THE RELEVANT ALTERNATIVES THEORY AND MISSED CLUES

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According to the relevant alternatives theory of knowledge (henceforth RA), I know that *p* only if my evidence eliminates all relevant alternatives to *p*.[1] In proposing this theory, those who espouse RA have given themselves some tough questions to answer. In particular, they must say what makes an alternative *relevant* and what it means to *eliminate* an alternative. Of the versions of RA that have been provided thus far, David Lewis's is perhaps the most thorough and detailed.[2] Still, Jonathan Schaffer has recently argued[3] that Lewis's version of RA is inadequate: it cannot account for our failure to know in cases involving missed clues, that is, cases in which we see but do not appreciate decisive evidence. I argue, however, that Lewis's version of RA survives exposure to missed clue cases. Moreover, even though Schaffer maintains that Lewis's Rule of Belief[4] provides no protection against missed clue cases,[5] I argue that we should credit the Rule of Belief with ensuring the survival of Lewis's version of RA.

I. Relevant Alternatives and Missed Clues

According to Lewis,

[1] The relevant alternatives theory of knowledge was first proposed by Dretske [2] and [3], and by Goldman [4]. It has since been developed and applied by Stine [9], Cohen [1], Heller [5], Lewis [7], and Heller [6]. The theory has recently come under fire from Vogel [10] and from Schaffer [8].

[2] See Lewis [7].

[3] In Schaffer [8].

[4] See Lewis [7], pp. 555-556.

[5] See Schaffer [8], p. 206.

S knows that *P* iff *S*'s evidence eliminates every possibility in which not-*P* – Psst! – except for those possibilities that we are properly ignoring.[6]

The not-*p* possibilities, or alternatives, that we properly ignore are *ir*relevant alternatives, while those that we may not ignore are *relevant*. Thus, Lewis maintains that *S* knows that *p* iff *S*'s evidence eliminates every relevant alternative to *p*.[7]

Like other RA theorists, Lewis faces tough questions about relevance and about elimination. First, he suggests that whether an alternative is relevant – that is, whether an alternative is properly ignored – is determined contextually. There are, Lewis suggests, seven rules that help us to determine whether we may ignore a particular alternative in a particular context. These rules include the Rule of Belief, which will play an important role in what follows.

Rule of Belief: A possibility may not be properly ignored if the subject gives it, or ought to give it, a degree of belief that is sufficiently high.

Thus, if the jurors believe to a sufficiently high degree the hypothesis that it was Smith rather than Jones who pulled the trigger, they may not ignore the possibility that it was Smith who pulled the trigger.[8]

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[6] Lewis [7], p. 554.

[7] The relevant alternatives theory suggests that the elimination of all relevant alternatives is at least a necessary condition for knowledge. According to Lewis's version, however, the elimination of all relevant alternatives is both necessary and sufficient for knowledge. There are at least two reasons why Lewis may make this move. First, once my evidence eliminates all of the relevant alternatives – that is, all of the relevant not-*p* possibilities – the only relevant possibilities that remain uneliminated are those in which *p* is true. In this way, Lewis's version of RA accounts for truth. Second, since Lewis does not require belief for knowledge (see Lewis [7], p. 556), his version of RA need not include the traditional belief condition on knowledge.

[8] Likewise, according to Lewis, if the jurors *ought* to give a sufficiently high degree of belief to the hypothesis that it was 'the dog, marvellously well-trained, that fired the fatal shot' ([7], p. 555) – if, for example, 'the world's greatest dog-trainer had been the victim's mortal enemy' ([7], p. 555) – then the jurors may not ignore the possibility that the dog fired the fatal shot, and that alternative is therefore relevant. Besides the Rule of Belief, Lewis's rules also include the following six (see Lewis [7], pp. 554-560):

Rule of Actuality: The possibility that actually obtains is never properly ignored.

