

CHANCE, ABILITY, AND CONTROL

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May 20, 2024

Abstract

This paper concerns a controversy between two compelling and popular claims in the theory of ability. One is the claim that ability requires control. The other is the claim that success entails ability, that is, that φ -ing entails that you are able to φ . Since actually φ -ing obviously does not entail that φ is in your control, these two claims cannot both be true. I introduce a new form of evidence to help adjudicate this controversy: judgments about the possibility and probability of ability ascriptions. I argue that these judgments provide evidence in favor of the thesis that success entails ability, and against the thesis that ability requires control. Moreover, I argue that these judgments support an analysis of ability in terms of conditionals.

1 Introduction

What does it take to be able to do something—say, wash the dishes before bed, read a paper, or hit a bullseye? In this paper I will focus on one particular controversy in the theory of ability: namely, whether ability requires control. On the one hand, it is natural to think that S is able to φ only if φ is under S’s control in some substantive sense. On the other hand, it is natural to think that S *actually* φ -ing shows that S is able to φ : that is, success entails ability. But these two intuitions conflict. If ability requires control, then it’s possible for S to φ without being able φ —namely, by φ -ing in an out-of-control, fluky way. Conversely, if

*mandelkern@nyu.edu. Many thanks to the Centre for Human Abilities for support with a fellowship while I worked on the paper. I’m grateful to audiences at the Centre for Human Abilities, the Dianoia Institute for Philosophy, Indiana University Bloomington, Johns Hopkins University, Stanford University, the University of Pennsylvania, and the University of Lisbon, and to an anonymous referee at Noûs, David Boylan, Nilanjan Das, Cian Dorr, Melissa Fusco, Ben Holguín, Bruno Jacinto, Joshua Knobe, Harvey Lederman, Annina Loets, Jonathan Phillips, Guillermo del Pinal, Daniel Rothschild, Ricardo Santos, Kieran Setiya, Malte Willer, and Snow Zhang for very helpful discussion. Thanks to Paolo Santorio, whose interesting paper on this topic, presented at the 2022 Amsterdam Colloquium, spurred the development of this paper. Finally, special thanks to an anonymous referee for this journal, Milo Phillips-Brown, and Ginger Schultheis for extensive and very helpful discussion and comments.

success entails ability, then flukily φ -ing shows that S is able to φ , whether or not φ is in her control.

The literature seems deadlocked on this issue: intuitions in key cases are disputed, and prominent analyses have come down on both sides of the debate. In this paper, I aim to make progress on this controversy by introducing a new form of evidence to the debate: judgments about the possibility and probability of ability ascriptions. These judgments show that you can be *sure* that S lacks control over φ , while also being sure that S might be able to φ , and, likewise, while still assigning positive credence to the proposition that S is able to φ . This suggests that ability does not entail control, and undermines intuitions that have influentially been used to argue in favor of control.

Moreover, I argue that probability judgments favor the success inference, because the probability that S is *able* to φ appears to always be at least as great as the probability that S *in fact* φ 's, a pattern that is naturally explained by the validity of the success inference.

I argue, finally, that probability judgments favor the class of theories that analyze ability in terms of *conditionals*, in the tradition of [Hume 1748](#).

I set up the debate by introducing approaches which validate the success inference but not the control inference (§2), and then approaches which embrace control rather than success (§3). In §4 I introduce the key data: possibility and probability judgments about ability ascriptions. I explain how these data tell against control and speak in favor of success (§5). Finally, I argue that they favor in particular some form of conditional analysis of ability (§6).

2 Success

First, some preliminaries. I will approach these questions about ability by exploring judgments about *agentive modals*: words like ‘able’ and ‘can’ in English, on the reading where they are used to talk about ability (or its lack). In some cases it can be difficult to distinguish such a reading from a circumstantial one, a topic I’ll return to in §6.5; for the most part I will focus on cases that everyone will agree are paradigmatic ability readings. When I talk about ‘able’ without further specification, what I mean is ‘able’ *on its agentive reading*. I move freely between ‘able’ and ‘can’, assuming that on their agentive readings, they mean the same thing. I assume agentive modals denote a relation between an individual and an action (which, for simplicity, I’ll model simply as a property of individuals); I write $A_s\varphi$ for ‘S is able to φ ’ on its agentive reading, and $\varphi(S)$ for ‘S φ 's’.¹

With this in hand, I’ll introduce two popular theories of ‘able’, and then briefly motivate the success inference which they both validate.

¹I will be sloppy about use and mention, so I will use φ both as a schematic variable over predicates in our target fragment and as a metalanguage variable over actions.

2.1 The existential analysis

The existential analysis of agentive modals says that ‘able’ denotes an existential quantifier over accessible worlds (Hilpinen, 1969; Lewis, 1976; Kratzer, 1977, 1981). There are differences in implementation which need not concern us here;² the basic idea is that ‘able’ quantifies existentially over worlds that hold fixed the (contextually salient) intrinsic features and extrinsic circumstances of the agent in question (see Vetter 2013 for a helpful characterization of the view). More formally:

$$\textit{Existential analysis: } \llbracket A_s \varphi \rrbracket^{c,w} = 1 \text{ iff } \exists w' : w R_c w' \wedge \llbracket \varphi(S) \rrbracket^{c,w'} = 1$$

$\llbracket \cdot \rrbracket^{c,w}$ is the interpretation function which takes a sentence to its truth-value at context c and world w . R_c is the context’s binary accessibility relation on worlds, which, again, holds fixed salient facts about the agent’s circumstances and intrinsic features. So, for instance, a sentence like (1) is predicted to be true on this view just in case Flo’s circumstances and intrinsic features are compatible with flying:

- (1) Flo is able to fly.

If Flo is a penguin, (1) thus comes out false. If Flo is a swallow, and otherwise unimpeded from flying, (1) comes out true.

2.2 The conditional analysis

A popular alternative theory analyzes ability in terms of *conditionals*. To see the motivation for a theory like this (following discussion in Kenny 1976; Mandelkern et al. 2017), suppose that Jo is playing darts. Jo’s young daughter Susie exclaims:

- (2) I’m able to hit the bullseye on this throw.

Susie is an ordinary five-year-old: she is relatively weak and uncoordinated, and it is extremely unlikely that she’ll hit the bullseye if she tries. But it’s not *impossible*: hitting the bullseye is *consistent* with her intrinsic features and local circumstances. Still, most people won’t readily assert or assent to (2). Intuitions about the precise status of (2) vary, but no one seems to think that (2) is clearly true. Instead, people tend to think that (2) is indeterminate, or false, or unlikely, or unassertable for some other reason. One of the goals of this paper is to clarify the precise status of sentences like (2). But the present point is that all of these judgments are, on the face of it, inconsistent with the existential theory, which predicts that (2) is

²Most prominently, Kratzer’s treatment involves two contextual parameters, a modal base and ordering source, rather than one; but for our purposes, there is no loss to compressing those parameters into a single accessibility relation.

clearly, determinately, certainly true, since it is clearly, determinately, certainly *compatible* with Susie’s intrinsic features, and the present circumstances, that Susie hit the bullseye on this throw.

Considerations like this motivate a conditional analysis of ability (Hume, 1748; Moore, 1912; Lehrer, 1976; Cross, 1986; Thomason, 2005; Mandelkern et al., 2017). On the simplest form of conditional analysis, $A_s\varphi$ says that if S tries to φ , then S φ ’s. That is, where $try(S, \varphi)$ is shorthand for ‘S tries to φ ’ and $>$ is the conditional operator ‘If... then...’:

$$\text{Conditional analysis: } \llbracket A_s\varphi \rrbracket^{c,w} = \llbracket try(S, \varphi) > \varphi(S) \rrbracket^{c,w}$$

This account seems to do better than the existential analysis in cases like that of Susie. According to the conditional analysis, ‘I’m able to hit the bullseye on this throw’ is equivalent to ‘If I try to hit the bullseye on this throw, I’ll succeed’. This seems intuitively correct. Different theories of the conditional have different verdicts on the status of this conditional, but no one predicts that it is certainly true, matching intuitions about the ability claim.

