

The Contextualist Solution to the Lottery Paradox

The lottery paradox formulates a skeptical argument in the form of three logically inconsistent claims: a statement we ordinarily take to know, the closure principle, and a statement we do not take ourselves to know. Classical variations on the lottery paradox attempt to undercut our natural confidence that we can know certain premises about our financial affairs (i.e. ‘I will not be able to afford an African safari this year’) because we cannot be sure we will not win the lottery. However, the lottery paradox’s danger is that its construction makes it a highly versatile way to threaten our intuitive knowledge about many other things we ordinarily assert and take ourselves to know, from where our cars are parked to where we will be living over the summer. Given this, one might ask whether the lottery paradox threatens most of our knowledge about the external world. In this paper, I will argue that the best method to evade the skeptical results of the lottery paradox is not to deny one of its three premises directly, but instead to embrace contextualism, an epistemological view that suggests the verb ‘knows’ has different semantic values in different contexts. Then, I will reconstruct an argument from John Hawthorne to show how rapid context shifting and the addition of a new rule of relevance can address objections to contextualism that rely on multi-premise closure. Finally, I will add some additional thoughts in favor of contextualism. In addition to successfully defeating objections from multi-premise closure through the New Rule of Belief, contextualism provides a highly plausible semantic theory that avoids overgeneralizing a single context, ultimately allowing for knowledge attributions

that align with our intuition; thus, it provides a powerful solution to the lottery paradox and allows us to maintain ordinary knowledge about the external world.

The lottery paradox threatens to undermine our knowledge about things we ordinarily claim to know through the closure principle and a lottery proposition, or a chance-based proposition that, if true, makes our ordinary proposition false. Although there are many ways to state the lottery paradox, one formulation is the following:

- (1) A knows that S cannot afford to go on an African safari this year. (*ordinary proposition*)
- (2) If A knows that S cannot afford to go on an African safari this year, then A knows that S's lottery ticket was not a winner.
- (3) A does not know that S's lottery ticket was not a winner. (*lottery proposition*)

One way to understand this paradox is to consider modus poenens and modus tollens. (1) and (2) together take the modus poenens form, so we can deduce 'S knows that R's lottery ticket was not a winner' (~ 3). Alternatively, if we consider premises (2) and (3), modus tollens suggests that 'A does not know that S cannot afford to go on an African safari this year' (~ 1). Thus, these three premises are in conflict. The risk of skepticism arises from an intuition that (3) is true: it seems that regardless of how small the probability of S winning the lottery is, we cannot know for sure that he does not win and so cannot attribute knowledge. Because the lottery paradox can generalize, other constructions threaten to undermine our everyday knowledge about many propositions we commonly take ourselves to know. It is important to note that there are many variations of the lottery paradox.¹

Writing the propositions from a future stance (cannot now afford vs. cannot afford this year), letting the knowledge attributor and subject be the same individual (i.e. 'I know that I cannot afford to go on an African safari this year'), imagining cases where a winner is or is

¹ Hawthorne discusses many such examples. Consider, for instance, that we can know only where we are living

not guaranteed, and other permutations are as equally dangerous to our ordinary knowledge.² So we must dig deeper to resolve this paradox.

Non-contextualist solutions are implausible solutions to the lottery paradox, motivating why contextualism is a better alternative. As discussed above, denying (1) results in skepticism. Given how easily the paradox generalizes, we are apt to undermine much of our knowledge by denying (1), making it an unappealing option. Denying (2), single premise closure (SPC) is difficult and undesirable because not only is deduction an intuitively reasonable way to extend knowledge, but SPC follows from several other highly plausible logical principles, including addition closure, distribution and equivalence. To reject SPC entails a commitment to reject at least one of these other principles, possibly leading to other odd consequences. Denying (3), the Moorean option, suggests that A knows S will not win the lottery. There are many concerns with this option; for instance, if one can know S will not win, assuming rational action, why should S buy a ticket? More pressingly, if S can know they will not win, it seems by parity of reasoning that all ticket holders can know they cannot win. Since the probabilities of each individual winning are disjoint and therefore add if we consider their union, it is highly implausible to say that none of the ticket holders win (no guaranteed winner case), and even less reasonable to say that nobody won (guaranteed winner case).