Second, Lewis suggests that *S*'s evidence eliminates a possibility *W* iff *W* is a possibility in which *S*'s perceptual experience or memory has content different from *p*. Consider three possibilities, W_1, W_2 and W_3. As I'm driving through the W_1 countryside, I have the perceptual experience of a barn. In W_2, however, I have the perceptual experience of a barn façade, yet its content is no different from the content of my W_1 perceptual experience of a barn. In W_3, however, there is a cow where in W_1 there was a barn, and I accordingly have the perceptual experience of a cow. So my evidence in W_1 eliminates W_3 but not W_2.[9]

Schaffer argues that Lewis's version of RA falls prey to missed clue cases, cases in which we fail to know despite the ready availability of seen but unappreciated conclusive evidence. Consider the following case:

> MC: Professor A is testing a student, *S*, on ornithology. Professor A shows *S* a goldfinch and asks, 'Goldfinch or canary?' Professor A thought this would be an easy first question: goldfinches have black wings while canaries have yellow

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Rule of Resemblance: We may not ignore a possibility that saliently resembles a relevant possibility.
Rule of Reliability: Defeasibly, we may ignore a possibility in which a reliable process (such as perception, memory, or testimony) fails.
Rule of Method: Defeasibly, we are entitled properly to ignore possible failures in sampling and in abduction.
Rule of Conservatism: Defeasibly, generally ignored possibilities may properly be ignored.
Rule of Attention: A possibility not ignored at all is *ipso facto* not properly ignored.

[9] Compare Goldman [4]'s notion of *qualitatively identical percepts* – percepts are qualitatively identical, of course, when they are *exactly* similar – and his notion of *perceptual equivalents* – percepts are perceptual equivalents when they are at least very similar. (For Goldman, this means that the percepts are similar in every respect that is causally relevant to belief. See Goldman [4], pp. 130-136.) Lewis's version of RA doesn't make it clear whether (1) a percept, ρ, fails to eliminate a possibility *W* for *S* only if ρ is qualitatively identical to the percept *S* would have in *W*, or whether (2) ρ can fail to eliminate *W* for *S* even if it's just a perceptual equivalent of the percept *S* would have in *W*. However, we can account for missed clue cases if (2) is the case, for, contrary to Schaffer's claim that the evidence that I have in missed clue cases will eliminate certain possibilities (see [8], p 204), (2) suggests that it need not do so. Since percepts can be similar enough to count as perceptual equivalents even when one percept is different from the other in virtue of the presence (or absence) of a clue, ρ might fail to eliminate *W* even if ρ contains a clue that is absent from the percept *S* would have in *W*. (See the discussion of the Judy-Trudy case in Goldman [4], pp. 132-133.) Thus, Schaffer's objection to Lewis's version of RA is cogent only if uneliminated possibilities can include *only* those possibilities that involve qualitatively identical percepts. This, then, is the way I will interpret Lewis, at least for purposes of this discussion.

> wings. *S* sees that the wings are black (this is the clue) but *S* does not appreciate that black wings indicate a goldfinch (*S* misses the clue). So *S* answers, 'I don't know'.[10]

S fails to know that the bird is a goldfinch. And Lewis's version of RA should maintain that *S* fails to know due to there being some relevant but uneliminated alternative to its being a goldfinch.

For our purposes here, we can see Schaffer as arguing that Lewis is faced with a dilemma: To explain why *S* doesn't know that this bird is a goldfinch, Lewis must maintain one of two things, neither of which works. First, he might maintain that *S* can't tell whether this bird is a goldfinch or an ordinary, yellow-winged canary and hence that the relevant alternative that *this bird is an ordinary, yellow-winged canary* is responsible for *S*'s failure to know. Schaffer argues, however, that according to Lewis's version of RA, this relevant alternative is *eliminated.* 'Since canaries have yellow wings, *S*'s perceptual experience in the canary world would not match his perceptual experience in actuality – in the canary world *S* would see yellow wings rather than black'.[11]

Second, Lewis might maintain that *S* can't tell whether this bird is a goldfinch or a mutant, black-winged canary and hence that the uneliminated alternative that *this bird is a mutant, black-winged canary* is responsible for *S*'s failure to know, where the canary counts as a