The conditional analysis in its simplest form has serious problems (§6.2). But for now I want to step back from the debate between the existential and conditional analyses (which I return to in §6.1) and examine an inference that both the existential and conditional analyses validate: Success.

2.3 Success

There are different ways to spell out the success intuition—the rough intuition that actually *doing* something entails that you are *able* to do it. I’ll focus on the following schematic inference, which says that if someone tries and succeeds, then they are able:

$$\text{Success: } try(S, \varphi) \wedge \varphi(S) \vDash A_s\varphi$$

Success is validated by both the existential and conditional analyses given some standard auxiliary assumptions. Success follows from the existential analysis given the assumption that every world can access itself under the relevant accessibility relation. Indeed, that assumption follows from the gloss on the existential analysis given above: accessibility holds fixed *facts* about the agent’s intrinsic properties and local circumstances, and so every world will be able to access itself. Thus if S does φ , then there is an accessible world where she does φ , namely, actuality, and so $A_s\varphi$ is true.

Success also follows from the conditional analysis given the logical principle *And-to-If* which says that a conditional with a true antecedent and a true consequent is true (that is, $p \wedge q \vDash p > q$). Despite substantial controversy about conditionals, *And-to-If* is widely accepted. Given that S tries to do φ and succeeds, it follows by *And-to-If* that S does φ if she tries, and hence, on the conditional analysis, that S is able to do φ .

A simple argument in favor of Success comes from judgments of incoherence: it’s very strange to leave open the premise of Success while committing to the negation of its conclusion, as in (3).

(3) #Susie might try to hit the bullseye and succeed, but she can’t hit the bullseye.

This is naturally explained by Success, since as long as you leave it open that Susie will try to hit the bullseye and succeed, it follows by Success that you leave it open that she *can* hit the bullseye.

The name ‘Success’ is sometimes used for a strictly stronger principle, which I’ll call *Strong Success*, which says that simply φ -ing entails that you are able to φ (whether or not you tried):

$$\textit{Strong Success}: \varphi(S) \models A_s\varphi$$

The negative arguments I will consider target both Success and Strong Success; and the positive argument I will give for Success also favors Strong Success. But initially I want to focus on Success because the simplest form of the conditional analysis only validates Success, not Strong Success, and I want to emphasize this point of controversy between, on one side, the existential and conditional analyses, and, on the other, control-based analyses. I’ll return to this in §6.2.

3 Control

Many doubt the validity of Success. The worry stems from the intuition that being able to φ requires having φ *under your control* in some substantial sense. This intuition conflicts with Success, which entails that if you try to φ and succeed, then you are able to φ , even if φ -ing was completely out of your control.

Concretely, return to Susie. She wildly throws a dart at a dartboard, trying to hit the bullseye. Improbably, she hits the bullseye, just by luck, a random fluke. In that case, according to Success, she is *able* to hit the bullseye, since she tried to hit the bullseye and succeeded. But many have thought that this cannot be right. To be able to hit the bullseye, you have to do something more than just flukily hit it: the action of hitting the bullseye must somehow be *in your control*. And so Success is not valid.

The intuition that ability requires control, and thus that Success is invalid, is widespread.³ [Boylan \(2020\)](#) writes that ‘control is central to ability... the claim that I can surf that wave is strong—it says that surfing that wave is within my control’. [Mandelkern et al. \(2017\)](#) claim that ‘ability ascriptions [are] a kind of *hypothetical guarantee*. When someone says ‘John can go swimming this evening’, she is informing her interlocutors that going swimming this evening

³See [Kikkert 2022](#) for extensive discussion of the relevant kind of control.

is, in a certain sense, within John’s control’. Fusco (2020) argues that ‘accidental, or *fluky*, success is insufficient for ascriptions of ability’. Loets and Zakkou (2022) identify the claim that ability requires control as being at the root of a wide range of philosophical views about ability and judgments (though they do not themselves commit to it).

Two subtleties are worth noting. First, it is standard to distinguish between ascriptions of *general/standing* abilities, which ascribe the ability to do a *type* of action, and *specific* ability ascriptions, which ascribe the ability to do a *specific* action, i.e. one located in a particular place and time. So, for instance, we might accept that Susie was able to hit a bullseye at 3 pm today—she had the specific ability to *hit the bullseye at 3 pm*—while denying that she is *generally* able to *hit bullseyes*. Conversely, someone might generally be able to hit bullseyes, while being unable to hit a bullseye at 3 pm today (say, because he’s drunk). Everyone, I think, will agree that Success is false for general ability ascriptions: doing something once obviously doesn’t show that you can do it *in general*. So the interesting debate between success and control concerns specific ability ascriptions, and I will focus on these throughout. I will always have specific abilities in mind when I talk about ability unless otherwise noted, though for brevity, I won’t always explicitly index the action to a time and place. I will continue to use the nominalization ‘ability’ even though this seems to go more naturally with the notion of a general ability than a specific one; my core interest throughout is the meaning of ability ascriptions with the form ‘ $\lceil S \text{ is able to } \varphi \rceil$ ’ where φ is a specific action, one indexed to a particular place and time.

Second, the control intuition that is my target here is one on which ability requires control in a substantive sense, one that an agent like Susie, for instance lacks. It is compatible with Success that ability requires control *in some very thin sense*, provided that whenever S does φ , S has control over φ in the relevant sense. Control is a context-sensitive and graded notion. Haphazard though she is, Susie does have control over the action of hitting the bullseye in some very thin sense: it is at least up to her whether she tries to hit the bullseye. This can be brought out by comparing the action of hitting the bullseye to, say, bringing it about that it rained yesterday. The thesis that ability requires control in some very thin sense is not the target I’m interested in in this paper. Instead, the version of the control view I have in my sights is one on which ability requires control in a much more robust sense, a sense that haphazard agents like Susie lack. This is, to be clear, not a strawman, but a view that many in the literature have endorsed. Indeed, the case of the haphazard dartplayer was introduced by Kenny as a counterexample to Success: she is a paradigm of someone who is *not* able to do something because of their lack of control over the relevant action.

To make things more concrete, I’ll give a brief informal summary of some recent proposals which aim to validate something like the control intuition, and hence invalidate Success. First, we can encode control by stacking modal operators. This is the path taken by Fusco (2020). Following the tradition of Brown 1988; Horty and Belnap 1995, Fusco treats ability ascriptions

as complexes of existential and necessity operators: $A_s\varphi$ means that it is historically possible that S 's powers *necessitate* $\varphi(S)$. It is natural to think of S 's powers *necessitating* $\varphi(S)$ as one gloss on what it means for S to have φ in her control. Then we can gloss Fusco's view this way: $A_s\varphi$ is true just in case there is a historical possibility where S does φ *in a controlled way*. This rules out ability in Susie's case: although it is historically possible that she hit a bullseye, it's not historically possible that she do so in a controlled way.

A second approach encodes control via a threshold. For instance, [Willer \(2021\)](#) suggests that to be able to φ is to have 'a good chance at succeeding in performing the relevant action, should he or she try to do it' (cf. [Jaster 2020](#)). Once again, this kind of threshold can be seen as a way of cashing out the control intuition: $A_s\varphi$ is true only if φ is in the agent's control to a sufficient degree, in the sense that trying to do φ results in performing φ enough of the time. Since Susie doesn't meet this kind of threshold when it comes to hitting bullseyes, she won't count as being able to hit a bullseye.

