith’s claim to know is true because there are no alternative possibilities salient to him which he cannot rule out.[[5]](#footnote-5)

What is distinctively contextualist about this line of reasoning is that it explains the verdicts on Smith’s and Mary’s statements *semantically*. The two utterances are both true, despite the apparent contradiction, because the reference of “knows” changes from one context to the other. Smith expresses a proposition about one kind of knowledge relation, Mary a proposition about a different relation.

Opponents of contextualism such as Rysiew (2001) and Stanley (2000, 2004) respond not by disputing Cohen’s intuition that Mary and Smith both speak truly, but by explaining the apparent contradiction through pragmatic, not semantic, differences in the way the two speakers use “knows”. Thus, Stanley argues that “knows” does not fit any of the established patterns of contextually variant semantics: it is not an indexical like “I” or “here”; it is not a relational term like “local” or “enemy”;[[6]](#footnote-6) and it is not gradable like “flat” or “tall”. (However, “justified” is gradable, and contextualists such as Cohen (1988: 97) sometimes claim that this makes “knows” gradable as well.) This suggests that, if there is an alternative pragmatic explanation for the difference in what Mary and Smith express by “knows,” it is to be preferred to a semantic (contextualist) explanation. For the semantic explanation begins to look *ad hoc* if it involves describing “knows” as a linguistically unique item, rather than a species of a more general phenomenon. Rysiew then, attempts to provide a pragmatic re-interpretation of the Airport Case and its ilk.

Next, we turn to the contextualist response to skepticism. Here is a typical skeptical argument:

1. (1) *S* does not know that *S* is not a handless brain in a vat.
2. (2) If *S* knows that *S* has hands, then *S* knows that *S* is not a handless brain in a vat.

Therefore, (3) *S* does not know that *S* has hands.

According to the contextualist, the question of whether statements (1) and (3) express true propositions depends on the context in which they are evaluated, since they are both (negated) knowledge attributions. In contexts where skeptical possibilities are salient, both will express truths; in ordinary contexts, both will express falsehoods. What makes skeptical arguments so compelling is that an utterance of (1) is generally sufficient to make skeptical possibilities salient. Thus, (1) will always express a true proposition, since (as we may concede to the skeptic) no one has positive reason to believe that she is not a disembodied brain in a vat having experiences as of being embodied. What makes skeptical arguments not only compelling but troubling is that (3) can be used in ordinary contexts to express what we ordinarily take to be a false proposition, that *S* does not knowordinary that *S* has hands. ­ But the skeptical argument (1)-(3) does not establish the truth of that proposition—rather, it establishes that *S* does not knowskeptical that *S* has hands. (Here, I use “knowordinary” to refer to the knowledge relation expressed by the word “know” in ordinary contexts, and “knowskeptical” to refer to the knowledge relation expressed by the word “know” in contexts where skeptical possibilities are salient.) Because both propositions are expressed by utterances of the same sentence, the skeptical argument (1)-(3) seems to establish that *S* does not knowordinary that *S* has hands, which would indeed be troubling. According to the contextualist, this is just a mistake, though an understandable one.

In short, then, the contextualist response to skepticism has it that skeptical arguments, if sound, do not conflict with our everyday knowledge attributions. Critics of contextualism (Rysiew 2001, Bach 2005, Williamson 2005) complain that this makes skepticism out to be too easy a problem. Despite the contextualist’s claim to be taking skepticism seriously, the resolution amounts to supposing skeptics and dogmatists to be talking past one another. One would then expect that, if it be made clear what each party means by “know,” the debate would evaporate; but if we give the skeptical problem the respect it deserves, we should expect instead that the debate will continue, with the skeptic and dogmatist arguing over the *correct* or *real* meaning of “know”. Furthermore, the contextualist solution requires postulating that we are very often mistaken about what we mean by what we say—anyone persuaded by a skeptical argument must be confused about what propositions are expressed by its premises and conclusion (Schiffer 1996, Rysiew 2001, Bach 2005).

The alternative to contextualism is invariantism. Invariantists hold that the truth conditions of knowledge attributions do not vary with conversational context in which they are uttered. There are two main flavours of invariantism: ordinary invariantism, the consensus view before contextualism became a topic of debate; and subject-sensitive invariantism (hereafter, SSI), a novel position recently endorsed by Hawthorne (2004) and Stanley (2005a). Since SSI is an invariantist position, it rejects the contextualist's semantic thesis, that “knows” has shifting truth conditions across different contexts of utterance. What separates SSI from ordinary invariantism, on the other hand, is that it takes knowledge to depend on factors traditionally considered non-epistemic. Thus, one version of SSI might hold that whether a subject knows that *p* depends not only on whether *p* is true, whether the subject believes that *p*, and what evidence the subject has for *p*, but also on how practically important the truth of *p* is for the subject. For example, in the Airport Case above, it is much more important for Mary and John whether the flight stops in Chicago than it is for Smith, and so a subject-sensitive invariantist might require Mary and John to meet a higher evidential standard than Smith in order to know that the flight stops in Chicago.