Contextualism, a nuanced and variable epistemological view that suggests ‘knows’ can have different semantic truth-values in different contexts, provides a better way to understand the lottery paradox. For the purposes of this paper, I will focus primarily on what Hawthorne calls “bare bones contextualism,” or a form of contextualism that disregards the nuances discussed by Lewis, Cohen and others and maintains only the

² This itself likely requires stronger proof, but I will not address it in this paper in order to maintain focus. See Chapter 1 of *Knowledge and Lotteries* for a deeper discussion.

common features of most contextualist theories. According to Hawthorne, “ ‘S knows that p ’ is true on some occasion iff there is no possible world in which S makes a mistake that is relevant on that occasion” (Hawthorne 56). Made more relevant to the particular lottery paradox at hand, we attribute knowledge if ‘A knows S cannot afford to go on an African safari this year’ is true in all of the possible worlds that are relevant to A; thus, our ascriptions of knowledge depend on the context. Notice that we determine what worlds are relevant based on the knowledge-ascriber A rather than the subject S. Although this requires a lengthier discussion, I will focus on just one intuition drawn from utterances to explain knowledge’s ascriber-dependence. Imagine if I said, “I know S cannot afford to go on an African safari this year, but actually S *can* afford to go on a safari this year.” It sounds jarring and odd for me to assert that I have knowledge if I am also aware that my “knowledge” is false: because knowledge is factive, I cannot attribute knowledge if a statement is false. Compare with the statement “I know S cannot afford to go on an African safari this year, but S knows they can.” Contextualism offers a solution to this initially bizarre utterance: S may be in a low-stakes context (perhaps they are simply talking with work colleagues about their plans for the year without ever booking tickets), while I may be in a high-stakes context (I could be S’s financial advisor, so the possible worlds in which the stock market crashes and S loses their life’s savings are relevant to me).

One necessary aspect of contextualism is defining what makes a possible world relevant. First, a world’s salience can make a possible world relevant: if the knowledge-ascriber takes a possible world seriously, then it is relevant. Using the financial advisor case above, since I am intimately concerned with S’s financial wellbeing (my own job security might even depend on it), I take seriously all of the possible worlds where S loses their life’s savings even if S might not, so such worlds are relevant to me but maybe not to a frivolous

S. Salience cannot be the only rule of relevance, however, because it seems to allow for some bizarre Gettier case type examples. Another rule of relevance is actuality, that the actual world is always relevant.³ Finally, similarity asserts that if a possible world w is relevant, and another possible world w^* is similar to w , then w^* is also relevant.

At this point, it becomes clear that contextualism might help explain the apparent tension between (1), our ordinary proposition, and (3), our lottery proposition, if we assume the closure premise (2) is true. In low-stakes ordinary contexts, like those for which the probability of losing the lottery has been made particularly salient (after all, it is more probable that one loses the lottery than one wins), our truth-conditions for knowledge are low enough such that (1) is true and therefore (3) is false. But in higher-stakes skeptical contexts, such as those the skeptic sets up where, for instance, the stakes for falsely attributing knowledge are very high and the risk of error is salient, then (3) is true and (1) is false. Then contextualism resolves the apparent conflict between (1) and (3) by allowing both claims to express truths *in their relevant contexts*.

If we recall the previous discussion about risks associated with the skeptical and Moorean attempts at resolving the lottery paradox, a solution that effectively suggests both the skeptic and Moorean were correct should be met with some suspicion due to the risk of inheriting their respective criticisms. In particular, we can consider a more well-formulated criticism of the Moorean concern by considering multi-premise closure. Multi-premise closure asserts that if p is known, and q is known, then the conjunct (p and q) is also known. This leads us to some startling results. Consider the following story:

³ Although not initially intuitive, one result is that if we claim to know future things (i.e. 'S will not win the lottery'), and then S does in fact win the lottery, the actual world becomes relevant in a way to make our previous utterance false (we did not know that S would not win the lottery). This is not an issue with contextualism, since anything that maintains the factivity of knowledge will have a similar result.

R watches her 100 friends buy a tickets in a lottery that is capped at 101 entires. Although R does not know it, the winner of the lottery is the one non-friend entry. K, who does not seriously consider worlds where the i th friend wins, says “R knows that friend i cannot afford an African safari” for all i .⁴

By multi-premise closure, this leads to some odd results. If R knows that friend i cannot now afford an African safari, then there is some context where R knows that friend i and $i+1$ and ... $i+n$ all cannot afford an African safari, so R also knows that none of their friends won the lottery. And if R knows in some context that none of her friends won the lottery and there is only one non-friend, then R also knows the non-friend won. But how can R be said to know that without receiving insider information? This seems a concerning issue not only for the Moorean, but also for the contextualist, and must be explained if we are to embrace a contextualist solution to the lottery paradox.