A third approach, following recent proposals in [Boylan \(2020\)](#); [Santorio \(2022\)](#), encodes control as a presupposition of ability ascriptions.⁴ That is, $A_s\varphi$ *asserts* that it is possible that S does φ , and *presupposes* that S has control over φ . On this approach, it's not true that Susie is able to hit a bullseye, since this has a false presupposition: that Susie has control over the action of hitting a bullseye.

The argument I will give below targets all these implementations of the control intuition; I have gone through them to give a sense of different ways the control intuition might be cashed out. By contrast with all these views—which predict that it is clearly not true that Susie is able to hit the bullseye—it follows from Success that it is at least possible that Susie is able to hit the bullseye, since it is clearly possible that Susie will try and succeed at hitting the bullseye, which, given Success, entails being able to hit the bullseye.

The literature contains various arguments for control and against Success. I will rehearse a version of a famous case from [Kenny 1976](#), which, repurposed slightly, makes for a powerful argument for control. Alice shuffles a standard deck of cards and places it face down. At 3 pm she will draw a card at random from the deck; she will be unable to examine the card she draws before selecting it. Now consider (4-a) and (4-b):

- (4) a. Alice can draw a red card at 3 pm.
 b. Alice can draw a black card at 3 pm.

According to [Kenny 1976](#), both (4-a) and (4-b) are false. Alice's lack of control makes for a compelling diagnosis of these judgments: since Alice can't control the color of the card she draws, she is neither able to draw a red card nor able to draw a black card. But note that

⁴The details of Santorio's account are slightly different from this, in ways that are not important for present purposes.

Alice *will* draw a red card or a black card. Let's add, moreover, that she is trying to draw a red card and trying to draw a black card (suppose she needs either a hearts or a club to win the game). But then, given Success, it follows that either she can draw a red card, or she can draw a black card. (See [Boylan 2020](#) for extended recent discussion of similar cases.)

Not only have arguments like Kenny's convinced many that ability requires control, but, as [Boylan \(2020\)](#) discusses, a presuppositional theory of the relation between ability and control also undermines the argument for Success from incoherence. Recall that argument starts from the incoherence of sentences with the form $\diamond(\text{try}(S, \varphi) \wedge \varphi(S)) \wedge \neg A_s \varphi$, like 'Susie might try to hit the bullseye and succeed, but she can't hit a bullseye'. This incoherence is explained by Success. But a presuppositional approach also has an explanation of the incoherence. On such an account, if φ -ing is not in S's control, then the control presupposition of $A_s \varphi$ will not be satisfied, and so neither $A_s \varphi$ *nor its negation* will be assertable, since presuppositions project through negation. Hence a sentence like 'Susie might try to hit the bullseye and succeed, but she can't hit a bullseye' will be unassertable because it has a false presupposition. So the presuppositional account not only captures the control intuition, but also ingeniously undermines the most obvious argument for Success.

4 Chancy abilities

Nonetheless, I'm convinced that ability does not require control, and moreover, that Success is valid. The argument for this comes from judgments about the *possibility* and *probability* of ability ascriptions. I will begin in this section by eliciting intuitions in a number of cases. I will then briefly argue against an error theory about these judgments, before turning to explore their ramifications.

4.1 Possibility and probability judgments

Recall that Susie is a haphazard dart player, tossing darts at the board; she can barely hit the dartboard, let alone the bullseye. But every once in a while, she gets a bullseye, just by luck; say this happens once every thousand throws or so. So the probability that she'll hit a bullseye on any particular throw is about .1%. (It doesn't matter exactly what sense of probability we have in mind in these cases; I will move freely between talk of chance and probability, and between talking about the probability of sentences and of the corresponding propositions.) Now suppose that when the clock strikes 3 pm, Susie will throw a dart at the dartboard. Consider:

- (5) Susie might be able to hit a bullseye at 3 pm.

This seems clearly true. We can also, more specifically, consider the *chance* that Susie will be

able to hit a bullseye:

- (6) What's the chance that Susie will be able to hit a bullseye at 3 pm?

The obvious answer to (6) is .1%.

Suppose next that Ludwig is going to an audition. Consider (7):

- (7) What's the probability that Ludwig can play the Hammerklavier sonata through at the audition without making an error?

Suppose your credence that Ludwig *will* play the sonata through without making an error, conditional on him trying, is 20%. Then, intuitively, the answer to (7) is 20%. And, relatedly, it seems clearly true that Ludwig *might* be able to play the Hammerklavier without making an error.

Or consider Ginger, who is standing on the basketball court getting ready to attempt a free throw. Suppose that, conditional on taking a shot, she is 10% likely to make a basket (she's taken hundreds of free throws over the last few weeks, and made 10% of them). Consider (8):

- (8) Ginger can make a free throw right now.

Intuitively it's certain that (8) *might* be true, and, specifically, there is a 10% chance that it is true.

These are my intuitions, anyway, and match my informal polling.

4.2 Targeting the complement?

Before turning to the upshots of these judgments, let me address an obvious worry about them. The worry is that these judgments might not be about ability at all; instead, when asked about the possibility or probability of $\lceil S \text{ is able to } \varphi \rceil$, the intuitions we most prominently access—the intuitions I reported in the last section—are simply about whether S *does* φ . So, for example, in the case of Susie, I said that the chance that Susie will be able to hit a bullseye at 3 pm is intuitively .1%; but this is also the chance that she *will* hit a bullseye at 3 pm, so maybe we are just confusing the complement for the modal claim when we assess probabilities (the *complement* of $A_s\varphi$, on my slightly extended usage, is $\varphi(S)$).

This objection could be spelled out in at least two ways. First, [von Fintel and Gillies \(2008\)](#) argue that in general, subjects can focus on the complement of a modal claim rather than the modal claim in various kinds of assessments of *what was said*. Second, and more locally, [Bhatt \(1999\)](#) observes that in some cases an ability claim just sounds equivalent to its complement (it has an *actuality entailment*). This comes out most clearly with past-oriented

ability claims: ‘Ginger was able to make the shot’ has a prominent reading on which it seems to be true iff Ginger in fact made the shot. These observations (or others), either separately or jointly, might underly an error theory along the present lines.

On further examination, however, this error theory is untenable. To see this, we can set-up cases where the probability of $\varphi(S)$ is clearly different from the probability of $A_s\varphi$: since these clearly diverge in these cases, judgments of the probability of $A_s\varphi$ can’t be simply tracking judgments about the probability of $\varphi(S)$.

So, for instance, suppose you’re not sure whether Susie will take a shot at 3 pm; say there is a 50% chance she will, and a 50% chance she won’t. Given that, the chance that Susie *will* hit a bullseye at 3 pm is .05%: it’s the probability that she both tries to make a shot and succeeds. But the chance that she *can* hit a bullseye intuitively remains .1%: that is, it remains the chance that she will hit a bullseye, *conditional on trying to*.

For another case where the probability of the ability claim and its complement clearly diverge, suppose that a basketball coach is considering which of five players to choose to attempt a free throw after a technical foul. She asks the assistant coach for advice: ‘What’s the chance that Ginger can make a free throw right now?’ Given that Ginger makes 10% of free throws that she attempts, the answer is intuitively 10%. But this is not the chance that Ginger *will* make the shot, which is much lower, since Ginger might not be substituted in (let’s say she has a 20% chance of being substituted in, so there is a 2% chance that she *will* make a free throw).