Why SSI? SSI is something of a compromise between contextualism and ordinary invariantism; the hope is to hold on to some of the benefits of contextualism without having to take on its radical semantic claims. As mentioned earlier, Stanley (2000, 2004, 2005a, esp. chs. 2-3) argues that examples like the Airport Case do not show that “knows” has a contextualist semantics, but he does think they show that knowledge is sensitive to facts about the subject's practical environment not ordinarily accounted for in theories of knowledge. Stanley (2005a: 125-130) also argues that the subject-sensitive invariantist can run a plausible version of the contextualist response to skepticism: epistemologists don't know that they have hands, because the truth of skepticism is of practical importance for them; but ordinary people don't have to worry about brains in vats, and so can know that they have hands. SSI is still radical, compared with ordinary invariantism, but it is radical as a theory of knowledge (or rather, a family of theories) rather than as a semantic thesis: it is about knowledge, not about “knows”.

# Proposal

Degrees of belief, particularly as identified with subjective probabilities or “credences”, are the central concept in Bayesian epistemology and in decision theory. These two fields examine, respectively, how one ought to update one’s credences as one gathers evidence, and how one ought to act based on assignments of probability to states of affairs and of utilities to states of affairs coupled with choices. Both fields boast great explanatory success. But neither has any place for a binary concept of belief—according to which either one believes that *p* or one does not, and that is the end of the story; and belief is generally considered a prerequisite for knowledge, which is what non-Bayesian epistemologists get most excited about. Nor have most theories of knowledge much, if anything, to say about degrees of belief. It would, then, be desirable to give some account of binary belief (or “full belief”, or “belief-full-stop”) in terms of credences, or vice versa, so as to relate disparate ways of reasoning about rational action and evidence-gathering. As we shall see shortly, there have been attempts from philosophers working on both sides of the divide between our two belief-concepts to bridge the gap, but none have been quite successful.

One clarifying point before we begin to look for solutions to our problem: the problem is to reconcile the binary and degreed notions of *belief*, not of *rational belief*. That is, a solution to our problem needs to tell us what it means to believe that *p*, spelled out in terms of degrees of belief in *p*, or vice versa. Though our interest in notions of belief may largely stem from antecedent interest in rationality, we must be able to say what it is to believe before we can say what it is to do so rationally. It is important to keep this distinction in mind, for we shall see that some candidate solutions to our problem are undermined by counterexamples involving agents who, intuitively, believe irrationally; but to believe irrationally is still to believe, and so for our purposes, such cases are on par with cases of rational belief.

There is a solution to the problem suggested by the very labels sometimes used for the concepts in question, “full belief” and “degrees of belief”: full belief is belief to the highest degree, or at least to very high degree. But this solution (often called the *Lockean thesis*) is open to many counterexamples (see, e.g., Maher 1992: 133-138; Foley 1993: 165-170). These generally turn on the close connection between credences and betting behaviour (Ramsey 1926, de Finetti 1980): if one believes that *p* to degree *x*, then one will consider fair a bet that pays (1–*x*)*S* if *p* is true and –*xS* if *p* is false, for some suitable stake *S*. It follows, therefore, that if one believes a proposition to degree 1, then one should consider fair a bet on that proposition at infinite odds—a bet that pays nothing if the proposition is true, but costs some amount if the proposition is false. This makes it doubtful that we commonly believe very much at all to degree 1, so we move to suppose instead that to believe is to believe to a degree above some threshold.

Now consider the owner of one ticket in a fair lottery of *n* tickets. If the ticket owner knows the lottery is fair, and knows how many tickets there are, we can expect she will have a credence of 1/*n* that her ticket will win; yet it is far from inconceivable that she still might not believe her ticket is a loser, however high *n* might be (Kyburg 1961). Indeed, cases are common of actual lottery ticket holders who do not believe[[7]](#footnote-7) their tickets will lose, in the face of extremely long odds. (Remember, it is no defence of the Lockean thesis to point out that these ticket holders are irrational.) This shows that high degree of belief is not sufficient for full belief.