[10] See Schaffer [8], p. 203. In MC, *S* answers Professor A with 'I don't know' because either (a) the bird's having black wings is the *only* clue to which sort of bird it is, and *S* misses that clue, or (b) the bird's having black wings is one among several clues, and *S* misses them *all*. Since there would in fact be several clues that the bird is a goldfinch rather than a canary, *S* would need to miss all of them in order to fail an *actual* MC-like ornithological examination. That is to say, if MC were true-to-life, *S* would fail to know in MC because (b). However, for ease of exposition, I will assume that MC is a case in which (a) is true. This assumption does not affect my argument, which we could adjust in order to account for more realistic cases in which *S* must miss more than one clue if she is to fail to know.

[11] Schaffer [8], p. 204.

mutant if, for example, its wings have been cleverly painted black or it has been genetically altered or engineered so as to have black wings. Yet, as Schaffer notes, the uneliminated mutant alternative is *not relevant* on Lewis's version of RA. Such extraordinary skeptical alternatives are not relevant in the perfectly ordinary context described in MC.[12]

So neither alternative is both relevant and uneliminated. If Lewis's version of RA is to accommodate the relevance of the alternative that this bird is an ordinary, yellow-winged canary, then, according to Schaffer, it should also maintain that that alternative is *eliminated*. Lewis might also suggest that certain uneliminated mutant alternatives are responsible for *S*'s not knowing. According to Schaffer, however, the only available such alternatives turn out to be *irrelevant*. Thus, missed clue cases show that Lewis's version of RA fails to account for *S*'s not knowing that this bird is a goldfinch, and that it is in general inadequate as a theory of knowledge.

II. WHAT DO I BELIEVE IN MC?

Schaffer claims that Lewis's Rule of Belief is a 'non-starter'[13] when it comes to escaping the difficulties that missed clue cases generate. I will argue, however, that the Rule of Belief illuminates a route by which Lewis's version of RA can escape Schaffer's dilemma. Schaffer suggests that there are only two alternatives that can be responsible for *S*'s not knowing that this bird is a goldfinch, and that Lewis's version of RA maintains that one of these alternatives is eliminated while the other is irrelevant. Yet there is a *third* alternative available to Lewis – the alternative that *this bird is an* ***ordinary*** *(non-mutant),* ***black****-winged canary* – and this alternative

[12] See Schaffer [8], pp. 204-205.

[13] Schaffer [8], p. 206.

is both relevant and uneliminated in MC. It is this alternative, therefore, that is responsible for *S*'s not knowing that this bird is a goldfinch.[14]

Notice that there are three beliefs that *S* might have in MC. *S* might believe that

(A) goldfinches have black wings while canaries have yellow wings (or red wings, or blue wings, or, in general, wings of any color other than black),

or that

(B) *canaries* have black wings while goldfinches have yellow wings (or red wings, or blue wings, or, in general, wings of any color other than black),

or that

(C) goldfinches as well as (ordinary) canaries have black wings.[15]