Things are slightly more subtle with past-oriented ability ascriptions, because of actuality entailments.⁵ But we can circumvent these issues, because, as Bhatt observed, the reading of a past-oriented ability modal on which the actuality entailment is valid is only one reading. There are two ways to get at the other reading. First, we can stick with English but make clear that the action in question was not even attempted.⁶ So suppose that the basketball set-up remains identical, but assume that the game happened yesterday. I tell you:

- (9) Ginger wasn’t substituted in after all, so she didn’t attempt a free throw. Still, what’s the chance that she was even *able* to make one?

Intuitively, the chance remains 10%, since Ginger makes 10% of the free throws she attempts (though judgments here seem to be somewhat marginal). But the chance that she *made* the free throw is 0, since we know she didn’t make the free throw.

The second option is to switch to languages that clearly distinguish perfective and im-

⁵Why do we need to look at past-oriented ability ascriptions in addition to those we’ve examined so far? We probably don’t, but some have suggested to me that judgments about future-oriented cases may be muddled by the presence of ‘will’, which has been argued to itself have a modal meaning (Klecha, 2013; Cariani and Santorio, 2018; Cariani, 2021).

⁶Thanks to Ginger Schultheis for suggesting this paradigm.

perfective aspect. As Bhatt observed, in those languages, the actuality reading only arises when the ability modal is perfective. For instance, consider the Hindi version of our case with Ginger. Assume that the game happened yesterday, and assume again that we don't know who was substituted in or what happened afterwards. Compare (10) (the past imperfective ability claim) with (11) (its complement):

(10) Ginger kal ek free throw kar saktī thī.
 Ginger yesterday a free throw make able was-impfv
 Ginger was able to make a free throw yesterday.

(11) Ginger-ne kal ek free throw kī thī.
 Ginger yesterday a free throw make past
 Ginger made a free throw yesterday.

My Hindi informant tells me that (10) has probability 10%, while (11) has probability 2%. Informants tell me that judgments about the corresponding sentences in French, which also distinguishes imperfective from perfective aspect, are the same.⁷

In sum: the probability of $\varphi(S)$ and $A_s\varphi$ can easily diverge. That shows that the probability judgments I have elicited are really about ability ascriptions, not their complements, putting to rest a natural error theory.

5 Control vs. Success

In the rest of the paper, I'll explore the upshots of judgments about chancy abilities. In this section, I argue that the judgments elicited in the last section show that ability does not require control; that those judgments favor the Success inference; and that they undermine Kenny's arguments against Success. In §5.4 I consider and reject some ways to push back against these conclusions.

5.1 Against control

For concreteness, focus again on Susie, who is haphazardly chucking darts at the dartboard. If ability required control, then what would be the probability of (12)?

(12) Susie will be able to hit a bullseye at 3 pm.

It depends on how exactly control is incorporated. Above I briefly surveyed three approaches. The first two encoded control via the truth-conditions of ability modals (the first via an extra modal operator, the second via a threshold). On either of those views, (12) is certainly false: it has probability 0. That is simply because we are certain that Susie does not have control

⁷Thanks to Nilanjan Das, Ahmad Jabbar, and Raphaël Turcotte for judgments.

(in the relevant sense) over the action of hitting a bullseye at 3 pm.⁸ So, on these views, we should be certain that Susie is not able to hit a bullseye at 3 pm: that is, that (12) has probability 0, and that it can't be true.

But this verdict clearly conflicts with reflective judgments. Intuitively, (12) *might* be true; specifically, since Susie has a .1% chance of getting a bullseye, conditional on trying, she has a .1% chance of being able to hit a bullseye. If these judgments are rational, that's enough to show that ability doesn't require control in a straightforward, truth-conditional way.

What about a presuppositional approach? Here things are more complicated, but I think equally problematic. Recall that on this approach, $A_s\varphi$ *asserts* that $\varphi(S)$ is possible, and *presupposes* that φ is under S's control. So, on this account, we should be sure that (12) has a false presupposition. Usually when we are sure that a sentence has a false presupposition and we are asked to judge its probability, there are two intuitions available: one is that the question is ill-formed; the other is that the sentence is certainly false (we "locally accommodate" the presupposition, treating it as if it were part of the asserted content). So, for instance, consider (13):

- (13) Liam has never missed a rent payment. What's the chance that he'll miss another one?

The question in the second sentence of (13) presupposes that Liam has missed a rent payment in the past, while the first sentence denies this presupposition. Given that Liam has never missed a rent payment, the question 'What's the chance that he'll miss another one?' in the first instance feels incoherent. If forced to come to a judgment about it, it seems like the only thing you can think is that there is no chance that he'll miss another one, since he hasn't missed one in the past. In light of judgments like this, a presuppositional view of 'able' predicts that the question 'What is the chance of (12)?' will strike us as ill-formed, since we know it has a false presupposition; and that, if forced to react, the only accessible judgment will be 0. Likewise for questions like 'Might (12) be true?' A different possibility is that we simply ignore presuppositions in forming probability judgments, but this wouldn't get the correct judgment: if we set aside the presupposition, then we should be *sure* that Susie is able to hit a bullseye, since we are sure there is a circumstantially accessible world where she hits a bullseye. None of these options lets this view account for the observed judgments: namely, that questions about ability in cases where agents lack control are perfectly well-formed; that a sentence like (12) might be true; and, in particular, that the chance it is true is .1%

While there might be other ways of connecting ability ascriptions to control beyond the three I have sketched here, I suspect that all of them will conflict with intuitions about the

⁸If you think that a .1% chance of success is enough for control, lower the rate as much as you like; for any ϵ , no matter how small, if Susie has an ϵ chance of hitting a bullseye when she tries, then, intuitively, she has at least an ϵ chance of being able to hit a bullseye.

possibility and probability of ability ascriptions. If ability requires control, then we can be sure that one of the requirements for (12) to be true is not met, and hence that it has no chance of being true. But (12) does seem to have some chance of being true.

5.2 In favor of Success

In addition to telling against control, probability judgments about ability ascriptions yield a simple argument in favor of Success.

Recall that Success is the inference from $try(S, \varphi) \wedge \varphi(S)$ to $A_s\varphi$. One striking fact about the probability judgments elicited in §4 is that the probability of $A_s\varphi$ was always at least as great as the probability of $try(S, \varphi) \wedge \varphi(S)$. Hence, for instance, the probability that Susie will be *able* to hit a bullseye is at least as great as the probability that she will try to hit a bullseye and succeed.

It is a law of classical probability that, when p entails q , the probability of q is always at least as great as the probability of p . So the fact that the probability of $A_s\varphi$ is always at least as great as the probability of $try(S, \varphi) \wedge \varphi(S)$ would be neatly explained if Success were valid, providing a powerful abductive argument in favor of Success.

5.3 Kenny's argument

Probability judgments also provide a way to defuse the argument for control based on Kenny's cases. Recall that Alice is about to draw a card at random from a fair deck. Kenny claims that both (4-a) and (4-b) are false, since Alice lacks control over the action in question:

(4-a) Alice can draw a red card at 3 pm.

(4-b) Alice can draw a black card at 3 pm.

What's clearly correct in Kenny's case is that you shouldn't *say* either (4-a) or (4-b) (or at least, that both have one prominent reading on which they are unassertable; more on that below). But obviously, just because something isn't assertable, it doesn't follow that it's false: it might be that we are simply not in a position to assert it for any number of other reasons. In particular, it could be that one of (4-a) and (4-b) is true, but we simply don't know which one it is.