Against the corresponding necessity claim, consider those lottery ticket holders who, despite a clear appreciation of the probability of any ticket winning, “have a feeling” that their numbers are lucky, a feeling strong enough that they believe they will win this time. Or, for those who doubt superstition’s power to deceive, consider the following, a modification of the preface paradox (Makinson 1965). Consider a scholar who has written a long book, consisting of a large number of claims. The author has diligently researched each claim, and believes each to a very high degree; she also believes each claim in the binary sense. This, I claim, entails that she believes the conjunction of all the claims in her book (contra Foley and others; I will defend this claim in the dissertation). However, when offered a bet at even odds but high enough stakes that she must take it seriously (say, a bet offered by a psychotic editor with a history of responding violently to false claims, including false modesty in prefaces), she would prefer to cast her lot on there being a mistake somewhere in the book rather than on its flawlessness: she has low credence in the conjunction of the claims in her book—less than 0.5, in fact. (Note it will not do to insist that her betting disposition implies disbelief in the conjunction, for this is just to presume the Lockean thesis.) Thus, high degree of belief is not necessary for full belief.

The failure of the Lockean thesis (*pace* Foley 1993) has not led to many attempts to find another way of linking credences with full belief (Maher 1993 is an exception). Rather, it most often leads to declarations that one concept or the other should be abandoned: Jeffrey (1968), Carnap (1968), Earman (1992) and Maher (1993) all reject belief (or “acceptance”[[8]](#footnote-8)) as a valuable notion. But things do not look so grim to me. I think we can bridge the gap between full belief and credences by using resources from the literature on contextualism about knowledge.

Knowledge-contextualists such as Cohen (1988, 1998, 1999), DeRose (1995, 1999) and Lewis (1996), claim that the truth conditions of “*S* knows that *p*” vary with the conversational context in which the sentence is uttered. That is, whether “Keith knows that the bank will be open on Saturday” depends not only on Keith’s epistemic position with respect to the proposition that the bank will be open on Saturday, but also on facts about the speaker (*qua* attributor), such as what alternative possibilities are salient to her at the time of utterance. Arguably less radical than contextualism is subject-sensitive invariantism (SSI), as defended in Hawthorne (2004), who calls the view “sensitive invariantism”, and Stanley (2006), who calls the view “interest-relative invariantism”. According to SSI, the truth conditions of “*S* knows that *p*” do not vary with the context of utterance—and so, as a semantic thesis about “knows” SSI is orthodox—but the standards for knowledge will depend on non-evidential facts about the subject of the sentence. In particular, proponents of SSI typically consider the standards for knowledge in a given situation to depend on how practically important the proposition under consideration is for the subject.[[9]](#footnote-9) If Keith needs to be able to get to the bank on Saturday to make sure a down payment on a new house goes through, the evidential standard he must meet in order to count as knowing that the bank is open on Saturday will be higher than it would be if his practical interest in the proposition is just that it would be more convenient to get his banking done on Saturday than waiting until Monday.

To solve the problem of credences and full belief, I borrow elements from both contextualism and SSI about knowledge, and bring them to bear on belief itself. I will argue that to fully believe a proposition is to give it probability 1 in a given situation (or perhaps to give it very high probability; this is a detail whose consequences I am still exploring); and that one’s probability assignments will vary with non-evidential facts, including both the salience of alternative possibilities and the practical importance to the believer. Like the subject-sensitive invariantist, I do not require the truth-conditions of “*S* believes that *p*” to vary with facts about the speaker; and like the contextualist, I hold salience to make a difference to whether one believes. The counterexamples to the Lockean thesis mentioned above are no longer problematic: the optimistic lottery ticket holder takes the possibility of winning seriously, and so does not assign probability 1 to the proposition that the ticket will lose; when considering one of her book’s claims, the diligent scholar is certain that she has not made a mistake, but when considering the entire book in writing the preface, she takes seriously the possibility of error because there are so many more opportunities for it; and finally, it is plausible that we commonly give many propositions probability 1 in situations that do not involve considering a bet at infinitely long odds—offering such a bet will naturally make the subject take even the most remote possibilities seriously. (A consequence of adopting this solution is a loosening of the tie between credences and betting behaviour.)

Contextualism about knowledge is still a hotly debated topic, and so before drawing on this analogy to solve the problem of credences and full belief, I shall devote a chapter to examining how the standard objections to knowledge-contextualism and knowledge-SSI apply to belief-contextualism and belief-SSI. Despite the fact that, as I have said, my solution to the problem of credences and full belief does not require endorsing belief-contextualism, some of the objections to knowledge-contextualism do not hold much weight against belief-contextualism (e.g., there are more natural “hedging” locutions available in response to a challenge to a belief ascription than to a knowledge ascription; belief puts weaker constraints on practical reasoning than knowledge does; belief does not have as close ties to epistemic modals as knowledge does). Although I have no theoretical need to defend belief-contextualism, it is worth clearing the ground for this as well as belief-SSI, in case others find reason to be belief-contextualists.

