John Hawthorne's *Knowledge and Lotteries*

Chapter 1: Introducing the Puzzle

1.1: A Puzzle

1. S knows that S won't have enough money to go on a safari this year.
2. If S knows that S won't have enough money to go on a safari this year, then S is in a position to know that S will not win a major prize in a lottery this year.
3. Hence, S is in a position to know that S will not win a major prize in a lottery this year.

We have the intuition that [1] and [2] are true, but in spite of the fact that [3] follows from [1] and [2], we have the intuition that [3] is *not* true.

Other Instances of the Puzzle

1. I know that I will be living in Syracuse for part of this summer.
2. I don't know that I will not suffer a fatal heart attack in the next week.

3. I know that my car is now parked in location x.
4. I don't know that my car has not been stolen in the last few minutes.

5. I know that George W. Bush is now the President of the United States.
6. I don't know that Bush hasn't been assassinated in the last few minutes.

7. I know that my refrigerator is running.
8. I don't know that there hasn't been an electrical outage in my neighborhood in the last few minutes.

9. I know that the Lakers won last night.
10. I don't know that there wasn't a misprint in this morning's paper.

11. I know that there's a desk in front of me.
12. I don't know that the desk hasn't very recently developed into a desk façade.

The Structure of Lottery Puzzles

There is

1. an "*ordinary proposition*, a proposition of the sort that we ordinarily take ourselves to know" (p. 5).
2. "a *lottery proposition*, a proposition of the sort that, while highly likely, is a proposition that we would be intuitively disinclined to take ourselves to know" (p. 5).

1.2: The Lottery Proposition

"[T]he lottery proposition is highly likely relative to the person's evidence" (p. 8).

Why Do We Think That We Don't Know Lottery Propositions?

1. Our intuition does not depend on there being a guaranteed winner.
2. It doesn't depend on the fact that each ticket has an equal chance of winning.
3. It doesn't depend on the fact that the epistemic subject under consideration has merely statistical reasons for believing that he or she will lose the lottery.
4. It doesn't depend on any of the following epistemological theories:
   a. The justified-true-belief account of knowledge
   b. Reliabilism
   c. The true-belief-supported-by-good-evidence account
   d. A sensitivity account, neither sensitivity *simpliciter* nor sensitivity*, i.e., a sensitivity condition that has been relativized to belief-forming methods. (In the latter case, we sometimes have the intuition that S's belief that *p* is not sensitive*, along with the intuition that S doesn't know that *p*. At other times, though—for example, in Vogel's hole-in-one case (see p. 12) and in Hawthorne's matchbox and mispronunciation cases—we have the intuition that S's belief that *p* is not sensitive*, along with the intuition that S *does* know that *p*.)
5. It *does* depend on "[s]omething in the vicinity" of "the presence of probabilistic thoughts" (p. 14). Here's Hawthorne's proposal:

> "…in the paradigm lottery situation, something like the following goes on: The ascriber divides the possibility space into a set of subcases, each of which, from the point of view of the subject, is overwhelmingly likely to not obtain, but which are such that the subject's grounds for thinking that any one of the subcases does not obtain is not appreciably different than his grounds for thinking that any other subcase does not obtain. … Using DeRose's terminology, *the relative strength of epistemic position* with regard to each subcase is not appreciably different" (pp. 14-15).

We might put this as a principle in the following way:

Parity Reasoning: One conceptualizes the proposition that *p* as the proposition that one particular member of a set of subcases (p_1, … , p_n) will (or does) not obtain, where one has no appreciably stronger reason for thinking that any given member of the set will not obtain than one has for thinking that any other particular member will not obtain. Insofar as one reckons it absurd to suppose that one is able to know of each of (p_1, … , p_n) that it will not obtain, one then reckons oneself unable to know that *p*.

Applying the Parity-Reasoning Proposal to Cases
"[O]n the picture I am advancing, one's willingness to [say one knows that there will not be sixty holes in one] depends on not having divided the Heartbreaker case into a set of subcases to which parity reasoning can apply" (p. 17).

1.3: Assertion, Probability, Practical Reasoning

Hawthorne maintains that we should "pay especially careful attention to three phenomena that are closely tied to knowledge" (p. 21):

1. **Assertion**

    a. We are not inclined *to attribute to ourselves knowledge* of a lottery proposition, *L*, and at the same time, we are not inclined *to assert L*.
    b. Perhaps we can account for the former fact by saying that we violate some conversational maxim when we attribute

knowledge of *L* to ourselves. In this case, we wouldn't need to say that we fail to know that *L*. (This is one strategy for denying a premise of the lottery argument.)

c. Hawthorne argues, though, that this won't work. Still, there is a conversational maxim at work here, and it's the Knowledge Account of Assertion (KAA): I may assert that *p* only if I know that *p*. Thus, in the case of lottery propositions, my not knowing that *L* accounts perfectly well for my not being inclined to assert it. No conversational maxim allows us to know that *L*, but my not knowing that *L*, given KAA, gives us a fine explanation of the fact that we aren't inclined to assert that *L*.