Probability judgments suggest that, indeed, this is the case. What is the probability that (4-a) and (4-b), respectively, are true? Intuitively 50% and 50%: there's a 50% chance that Alice will be able to draw a red card, and 50% chance that she will be able to draw a black card, since the red and black cards are equinumerous. (These judgments are brought out most clearly by focusing on a case where Alice is trying to draw a red card and trying to draw a black card, say, again, because she needs a hearts and needs a clubs to win a game.) If the

reason (4-a) was unassertable were that ability requires control, then we should be sure that (4-a) is false, since we are sure that Alice doesn't have control over the color of the card she draws. But (4-a) clearly has a 50% chance of being true. Similarly for (4-b). So, pace Kenny, what makes these sentences unassertable in these cases is not that they are both false, but rather that neither is sufficiently probable to assert in ordinary circumstances.

An anonymous reviewer points out that (4-a) and (4-b) also have readings on which they are both certainly true. Focus on (4-a). There is some first red card in the deck, call it r ; to draw a red card at 3 pm, it suffices for Alice to simply reach out her hand and draw r from the deck, and of course she can do that, even if she doesn't know which cards are red. Likewise for (4-b). I agree with these judgments, and in §6.3, I will discuss how readings like this can be predicted. But, of course, the existence of this second reading doesn't help the case for control: if the control intuition were correct, then the prominent agentive reading of (4-a) and (4-b) would be one on which both are *certainly* false. Such a reading does not seem available at all.

Judgments about probabilities also help defuse the argument against Success from Kenny's other cases; I'll quote his discussion here, since the interpretation is not entirely straightforward:

A hopeless darts player may, once in a lifetime, hit the bull, but be unable to repeat the performance because he does not have the ability to hit the bull. I cannot spell 'seize': I am never sure whether it is an exception to the rule about 'i' before 'e'; I just guess, and fifty times out of a hundred I get it right. On each such occasion we have a counter-example to [Strong Success]: it is the case that I am spelling 'seize' correctly but it is not the case that I can spell 'seize' correctly. (Kenny, 1976, p. 214)

The interpretive complexity is that Kenny seems to be running together the question of whether doing some specific action φ_t shows that S has a standing, general ability to do actions of the type φ , and the question of whether doing a specific action φ_t shows that S can do φ_t . The discussion of the darts player sounds like it's about the former (hitting a bullseye once does not show that you have the general ability to hit a bullseye). The second argument, by contrast (with its emphasis 'on each such occasion. . .') seems to be clearly about specific abilities, in particular, whether doing a given action shows that you are able to do that specific action. As I noted, no one should quarrel with the first point: no one thinks that hitting a bullseye once shows that you can *in general* hit bullseyes. So let's continue to focus on the question about specific abilities.

Applied to specific abilities, Kenny's argument seems to be this: if you are a haphazard dart player with a very low probability of hitting a bullseye, then you cannot hit a bullseye on a given throw; likewise, if you are not generally in control of the rule about the correct

spelling of ‘seize’, then you are not able to spell ‘seize’ correctly on a given occasion, even if there is a 50% chance that you will do so correctly. If we focus on assertability, these claims might look plausible; we would not assert that Susie can hit the bullseye on this throw, or that Kenny can spell ‘seize’ correctly on this occasion. But, once again, thinking about probability suggests that Kenny is wrong. If Kenny were right, we should be *sure* that Susie can’t hit a bullseye on this throw, and that Kenny can’t spell ‘seize’ correctly on this occasion. But in fact, it seems clear that, if there is some chance that Susie will hit a bullseye on this throw, then we should be sure she *might* be able to hit a bullseye on this throw; likewise, if there is a 50% chance that Kenny *will* spell ‘seize’ correctly, then there’s at least a 50% chance that he *can* do so.

5.4 In sum

In sum, possibility and probability judgments, if rational, appear to show that ability does not require control; suggest that Success is valid; and vitiates Kenny’s influential argument against Success.

Of course, these appearances can be resisted: there is room to argue that these possibility and probability judgments are simply not informative about the true nature of ability. One way to do this is to argue that these judgments are *irrational*, in which case they are no guide at all to underlying meanings. Indeed, probability judgments cannot in general be taken at face value, since humans make systematic errors in reasoning with probabilities.

This is a reasonable general worry about probability judgments. But I don’t think this is a promising path for resistance in this particular case. First, it is worth noting that I have relied not just on probability judgments but also possibility judgments; there is no reason to think the latter are systematically skewed, and they alone suffice to show that ability does not require control, and to undermine Kenny’s arguments. So this response, to be successful, would have to be extended to possibility judgments, and I don’t know of a convincing way of doing that.

Second, when probability judgments are the result of a systematic fallacy, as in the case of the base-rate fallacy, they are systematically *corrigible* with more careful reflection; that is, it is easy to explain the error in the base rate fallacy to a reflective subject, and there is no reasonable way to persist in committing the fallacy once you see the mistake in a given case. By contrast, I see no evidence that probability judgments about abilities are like this; there is no systematic procedure for “correcting” someone’s judgment that, say, there is a .1% chance that Susie can hit the bullseye on this throw to the judgment that there is no chance that Susie can hit the bullseye on this throw.

Of course, in the end of the day, we should adopt the best overall theory of abilities and their probabilities, whether it is a direct theory or an error theory. But, as we will see,

there are independently motivated theories that directly capture the judgments elicited so far, which increases my credence that we should take them at face value; and, conversely, I do not presently see any reasonable error theory of these judgments.

If we accept that the judgments I have elicited are indeed rational, there are other routes of resistance. One could argue that, while possibility and probability judgments show that there is *one reading* of ‘able’ on which the control intuition is false and Success valid, this is not the reading of most interest to theorists of ability. While I am sympathetic to the claim that ‘able’ is polysemous (a point I’ll return to in §6.5), I don’t think this helps a defender of a control theory of ability, because there doesn’t seem to be *any* reading of ‘S is able to φ ’ which we judge to be impossible when S lacks control over φ . If such a reading existed, then there should be a prominent coherent reading of ‘There’s no chance at all that Susie will be able to hit a bullseye at 3 pm, but she might hit a bullseye at 3 pm’; but there does not seem to be such a reading.

A final dismissive response is to simply claim that judgments about natural language are irrelevant to the question of whether ability requires control. This is a response that I’ve heard often enough that it is worth mentioning, but it’s hard for me to understand how it could be defended. If we find out that ‘S is able to φ ’, on its agentive reading, does not entail that S has control over φ , then we have found out that S being able to φ does not entail S having control over φ . It’s hard to see how one could reasonably deny the disquotational principles underlying this move. But it’s worth noting that if you *do* talk yourself into disregarding reflective speaker judgments about natural language in this debate, then you need to disregard them on both sides: that is, you can’t use arguments like Kenny’s to argue for a control condition, since that argument is also based on judgments about natural language.

Barring the success of one of these (or some other) source of resistance, we should take probability judgments at face value, and conclude that ability does not require control, and, instead, that Success is valid.

6 Conditional analyses

This completes my argument for Success and against control. In this final section, I explore theories of ability at a more granular level. I argue that probability judgments about ability ascriptions help us choose between the two families of Success-validating accounts described at the outset, favoring some form of conditional analysis over an existential one.

The dialectic here becomes slightly complicated. I will start by explaining how the simplest form of the conditional analysis, together with a widely accepted connection between conditionals and conditional probabilities, can capture a default generalization that describes the cases we have seen, which, by contrast, appears to be inconsistent with the existential analysis. Then we will see that well-known counterexamples to the simplest conditional analy-

sis are also counterexamples to this generalization, and I will briefly explore the prospects for a more complex form of conditional analysis. The discussion will be somewhat inconclusive, but I will argue that some form of conditional analysis is the most promising candidate for making sense of judgments about the probabilities of abilities.