One of the difficulties belief-SSI will face is that it takes everyone’s beliefs to change radically across contexts. Foley (1993), for example, explicitly denies that belief should behave this way; and in arguing that we should stop worrying about acceptance, Jeffrey (1956) takes his targets to think scientists ought to determine which hypotheses we should accept across all contexts. I shall have to argue that the “belief” in belief-SSI deserves the name, that it captures enough features of our intuitive notion of belief. Furthermore, the variation in our beliefs postulated by belief-SSI raises questions about how we are to understand belief reports. One would like to think that in uttering “*S* believes that *p*” one is expressing a more lasting condition of *S* than that *S* is for the moment not taking seriously outrageous skeptical counterpossibilities to *p*. Otherwise, it is hard to see how anyone other than mind-readers is ever justified in attributing beliefs to others.

**Chapter Outlines**

### Introduction

### Chapter One: Credences and Binary Belief: The Problem

Standard features of accounts of credences and of binary belief are summarized. Previous attempts to interconnect credences and binary belief are explained and assessed, as well as arguments for abandoning the binary concept.

### Chapter Two: Prospects for a Contextualism about Belief

Objections to contextualism about knowledge are surveyed and appraised as objections to contextualism about belief.

### Chapter Three: Credences and Full Belief: A Solution

Belief-SSI is defended as a means to a unified theory of credences and full belief.

#### Chapter Four: Belief Reports

Consequences of belief-SSI for how we attribute beliefs to others are considered.

### Conclusion

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1. This is De Finetti’s version of the betting test. In Ramsey’s version, instead of allowing *S* to be negative, we find the least *x* such that the agent would accept the bet. [↑](#footnote-ref-1)
2. There are interesting parallels here with cases like DeRose’s bank case. Whether it is rational for Keith to accept the hypothesis that the bank will be open on Saturday depends on the cost of error and the benefit of being correct. [↑](#footnote-ref-2)
3. Note that Foley does not mean that correct ascription of these attitudes is context-relative, as contextualists about “know” do. Rather, he means that whether a subject holds these attitudes to a given proposition is relative to the context in which the subject is considering the proposition. I cannot find an *argument* that belief is not context-relative; rather, it seems Foley takes this to be a feature of the problem he is concerned with, that of finding rules for rational belief (but cf. Foley 1993: 22). [↑](#footnote-ref-3)
4. Maher explicitly distinguishes *acceptance* from *belief*, because he takes the folk concept of belief to have aspects that he finds irreconcilable: (a) belief that *p* is the mental state expressed by sincere intentional assertion that *p*; and (b) belief that *p* means being willing to act as if *p* were true. Maher introduces the term “acceptance” for the concept that meets only condition (a). He does not try to make his concept of acceptance meet condition (b) because, he takes it, that would require either endorsing the Lockean thesis—which he rejects—or giving up the notion of full belief entirely, which would mean identifying one’s beliefs with one’s subjective probabilities. Since this is not the relation to one’s subjective probabilities entailed by his account of acceptance (i.e., of the concept meeting condition (a)), he considers it impossible to find a concept meeting both conditions (a) and (b). [↑](#footnote-ref-4)
5. Not all contextualists cash out the conditions on knowledge in terms of “ruling out possibilities,” but this is incidental to what makes them contextualists. I will continue to speak in terms of ruling out possibilities as a simplification. [↑](#footnote-ref-5)
6. This is not to say that “knows” does not denote a relation—say, between a person and a proposition—but rather that it does not involve the sort of implicit anaphora involved in sentences containing “local” or “enemy”. See Stanley (2000) for further discussion of relational expressions. [↑](#footnote-ref-6)
7. Or at least, think they do not believe their tickets will lose. I do not have space here to delve into the all the subtleties of current accounts of belief; an intuitive grasp of what we ordinarily take people to believes will have to suffice. I will give a more sophisticated treatment of the criteria for binary belief in the dissertation itself. [↑](#footnote-ref-7)
8. For the purposes of this proposal, “belief” and “acceptance” are synonymous except where otherwise noted. The two terms are sometimes used to make one distinction or another in the literature: for example, Maher (1992) takes belief that *p*, but not acceptance that *p*, to imply a willingness to act as if *p* were true; others take acceptance to be voluntary and belief generally involuntary. [↑](#footnote-ref-8)
9. But note that the consideration of practical factors is not essential to SSI—one could be a subject-sensitive invariantist by virtue of taking some other sort of non-evidential condition of the subject to determine the applicable standards for knowledge: say, salience to the subject of alternative possibilities. [↑](#footnote-ref-9)