The contextualist response is to define an additional rule of relevance that handles such odd cases as these. Hawthorne introduces the New Rule of Belief (NRB), a variation of Lewis’s Rule of Belief, as “If, at t , S gives—or ought to give—sufficiently high credence to proposition p , then at least some subcases of p are relevant for S at t' ” (Hawthorne 97). Before, we had assumed that the knowledge ascriber K was making their ascriptions in a single context. But under the NRB, we know that although K should assign high credence to p , the probability that one of S’s 100 friends win the lottery, the subset of friends (a subcase of p) who are thought to have high chance of winning varies in time. In other words, we observe a *rapid context shift*, wherein although K may consider the possibility of friend i winning irrelevant at first, by the end of the discussion the possibility of friend i winning should become relevant in K’s shifted context. According to Hawthorne, then, “we can be sure that the semantic value of ‘know’ varies widely during the conversation” (Hawthorne

⁴ Adapted from Hawthorne 2.6.

98). In other words, because we shift contexts, the truth-conditions for knowledge also change, allowing the contextualist to accommodate multi-premise closure while simultaneously avoiding bizarre, fallacious results.

Unfortunately, there is another concern for the contextualist: in the realm of skeptical discussions regarding our extent of knowledge and skeptical arguments like the lottery paradox, one might think that the involved epistemologists should share a high-stakes, skeptical context. The skeptic might claim that this context should generalize – perhaps the risk of erring in knowledge attribution is high enough that we should always think skeptical hypotheses are salient. The skeptic might argue, then, that we should never find ourselves in a low-stakes context, rendering contextualism relatively useless.⁵ Upon further consideration, however, it seems like this is a highly implausible claim. We can draw an analogy with the word “tall,” which many argue shares features with the word “knows.” If we were in a very high-stakes context and the risk of classifying someone as tall who is in fact not tall was salient, we would set our boundary for “tall” to be very high – for our purposes, let us say 10 feet. But a semantic theory that claims a threshold for tallness that will never obtain seems not to be a very useful theory at all. Analogously, it seems that if the skeptic argues his context should generalize, he makes a commitment to a semantic theory in which our knowledge assertions frequently come out false, and we have no good reason to embrace such a theory. The contextualist, then, has a clear advantage over the skeptic,⁶ because contextualism offers a much more plausible semantic theory where our knowledge claims come out true most of the time assuming we utter them in the right context.

⁵ There are other reasons to wonder if the skeptic can truly make claims about what context we should “always” be in. For instance, the Moorean should be able to make similar claims about how we should always be in low-stakes contexts. In that case, we can accuse both the Moorean and the skeptic of senselessly overgeneralizing their context of choice.

⁶ And, if we follow the line of thought in 5, the Moorean as well...

The lottery paradox poses an interesting puzzle for epistemologists by postulating three seemingly plausible but contradictory claims that threaten to undermine our ordinary knowledge. Classical attempts at addressing the lottery paradox have revolved around denying one of its three premises directly: by embracing skepticism (denying (1)), rejecting the closure principle (denying (2)), or by taking a Moorean stance against the skeptical/lottery premise (denying (3)). However, each of these strategies is fraught with problems, and none adequately explain our intuition that both (1) and (3) seem reasonable. Contextualism, a semantic theory that claims 'knows' can have different truth values based on the knowledge-ascriber's context, provides a more powerful solution to the lottery paradox. Although initially the incorporation of multi-premise closure to Hawthorne's bare bones contextualism gives some clearly erroneous results, the contextualist can resolve such objections by expanding their rules of relevance to allow rapid context shifting for temporally spaced utterances. Furthermore, the Moorean and skeptical responses to the lottery paradox are implausible because they make a commitment to allowing attribution of knowledge to be too easy, because the Moorean might assume a constant low-stakes context, or too hard, as the skeptic sets standards for knowledge so high that it is often unobtainable. Contextualism provides the most plausible semantic theory by formalizing our intuitions about knowledge attributions, and allowing that our knowledge ascriptions are true in most cases. If we embrace contextualism, as I would support doing, we are able to maintain our ordinary knowledge about the external world in low-stakes contexts, and successfully avoid a skeptical conclusion.

References

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