6.1 The Agentive Thesis

Recall that Hume’s conditional analysis—what I’ll now call the *simple conditional analysis*—says that ‘S is able to φ ’ has the same truth-conditions as ‘If S tries to φ , S φ ’s’. So the conditional analysis predicts that the following are pairwise equivalent:

- (14) a. Susie will be able to hit a bullseye at 3 pm.
b. If Susie tries to hit a bullseye at 3 pm, she’ll succeed.
- (15) a. Ludwig can play the Hammerklavier sonata through without making an error.
b. If Ludwig tries to play the Hammerklavier sonata through without making an error, he’ll succeed.
- (16) a. Ginger will be able to make this shot.
b. If Ginger tries to make this shot, she’ll succeed.

Probability judgments provide striking support for these claimed equivalences, because in each case, the pairs appear to have, not only the same truth-value, but also the same probabilities. So, for instance, (14-a) has probability .1%, as we have seen; and this is intuitively *also* the probability of the conditional in (14-b). Likewise for the pairs in (15) and (16).

So probability judgments support the pairwise equivalences predicted by the simple conditional analysis. They also tell against the existential analysis. What’s the probability that there is *some world* compatible with Susie’s circumstances and properties where she hits the bullseye? Intuitively, very high: we are sure that it’s *possible* for Susie to hit a bullseye, given her circumstances and intrinsic properties. But the probability that she will be able to hit the bullseye is low. So, even though the existential analysis rightly predicts that Success is valid, its predictions are inconsistent with probability judgments about abilities.

We can say more about the patterns of probability judgment elicited above. In all the cases we looked at, the probability of $A_s\varphi$ was equal to the probability of $\varphi(S)$, conditional on $try(S, \varphi)$. On a model with a corresponding thesis in the literature on conditionals, let’s call this equality *The Agentive Thesis*:

The Agentive Thesis: $Pr(A_s\varphi) = Pr(\varphi(S) \mid try(S, \varphi))$ when the right-hand side is defined.

The relation between conditional probabilities and probabilities of conditionals is famously complicated. But most agree that simple conditionals (conditionals which don’t embed modals

or conditionals) have a prominent interpretation on which their probability is equal to the probability of their consequent, conditional on their antecedent.⁹ Hence, for instance, the probability of (17), on the most obvious interpretation, equals the probability of the coin landing heads conditional on the coin being flipped.

(17) If the coin is flipped, it will land heads.

Provided that this generalization holds as a default in some (perhaps context-sensitive) sense, The Agentive Thesis follows (in the same sense) from the simple conditional analysis.¹⁰

It should be noted that there are analyses of the conditional on which it encodes a kind of necessity (like those of Lewis 1973; Kratzer 1981), and hence which do *not* vindicate a connection between conditionals and conditional probabilities (such an analysis would predict that a sentence like (17) has no chance of being true, since flipping the coin does not *necessitate* that it lands heads). Adopting the conditional analysis in concert with one of those theories of conditionals would hence not do anything to make sense of probability judgments about abilities. So, to be clear, probability judgments favor not just any conditional analysis, but rather some form of the conditional analysis spelled out with a theory of conditionals that can account for probability judgments about conditionals. But that is something we need in any case; the failure of necessity-based analyses of the conditional to account for probability judgments is, in my view, strong reason to reject them.

6.2 Problems for the conditional analysis

Unfortunately, the simple conditional analysis faces well-known, and in my view, decisive, counterexamples, which also refute The Agentive Thesis. However, Mandelkern et al. (2017) have developed a more sophisticated view which, while in the spirit of the conditional analysis, avoids those problems. This view still coincides with the simple conditional analysis in many cases, and hence still predicts that The Agentive Thesis holds as something like a default matter, capturing the judgments I have elicited so far.

I'll briefly describe two cases that give a sense of the problems that face the simple conditional analysis (the *SCA*). First, the *SCA*, although it validates Success, doesn't account for incoherence data in the neighborhood of those that I used above to motivated Success. For instance, consider (18):

⁹See Khoo and Santorio 2018 for a helpful introduction to the topic. It would be interesting to explore judgments about ability in cases where this equality intuitively fails, like those described by Kaufmann (2004).

¹⁰For instance, in a natural interpretation of van Fraassen 1976's models, The Thesis holds in the sense that, for any context, the interpretation of probability talk and conditionals is coordinated so that $Pr(A > C) = Pr(C | A)$ is true in any context where defined (for modal/conditional-free A). In such a model, it follows from the simple conditional analysis that $Pr(A_s\varphi) = Pr(\varphi(S) | try(S, \varphi))$ likewise is true in any context where defined, provided φ is modal/conditional-free.

(18) #Susie might go to the second floor, but she can't go to the second floor.

(18) always feels incoherent. But the SCA can't account for this. For suppose that Susie has stepped into an elevator on the ground floor of a three-story building. Unbeknownst to her, the buttons for the second and third floor have their wires crossed: pressing '2' will bring her to the third floor, and vice versa. Hence, if Susie tries to go to the second floor, she'll go to the third floor; but if she tries to go to the third floor, she'll go to the second floor. So Susie *might* go to the second floor (if she tries to go to the third floor), but, according to the SCA, she can't go to the second floor, since it's false that, if she tries to go to the second floor, she'll succeed. Schematically, the SCA predicts no incoherence to $\diamond\varphi(S) \wedge \neg A_s\varphi$, provided that S would not φ if she tried to φ , but might φ some other way.

A similar problem arises in cases like (19), based on [Vranas 2010](#):¹¹

(19) David can breathe normally for the next five minutes.

(19) is intuitively true provided that David is normal, breathing-wise. But if David *tries* to breathe normally, he'll focus on breathing normally and hence will breathe abnormally; so the SCA predicts that (19) is false.

Examples like these are equally problematic for The Agentive Thesis as for the SCA. The chance that Susie *can* go to the second floor is much greater than zero, but the chance that she will go to the second floor conditional on trying to is zero. The probability that David will breathe normally, conditional on trying to, is low, while the probability that he can breathe normally is high.

There are a number of other well-known kinds of counterexample to the SCA in the literature, which, again, also refute The Agentive Thesis. For brevity I won't go through them all here (see [Mandelkern et al. 2017](#) for an overview). Together, these cases show that the SCA, and likewise The Agentive Thesis, are not correct in full generality.

6.3 The Act Conditional Analysis

Nonetheless, I think that judgments about the probabilities of ability ascriptions support some view which predicts that The Agentive Thesis holds *as a default matter*. In this section I will describe the proposal of [Mandelkern et al. 2017](#), which agrees with the SCA, and hence The Agentive Thesis, as a default matter, but also predicts deviations from these in the problematic cases we've seen.

[Mandelkern et al. \(2017\)](#), developing an idea from [Chisholm 1964](#), argue that the spirit of the SCA can be saved by embedding a conditional like that of the SCA under existential quantification over a set of actions. On that view, S is able to φ just in case there is *some*

¹¹Compare also [Austin \(1961\)](#)'s golfer.

contextually salient action ψ such that, if S tries to ψ , she φ 's. Where \mathcal{A}_c is a set of contextually salient actions (what we call the *practically available* actions):

$$\text{Act Conditional Analysis (ACA): } \llbracket A_s \varphi \rrbracket^{c,w} = 1 \text{ iff } \exists \psi \in \mathcal{A}_c : \llbracket \text{try}(S, \psi) > \varphi(S) \rrbracket^{c,w} = 1$$

To briefly motivate this approach, let me explain how it deals with the two problem cases we saw in the last subsection. Why is it true that David can breathe normally? Because there is something else (say, play piano for a few minutes), such that if he tries to do that, he'll breathe normally. Likewise, Susie can get to the second floor because there is something, namely going to the third floor, such that if she tries to do that, she'll go the second floor. In short, by letting the action the agent tries to do differ from the modal's complement, the ACA can account for cases where you are able to do something by trying to do something else.