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[14] The alternative that this bird is an ordinary (non-mutant), black-winged canary is a contrary-to-fact alternative according to which this bird is a canary that has *naturally occurring* black wings, a canary whose wings are black *as a matter of natural fact*. Indeed, Lewis himself might have conceived this alternative: Schaffer notes that Lewis suggested to him in personal communication that 'one plausible candidate [for an uneliminated relevant alternative in MC] is a canary that looks perfectly goldfinch-like, black wings and all' (Schaffer [8], p. 204). Yet Schaffer opts for the mutant-canary reading of Lewis's suggestion, for he thinks that 'the mutant alternative is the *only* plausible candidate for a further relevant and uneliminated possibility' ([8], p. 204). Why might he think this? Perhaps because our ordinary-canary alternative is false – neither this nor any other ordinary canary has naturally occurring black wings. Yet according to Lewis's version of RA, false alternatives can be relevant. Lewis says, for example, that if *S* believes that *p*, then the alternative that *p* is relevant, *whether or not S is right to believe that p* (see Lewis [7], p. 555). Perhaps, though, Schaffer thinks that the mutant alternative is the only plausible candidate not only because it's false, but also because it *can't* be true – neither this nor any other ordinary canary can have naturally occurring black wings. Nevertheless, Lewis's version of RA maintains that the ordinary-canary alternative, as well as other alternatives that are metaphysically or even logically impossible, can be relevant. According to Lewis's Rule of Attention, for example, if *S* attends to the alternative that *p*, then *p* is relevant. This is presumably the case even when *p* represents a logical impossibility, as when *S* attends to the alternative that my sound mathematical proof is unsuccessful. Moreover, Lewis's Rule of Belief suggests that the ordinary-canary alternative can be relevant if, for example, *S* were to mistake the actual world for another (at least logically) possible world, construed in Lewis's fashion or otherwise, in which canaries have black wings as a matter of natural fact. Thus, the ordinary-canary alternative, which is perhaps the alternative that Lewis himself had in mind, can be relevant, and the mutant alternative is not the only plausible candidate for a further uneliminated relevant alternative in MC.

[15] Since *S* sees in MC that the bird's wings are black, and since Professor A's question should lead her to believe that the bird is either a goldfinch or a canary, *S* will take it in MC that at least one of those kinds of birds has black wings. For this reason, we may disregard the fourth belief that *S* might have in MC, namely, the belief that

(E) neither goldfinches nor canaries have black wings.

Since we may disregard E, we may also disregard the belief that

(E*) neither goldfinches nor canaries have black wings, but both have wings of the same (non-black)

I will argue that the clue in MC counts as a *missed* clue (of an appropriate sort) only if, in MC, *S* gives C a sufficiently high degree of belief. Thus, by Lewis's Rule of Belief, the alternative that *this bird is an ordinary, black-winged canary* is relevant in MC. And *S*'s perceptual experience does *not* eliminate that alternative.[16]

To see this, let's undertake a closer examination of MC. We should first distinguish two ways in which we might miss a clue. (1) We *miss*$_1$ a clue that *p* (e.g. this is an elm) rather than *q* (e.g. this is an oak) when we fail to see it as a clue *at all*. As I look at this tree with an eye toward determining which sort of tree it is, I notice that it has serrate leaves. That this tree has serrate leaves is a clue that it is an elm rather than an oak. Yet I miss$_1$ this clue when I fail altogether to see the tree's having serrate leaves as a feature that indicates which sort of tree it is. I see its having serrate leaves just as I see its having bark, that is, as providing no clue at all to which sort of tree it is. (2) We *miss*$_2$ a clue that *p* rather than *q* when even though we see it as a clue, we mistakenly take it to be a clue that *q* rather than *p*. Even though I see this tree's having serrate leaves as a clue to which sort of tree it is, I miss$_2$ the clue when I mistakenly take the clue to indicate that it is an oak rather than an elm.

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color (e.g. both have red wings),

as well as the belief that

(E**) neither goldfinches nor canaries have black wings, but each has wings of a different (non-black) color (e.g. one has red wings while the other has blue wings).

Schaffer maintains, however, that *S* might indeed believe in MC that E**: '*S* might believe that canaries have red wings while goldfinches have blue wings' ([8], p. 206). Yet if *S* believes in MC that E** (while seeing that this bird has black wings), she would answer Professor with 'It's neither a goldfinch nor a canary'. The fact that she does not respond in this way suggests that MC is *not* a case in which she believes that E**. We may therefore continue to disregard this belief.

[16] Given, that is, that the bird's having black wings is the only clue to its being a goldfinch rather than a canary (see footnote 10 above).