2. **Probability**

a. "There is also a striking tie between our willingness to assert 'It might be that *p*' and 'There is a chance that *p*' on the one hand, and our willingness to assert 'I do not know that not-*p*' and 'I do not know whether or not *p*' on the other" (p. 24).

b. (1) It is possible that *p* for *S* at *t* (There is a chance that *p* for *S* at *t*) iff *p* is consistent with what *S* knows at *t* (p. 26).

c. (3) An utterance of 'It might be that *p*' by *S* at *t* is true iff it is possible that *p* for *S* at *t* (p. 26).

3. **Practical Reasoning**

a. "That one does not know a lottery proposition … seems to prohibit one from using it as a premise in one's deliberations about how to act" (p. 29).

b. Consider the following line of reasoning:

The ticket is a loser.
So if I keep the ticket I will get nothing.
But if I sell the ticket I will get a penny.
So I'd better sell the ticket.

c. " … such reasoning is unacceptable" (p. 29).

d. Why is such reasoning unacceptable? Folks “will respond by pointing out that the first premise was not known to be true” (pp. 29-30).

e. “ …: one ought only to use that which one knows as a premise in one’s deliberations” (p. 30).

1.4: Epistemic Closure

Multi-Premise Closure (MPC): Necessarily, if S knows that $p_1, \ldots, p_n$, competently deduces q (from $p_1, \ldots, p_n$), and thereby comes to believe that q, while retaining knowledge of $p_1, \ldots, p_n$ throughout, then S knows that q.

Single-Premise Closure (SPC): Necessarily, if S knows that *p*, competently deduces *q* (from *p*), and thereby comes to believe that *q*, while retaining knowledge of *p* throughout, then S knows that *q*.

“ … something in the vicinity of the above closure principles is correct” (p. 35).

1.5: Denying Single-Premise Closure

“The intuitive consequences of denying Single-Premise Closure seem to be extremely high” (p. 38).

1. “ … a denial of closure interacts disastrously with the thesis that knowledge is the norm of assertion. … The premises of a modus ponens argument [e.g., the BIV skeptical argument, or the cleverly-painted-mule skeptical argument] are stably adhered to, and yet the conclusion stably repudiated” (p. 39).

2. “In relinquishing SPC, we are … forced to relinquish certain other principles—Addition Closure and Distribution (or instead, Equivalence)—that are very compelling” (p. 41).

3. “Let p be a ‘heavyweight’ proposition just in case we all have some strong inclination to say that p is neither the sort of thing that one can know by the exercise of reason alone nor by the use of one’s perceptual faculties (even aided by reason)” (p. 42). But while the

views of some who deny closure are "intended to align [themselves] with our instinctive verdicts about whet we can and cannot know by perception [they draw] the can-cannot line in a very different place" (p. 46). For example, I have conclusive reasons for believing that (I have a headache and it is not the case that I am a brain in a vat). But this seems to be a heavyweight proposition.

1.6: Multi-Premise Closure

The claim here is that we have reason to believe that (something in the vicinity of) MPC is true.

1. Kyburg's case: The case depends on the view that knowledge is reasonable true belief, but that view is unpromising.

2. Risk of falsity accrues: But "[i]f there being a risk that not-*p* amounts to there being a chance that not-*p*, then knowing *p* is not compatible with there being any risk at all that not-*p*" (p. 48). So, we'd fail to know (some of) the premises in this case.

3. The APA Case: " … it seems as if the setting in which one ascribes knowledge of the individual propositions to me is a setting in which (given that I have deduced and come to believe the conjunction) one is willing to ascribe knowledge to me of the conjunction" (p. 49).

4. Misleading evidence against the truth of some premise: In this case, Hawthorne maintains that we might not want to abandon our claim to know any one of the premises, but that "it would still be perfectly understandable if I was not inclined to believe the conjunction. But *that fact* hardly makes trouble for MPC" (p. 50). Why? Because a conjunct in the antecedent of MPC—namely, "and [S] thereby comes to believe that *q*"—is false.

5. Believing that you don't know the conjunction: "Her own belief that knowledge is absent explains well enough the dubious status of the assertion 'The conjunction is true' in her mouth, without automatically impugning MPC" (p. 50), since believing that one doesn't know that *p* is compatible with knowing that *p*.