This is enough to see that the ACA, like the SCA, lands squarely in the vicinity of Success in the Success vs. Control debate. If Susie tries to hit a bullseye and flukily succeeds, then (assuming that what she actually tried to do is practically available), she was able to hit a bullseye, since there was some available action such that, if she tried to do it, she hit the bullseye—namely, hitting the bullseye.

More generally, if we assume that whatever an agent actually tries to do is always practically available, then the ACA validates Success (assuming, again, the validity of *And-to-If*). Indeed, the ACA does better on this front than the SCA. By existentially quantifying over actions, the ACA gets a strong enough meaning for negated ability ascriptions to account for the incoherence of sentences like (18): if Susie can't get to the second floor, then there is *no* practically available action such that, if Susie tries to do it, she will get to the second floor. More generally, whenever S did φ as the result of trying to do *something*, then, if we continue to assume that whatever an agent actually tried to do is practically available, it follows that S is able to φ .

Even with this assumption, the ACA falls slightly short of validating Strong Success. Suppose that S does φ without trying *anything*; in that case, it doesn't follow from S having done φ that there's some ψ such that, if S tried to ψ , she would have done φ . (Suppose S is comatose, and hence is breathing comatosely. Trying to do anything would require no longer being in a coma, and hence for any ψ , if S had tried to ψ , she would not have been in a coma and hence would not have been breathing comatosely.) One response is to deny that such cases exists: that is, we could maintain that the notion of trying involved in the ACA is very thin, so that doing φ entails trying to do something in the relevant sense (a sense on which even a comatose person could try in the relevant sense; cf. [Holguín and Lederman 2022](#)). Whether or not this is satisfying is a tricky and important question for the overall viability of the ACA, but it is not immediately relevant to the present points about probabilities, so I'll set it aside.

The extra quantificational resources of the ACA hence let it avoid the most obvious problems that the SCA faces. But the ACA can still account for the probability judgments I have

elicited here. This is because the ACA coincides with the SCA whenever (i) φ is practically available and (ii) no other practically available action ψ is such that, if S tries to ψ , she'll φ . These assumptions are plausible in many cases (Mandelkern et al. (2017) describe (i) as a natural default, since the sentence $A_s\varphi$ itself makes salient the action φ ; and (ii) is true of many ordinary situations). So the ACA agrees with the SCA in many cases—including, plausibly, the cases I used to elicit judgments about probabilities. Hence (given the widely accepted connection between the probabilities of conditionals and conditional probabilities) the ACA predicts that The Agentive Thesis holds as something like a defeasible default.

6.4 Chancy abilities and the ACA

My principal aim here is not to defend the ACA but rather to argue that probability judgments support some view in the class of conditional analyses. Still, it is worth briefly exploring the perspective that probability judgments yield on the ACA, which turns out to be somewhat mixed.

In the kinds of cases that have been used to motivate the ACA over the SCA, probability judgments seem to conform with the ACA's predictions. What's the chance that David can breathe normally right now? Around one: it's the chance that there's *something* such that if he tries to do it, he'll breathe normally, as the ACA predicts.

In other cases, probability judgments provide new support for the ACA. Suppose Louise is considering buying a ticket for a lottery (she has money for exactly one ticket). A winning number will be chosen at random between 1 and 1000; anyone holding a ticket with that number wins. What's the chance that Louise can win the lottery? There seem to be two judgments available here:

- (a) One in a thousand: that's the chance that Louise will win, conditional on trying to win (i.e., buying a ticket).
- (b) One: after all, all that Louise has to do to win is buy a ticket with the winning number, but she can certainly do *that*, since she can buy any ticket.¹²

The SCA predicts only the first judgment; the existential analysis predicts only the second judgment. By contrast, the ACA predicts both judgments are possible, depending on the context. The first judgment will be obtained by treating the practically available actions as $\{\textit{buy a ticket}, \textit{don't buy a ticket}\}$, since the probability that one of these actions is such that, if Louise tries to do it, she wins the lottery, is one in a thousand. The second judgment is obtained by taking a more fine-grained view of Louise's options, along the lines $\{\textit{don't buy a}$

¹²Caution is needed to make sure that this is not simply a circumstantial reading of the modal, but more complex versions of this case bring out intermediate judgments which would not be predicted on a circumstantial reading.

ticket, buy ticket 1, buy ticket 2, ... buy ticket 1000}: it is certain that one of these actions is such that, if Louise tries to do it, she'll win the lottery.

In some other cases, it is less clear whether the ACA's predictions are correct. I will briefly discuss two cases. First, building on similar cases suggested to me by Ben Holguín and an anonymous reviewer, suppose that Ann is handed two fair decks of cards. What is the chance that she can draw a clubs from one of the decks without looking? Intuitively, there are two judgments available: $\frac{1}{4}$ (the chance that she will draw a clubs, conditional on trying to draw a clubs); and 1 (the chance that she will draw a clubs, conditional on trying to draw c , where c is any clubs card in the deck). The ACA can predict both judgments, just as for the lottery case, depending on how the context chunks up the practically available actions. But the ACA also predicts another judgment. When the context divides up the available actions as *{draw a card from Deck 1, draw a card from Deck 2, don't draw a card from either deck}*, the ACA predicts that the chance that Ann will be able to draw a clubs is slightly higher than $\frac{1}{4}$: it is the chance that either (i) if she tries to draw a card from Deck 1, she draws a club; or (ii) if she tries to draw a card from Deck 2, she draws a club; or (iii) if she tries to not draw a card, she draws a club. The third disjunct has probability 0, so ignore it. Disjuncts (i) and (ii) have probability $\frac{1}{4}$ each. And, importantly, they are plausibly independent of each other, so that their disjunction has probability $\frac{1}{4} + \frac{1}{4} - (\frac{1}{4} * \frac{1}{4}) = \frac{7}{16}$. However, it is not clear that there is a reading of 'Ann will be able to draw a clubs' on which is has $\frac{7}{16}$ probability.

This may be a serious problem for the ACA. But I am not certain. The ACA says that, on this resolution of practically available actions, the chance that Ann will be able to draw a clubs is the chance that one of the decks is such that, if Ann tries to draw a card from it, she'll draw a clubs from it. What is the chance of that quantified conditional? Well, we have just seen an argument that it is $\frac{7}{16}$. But informal polling suggests that many have the intuition that it is in fact $\frac{1}{4}$. This is either because people are bad at calculating the probabilities of disjoined/quantified conditionals, or because disjunction/quantification interacts with conditionals in strange ways. In fact, there is independent evidence that one or both of these things is true (see [Santorio and Wellwood \(2023\)](#)). So I am not sure that the ACA's predictions are wrong. It is plausible that the chance Ann can draw a clubs is the chance that one of the decks is such that if Ann draws a card from it, she draws clubs. The oddness seems to arise, not from this equivalence, but rather from judgments about the chance of the quantified conditional. There is a puzzle here, but it may be a puzzle about conditionals rather than the ACA.

An anonymous reviewer for this journal has described another kind of case that puts pressure on the ACA. Suppose there are ten buttons, numbered one through ten, exactly one of which (say, button seven) will activate auto-pilot. Jim doesn't know which button turns on auto-pilot. What is the chance that he can now engage auto-pilot? One prominent reading is .1: this is the chance that, if he tries to engage auto-pilot, he succeeds. Another prominent

reading is 1: this is the chance that there is some action, namely pressing button seven, such that if he tries to do it, he will activate auto-pilot. It is, again, a success of the ACA that it predicts both these readings.