Now, in MC, does *S* give a sufficiently high degree of belief to the hypothesis that A, that is, to the hypothesis that goldfinches have black wings while canaries have wings of a different color? No. Suppose that *S* believes that A[17] while seeing that the bird's wings are black. Her doing so suggests that she does *not* miss the clue. In fact, it suggests that she sees the bird's having black wings as indicating that it's a goldfinch, and that she will respond to Professor A by saying 'It's a goldfinch' rather than by saying 'I don't know'. Thus, if MC were a case in which *S* believes that A while seeing that the bird has black wings, it would not be a case in which she misses the clue. This suggests that, in MC, *S* does not give a sufficiently high degree of belief to the hypothesis that A.

But this may not be satisfying, for perhaps we can imagine cases in which *S* responds to Professor A by saying 'I don't know' even though she believes that A while seeing that the bird has black wings. Suppose that *S* is unusually distracted, or that she is exceptionally intellectually incapable. If this is the case, then even when she believes that A while seeing that this bird has black wings, her exceptional intellectual incapability (for example) might keep her from seeing that this has any bearing on the question put to her by Professor A.

Yet even in cases like this, we should not accuse *S* of missing$_1$ the clue.[18] For *S* sees the clue as a clue – that is, she sees the color of the bird's wings as an indication of which sort of

[17] At times I say, for example, 'S *believes* that A' instead of 'S believes that A *to a sufficiently high degree*'. This is only for ease of expression, and, unless otherwise noted, 'S believes that A' should be taken to mean 'S believes that A to a sufficiently high degree'.

[18] Both Schaffer, in correspondence, and an anonymous referee graciously pressed the point that even though *S* believes that A while seeing that the bird's wings are black, she might nevertheless miss the clue. Both Schaffer and the referee seem to have in mind that *S* might in such a case *miss$_1$* the clue. It seems, moreover, that *S* can miss the clue here *only* by missing$_1$ the clue. First of all, *S* would not miss$_2$ the clue in this case. If she were to miss$_2$ the clue – and hence to take it that the clue indicates that this bird is a canary rather than a goldfinch – then, contrary to our hypothesis, she would not believe that A. Neither does *S* miss$_3$ the clue (see pages 12-13 below). For, if she were to miss$_3$ the clue – and hence to be unsure which sort of bird this is – then, contrary to our hypothesis, she would once again fail to believe that A.

bird it is – in virtue of believing that A while seeing that the bird has black wings. This is so because seeing that the bird has black wings while believing that A amounts to believing that

(A*) goldfinches have black wings, as this bird does, while canaries have wings of a different color.

And believing that A* is tantamount *at least* to seeing the color of the bird's wings as a clue to which sort of bird it is. This applies not only when *S* is asked to determine whether this bird is a goldfinch or a canary, but also in similar situations. For example, I see the color of this book's cover as a clue to whose book it is when I believe that Jessica's book has a blue cover, as this book does, while Sarah's book has a red cover. And we could cull additional examples from a seemingly endless field. This suggests, then, that no case in which *S* believes that A while seeing that the bird has black wings will count as a case in which she misses_1 the clue.

Nevertheless, I think we should admit that *S* might respond to Professor A by saying 'I don't know' even when she believes that A while seeing that the bird has black wings. Does this suggest after all that *S* might miss_1 the clue in such situations? No. Let's distinguish *seeing the clue as a clue* – that is, seeing the bird's having black wings as an indication of which sort of bird it is – from what I will call *seeing where the clue leads* – that is, seeing the bird's having black wings as indicating *that the bird is a goldfinch*. Recall our earlier supposition that *S* is unusually distracted, or that she is exceptionally intellectually incapable. Either of these difficulties can stand in the way of *S*'s seeing where the clue leads. She might be so distracted, for example, that she cannot take the step from seeing the clue *as a clue* to seeing the clue *as indicating that the bird is a goldfinch*, in which case she might very well respond by saying 'I don't know'. Yet her doing so does *not* indicate that she has missed_1 the clue, for, as I argued in the preceding paragraph, her believing that A while seeing that the bird has black wings is

tantamount to her seeing the bird's having black wings as an indication of which sort of bird it is. I maintain, then, that if *S* responds in this case by saying 'I don't know', she does so not because she misses$_1$ the clue, but only because certain distractions or intellectual incapacities keep her from seeing where the clue leads. Thus, in cases in which she believes that A while seeing that the bird has black wings, *S* sees the clue as a clue and then either (i) responds by saying 'I don't know' (if and when she does so respond) only because she fails to see where the clue leads, or (ii) sees where the clue leads and responds by saying 'It's a goldfinch'. And since *S* misses$_1$ the clue in neither case, MC would not count as a missed clue case if *S* were to believe that A. This shows that, in MC, *S* does not believe that A to a sufficiently high degree.[19]

Let's now turn to the question whether *S* gives a sufficiently high degree of belief to the hypothesis that B, that is, to the hypothesis that *canaries* have black wings while goldfinches have wings of a different color. Imagine a case in which *S* believes that B while seeing that this bird's wings are black. In such a case, as in cases in which *S* believes that A while seeing that the bird has black wings, *S* sees the clue as a clue. Since her belief that B is mistaken, however, she does not see where the clue leads. Rather, she sees the clue as a clue, and mistakenly takes it to indicate that the bird is a *canary*. That is, she misses$_2$ the clue, and will respond to Professor A by saying 'It's a canary'. Moreover, by a line of reasoning similar to that of the preceding paragraph, even if *S* were to respond by saying 'I don't know', she would do so not because she fails to see the clue as a clue, but only because she fails *both* to take the clue as indicating that

[19] I have argued that cases in which *S* fails to see where the clue leads are not cases in which she misses the clue. But might such cases nevertheless constitute counterexamples to Lewis's version of RA? No. Even though failing to see where the clue leads might cause *S* to *say* that she doesn't know, it isn't enough to cause her actually to fail to know. Lewis can maintain that, in cases in which she believes that A while seeing that the bird has black wings, *S*'s evidence eliminates all relevant alternatives to this bird's being a goldfinch. He can therefore safely maintain that *S* knows in these cases that this bird is a goldfinch (although perhaps he should admit that *S* doesn't know that she knows). For this reason, cases in which *S* fails to see where the clue leads are not counterexamples to Lewis's version of RA.

this bird is a canary *and* to see where the clue leads. Cases in which *S* gives a sufficiently high degree of belief to the hypothesis that B are therefore cases in which she sees the clue as a clue and then either (i) takes the clue to indicate that this bird is a canary – thus missing_2 the clue – and responds by saying 'It's a canary', or (ii) says 'I don't know' only because she fails to take the clue as indicating that this is a canary (as well as to see where the clue leads). In neither (i) nor (ii), however, does *S* fail to see the clue as a clue. Thus, MC is not a case in which she believes that B.

Does *S* give a sufficiently high degree of belief to the hypothesis that C, that is, to the hypothesis that goldfinches as well as (ordinary) canaries have black wings? Imagine a case in which *S* believes that C while seeing that the bird has black wings. In such a case, even though she sees that the bird has black wings, and even though she is earnestly trying to discover something that will indicate which sort of bird it is, *S* does not see the bird's having black wings as an indication of which sort of bird it is. She therefore fails to see the bird's having black wings as a clue at all; she literally has no clue whether it's a goldfinch or a canary. This is therefore a case in which *S* misses_1 the clue and in which she will respond to Professor A by saying 'I don't know'. This is, at last, a case that involves the appropriate sort of missed clue, a clue the missing of which causes *S* to fail to know that this bird is a goldfinch. Furthermore, we can now see that if the clue in MC is to count as a clue of this sort – that is, as a missed_1 clue – *S* must give a sufficiently high degree of belief to the hypothesis that C. It will not do for her to give any other hypothesis a high degree of belief: as we have seen, the clue in MC would not count as a missed_1 clue if *S* were to believe either that A or that B. Thus, MC counts as the appropriate sort of missed clue case – that is, as a case in which *S* misses_1 the clue – only if, in MC, *S* believes that C to a sufficiently high degree.

But can MC count as a case in which *S* misses$_1$ the clue if it is a case in which she gives a sufficiently high degree of belief to the hypothesis that

(D) goldfinches as well as *mutant* canaries have black wings?

No. The clue in MC is a clue that this bird is a goldfinch as opposed to an *ordinary* canary; it is *not* a clue that this bird is a goldfinch as opposed to a *mutant* canary. Recall that a mutant canary is a canary that looks perfectly goldfinch-like due, for example, to its having been cleverly painted or to its being a genetic mutant. Now, in general, if *c* is a clue that this is a *p* rather than a *q*, then *c* must distinguish *p*s from *q*s. Yet having black wings does not distinguish goldfinches from mutant canaries: both birds have black wings. Thus, having black wings cannot be a clue that this is a goldfinch rather than a mutant canary, and *S* cannot miss$_1$ the clue in MC by believing that D.

Perhaps, though, there is some *third* way of missing the clue such that if *S* were to miss the clue in that way, she would fail not only to know that this bird is a goldfinch, but also to believe that C. Indeed, perhaps it's true that if she were to miss the clue in this third way, she would have *no beliefs at all* about the colors of the wings of either canaries or goldfinches. Let's say, then, that we *miss*$_3$ a clue that *p* rather than *q* when even though we see it as a clue, we are unsure whether it's a clue that *p* or a clue that *q*. Can MC be a case in which *S* misses$_3$ the clue, thus failing to know that this bird is a goldfinch, while at the same time giving C a less-than-sufficiently-high degree of belief? No. The Rule of Belief rescues Lewis's version of RA even here: MC counts as a case in which *S* misses$_3$ the clue only if, in MC, she gives C a sufficiently high degree of belief. To see this, imagine a case in which *S* misses$_3$ the clue – perhaps she sees the bird's having black wings as an indication of which sort of bird it is, but simply can't remember whether black wings indicate a goldfinch or a canary – and thus responds to Professor

A by saying 'I don't know'.[20] Since she sees the bird's having black wings as an indication of which sort of bird it is, she must believe to a sufficiently high degree that *one* of the species has black wings. Thus, to say in this case that *S* is unsure which of the two species has black wings – that is, to say that she misses$_3$ the clue – is to say that she believes to a sufficiently high degree *both* that canaries have black wings *and* that goldfinches have black wings. To say that she is unsure, that is, is to say that she believes to a sufficiently high degree that C. For, if this were not the case, then *either* she would give a less-than-sufficiently-high degree of belief to the hypothesis that canaries have black wings, in which case she would favor the hypothesis that A, *or* she would give a less-than-sufficiently-high degree of belief to the hypothesis that goldfinches have black wings, in which case she would favor the hypothesis that B. Thus, if we want to maintain that this is a case in which *S* is not sure which of the two species has black wings, we must acknowledge that she believes to a sufficiently high degree that C. Cases in which *S* misses$_3$ the clue are therefore cases in which the alternative that this bird is an ordinary, black-winged canary is relevant.

We have now seen that, in MC, *S* misses the clue in a way that causes her to fail to know that this bird is a goldfinch – that is, she either misses$_1$ or misses$_3$ the clue – only if she believes to a sufficiently high degree that goldfinches as well as ordinary canaries have black wings. And according to Lewis's Rule of Belief, her doing so in situations like the one described in MC, situations in which she sees that this bird has black wings, is sufficient to make relevant the alternative that *this bird is an ordinary (non-mutant), black-winged canary*. Moreover, *S*'s perceptual experience does not eliminate this alternative, for her experience in a world in which the bird is an ordinary, black-winged canary will match her experience in a world in which the

[20] I am grateful to an anonymous referee for suggesting both this case and the third way of missing a clue.

bird is a goldfinch.[21] Lewis's version of RA will therefore maintain, as it should, that *S* does not know in MC that this bird is a goldfinch. And since it adequately explains *S*'s failure to know in MC, Lewis's version of RA does not succumb to the problem of the missed clue.

III. Extending the Argument

As Schaffer notes, however, MC is not an extraordinary case: 'Missed clues are everywhere'.[22] Yet I suspect that no missed clue case will topple Lewis's version of RA. Given the nature of such cases – given especially what *S* needs to believe in such cases in order to miss the clue and genuinely to fail to know – Lewis's version will be able to identify in each missed clue case an alternative that is both relevant and uneliminated, and hence responsible for *S*'s not knowing. The story for missed clue cases involving elms and oaks, or Judy and Trudy, or sedans and coupes, will of course be exactly similar to the story for the case involving goldfinches and canaries. Yet rather than considering these cases one by one, I would like in conclusion to provide a general argument which shows that Lewis's version of RA will survive exposure to any and all missed clue cases.

As we have seen, *S*'s ignorance in MC results either from her missing$_1$ or from her missing$_3$ the clue. And given what we need to believe in order to miss a clue in either of these ways, our missing a clue will always generate an alternative that is both relevant and uneliminated. Let's first consider cases in which there is a clue – say, *x*'s having feature *f* is a clue to its being a *p* rather than a *q* – but in which *S* fails to know that *x* is a *p* because she misses$_3$ the clue. Recall that *S* misses$_3$ the clue when even though she sees it as a clue, she is

[21] Given, once again, that the bird's having black wings is the only clue to its being a goldfinch rather than a canary.

[22] Schaffer [8], p. 203.

unsure whether it's a clue that *p* or a clue that *q*. Yet to say that she is unsure is to say that she believes to a sufficiently high degree both that *p*s have *f* and that *q*s have *f*. Thus, according to Lewis's Rule of Belief, the alternative that *x* is a *q* that has *f* is relevant. This alternative will not be eliminated by *S*'s perceptual experience, however, for her experience in a world in which *x* is a *q* that has *f* will match her experience in a world in which *x* is a *p* that has *f*.[23] This suggests that in *any* case in which *S* misses$_3$ the clue, there will be a relevant but uneliminated alternative available to the RA theorist. Thus, in any such case, Lewis's version of RA can explain why *S* fails to know.

The same goes for cases in which *S* misses$_1$ the clue. Consider cases in which there is a clue – *x*'s having feature *f* is a clue to its being a *p* rather than a *q* – but in which *S* fails to know that *x* is a *p* because she misses$_1$ the clue. Recall that she misses$_1$ the clue because she fails to see it as a clue at all: even though she sees that *x* has *f*, *S* fails altogether to see its having *f* as something that indicates which sort of thing it is. In order to make this kind of mistake, *S* must believe that both *p*s and (ordinary) *q*s have *f*.[24] Thus, according to Lewis's Rule of Belief, the alternative that *x* is a *q* that has *f* is relevant. And, as we noted in the preceding paragraph, this alternative will not be eliminated by *S*'s perceptual experience. So in *any* case in which *S* misses$_1$ the clue, there will be a relevant but uneliminated alternative available to Lewis. His version of RA can therefore explain why *S* fails to know in any case in which she misses$_1$ the clue.

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[23] In this case, too, I assume that *x*'s having *f* is the only available clue to its being a *p* rather than a *q*. Yet, again, this does not affect my argument. We can also make adjustments here in order to account for cases in which I must miss several clues – *x*'s having f_1, *x*'s having f_2, … , *x*'s having f_n – if I am to fail to know.

[24] The reasons that allow us to disregard the mutant canary alternative also allow us to disregard the mutant *q* alternative. See Section II above.

We have now seen that Lewis's version of RA adequately explains our failure to know in MC. Furthermore, we have reason to believe that Lewis's version of RA should be able to handle any and all cases in which we either $miss_1$ or $miss_3$ a clue. Given what we need to believe in order to miss a clue in either of these ways, our missing a clue will always generate an alternative that is both relevant and uneliminated. I conclude, therefore, that Lewis's version of RA does not succumb to the problem of the missed clue.[25]

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