But the ACA apparently predicts other readings, too, which are distinguishable by their probabilities. Suppose that context divides up the available actions this way: $\{\textit{press one or two, press three or four, press five or six, press seven or eight, press nine or ten, don't press a button}\}$. The chance that one of *these* actions is such that, if Jim tries to do it, he'll engage the auto-pilot, is plausibly .5.¹³ But .5 is not an apparently available judgment about the chance that Jim will be able to engage the auto-pilot. Variations on this objection are easy to generate; if we chunk up the available actions as $\{\textit{press an odd button, press an even button, don't press a button}\}$ we get a chance judgment of .2, which, again, is not available.

This is a real challenge to the ACA, and it again illustrates the importance of attending to the probabilities of ability ascriptions, since this challenge can only be brought out with the help of probability judgments. Mandelkern et al. (2017) distinguished two readings of a sentence like 'Jim can now engage the auto-pilot', one that is obviously true, and a second which is false or unlikely or indeterminate. But the ACA in fact predicts many more than two readings of this sentence, distinguishable by their probabilities.

There are two natural reactions to this observation. The first is that it shows the ACA is wrong, since it predicts readings that do not exist. The second is that it shows that the ACA is not wrong but is simply underconstrained in its current form: for these judgments only arise if we can chunk up the available actions in ways other than the obvious coarsest grained partition ($\{\textit{press a button, don't press a button}\}$) and the obvious finest grain partition ($\{\textit{press 1, press 2, \dots, press 10, don't press a button}\}$). There is nothing in the ACA as it stands that predicts that these are the only possible contextual resolutions. Still, I am inclined to think that the ACA can be defended by supplementing it with some such constraint. The reason this doesn't seem fatally ad hoc is that judgments about (20) seem to match judgments about the ability ascription in this case:

(20) There is an action such that if Jim tries to do it, he'll engage the autopilot.

I can access a reading of (20) on which it has probability .1 (by focusing on the action *pressing some button*) and a reading on which it has probability 1 (by focusing on the action *pressing button seven*). It is very hard for me to get a reading of (20) on which it has probability .5 or .2.

So there does seem to be a general tendency, when we quantify over actions, to do so in either a maximally fine-grained or maximally coarse-grained way, rather than in an interme-

¹³There's a .5 chance that, if Jim tries to press seven or eight, he'll engage auto-pilot. For any other action *A* in the set, there's 0 chance that, if Jim tries *A*, he'll engage auto-pilot. So there's a .5 chance that one of these actions is such that, if Jim tries it, he'll engage auto-pilot. The reasoning in the next case is similar.

diate way. This is, to be sure, extremely vague. But it points towards a principled way for the ACA to account for the reviewer’s observation: namely, by maintaining that which actions we quantify over in ability ascriptions is constrained in the same way as which actions we quantify over directly with natural language expressions like ‘There is an action’.

In sum: probability judgments favor an account on which the probability of $A_s\varphi$ is, as a default matter, equal to the probability of $\varphi(S)$ conditional on $try(S, \varphi)$. The ACA yields one such account. Probability judgments also provide a new source of desiderata, and potentially of criticism, for the ACA. I think the ACA is defensible, but there is more to explore here; what should be uncontroversial is that probability judgments provide an essential source of evidence about the nature of ability.

6.5 Non-agential ability ascriptions

In this final section, I’ll argue that probability judgments not only provide support for a form of conditional analysis but also help answer an important objection to any broadly conditional analysis.¹⁴ Both versions of conditional analysis we have considered essentially involve the notion of *trying*.¹⁵ However, there are cases where we apparently ascribe abilities to non-agents, as in (21) (from Irene Heim, attributed to Maria Bittner) or (22):

(21) This elevator is able to carry three thousand pounds.

(22) This black hole is able to absorb that galaxy.

I will argue here that probability judgments suggest that these cases are actually very different: (21) is an ability ascription, where the trying is done by a covert, generic agent, while (22) is a circumstantial modal. Neither is a problem for a conditional analysis.

Start with (21). Suppose that, conditional on loading the elevator with three thousand pounds of cargo, there is a 30% chance that the cord will snap, and a 70% chance that the elevator will function. In that case, what’s the probability of (21)? Intuitively, 70%. That is, credences in this case still seem to track conditional probabilities, in exactly the way that the conditional analysis suggests: the probability of (21) is the conditional probability of the elevator carrying three thousand pounds, if you try to make it carry three thousand pounds. Of course, it’s not the elevator that’s trying. But (generic) *you* can try loading the elevator, and that seems to be what (21) is talking about: what happens *if you try*. That suggests an analysis of sentences like (21) along the lines of a conditional analysis, but with a covert generic agent.

Now turn to (22). Appealing to a covert generic agent obviously won’t help here: the sentence clearly has nothing at all to do with agents, generic or otherwise. So this is, on the

¹⁴Thanks to Cian Dorr for suggesting this line of argument.

¹⁵A recent variant in [Setiya 2023](#) instead relies on the equally agentive notion of *intending*.

face of it, a harder case for any form of the conditional analysis. But now note that this case also seems totally unlike all the cases of ability ascriptions we've looked at so far vis-à-vis probabilities. In all the cases we've looked at, there is a very salient probability judgment about the ability ascription in question which matches a salient *conditional* probability judgment. But this doesn't seem to be true in this case. Suppose that the black hole has a 70% chance of swallowing the galaxy conditional on such-and-such physical processes taking place in the galaxy, and no chance otherwise. I don't see any way of filling in 'such-and-such' that makes it intuitive for your credence in (22) to be 70%.

What *should* your credence in (22) be? Intuitively, it should just track your credence that there is *some* possibility that the black hole absorbs the galaxy. As always, there is context-sensitivity here, but (22) seems to just be saying that it is consistent with the black hole and galaxy's physical properties, and the laws of physics, that the former absorb the latter. Suppose for instance that you are sure that physical law and the black hole and galaxy's structure are consistent with the black hole absorbing the galaxy. Then it seems you should be sure of (22). Suppose instead that we are *unsure* what kind of black hole it is; your credence that it is big enough to absorb the galaxy is 70%. Then intuitively your credence in (22) should be 70%. Conditional probabilities don't seem to essentially enter the picture. Instead, the meaning of 'able' in (22) seems to be that of the diamond of modal logic.

Given that modal words are often polysemous, it would be unsurprising to find that 'able' has readings where it is used as a circumstantial modal, in addition to those where it is used as an agentive modal. Adverting to polysemy like this would be theoretically unsatisfying if we were just using it to explain away counterexamples to a conditional analysis of the agentive reading. But probability judgments support the hypothesis that there is something very different going on in (22) than in the cases we have looked at: these judgments suggest that, when 'able' is used to talk about scenarios where no agent is (or could be) involved, it is interpreted as a circumstantial modal.

7 Conclusion

Many have thought that ability requires control: for Susie to be able to hit a bullseye at 3 pm, the action of hitting a bullseye must be substantially under her control. But possibility and probability judgments about ability ascriptions suggest that this thought, intuitive as it is, is wrong: ability is compatible with lack of control. Those same judgments suggest that success, no matter how fluky, suffices for ability. Moreover, probability judgments support some form of conditional analysis of ability, since, as a default matter, the probability that S can φ is equal to the probability that S will φ conditional on trying to.

I have suggested that the ACA is well-situated to account for these judgments, despite facing challenges of overgeneration which are themselves helpfully brought out by probability

judgments. Some might prefer a different account, but everyone must account for judgments about the probabilities of ability ascriptions—judgments which appear to favor some form of conditional analysis or other.

Of course, all this is compatible with there being indirect connections between ability and control. Being in a position to *assert* or *know* an ability ascription may in many cases require that you know that the agent has control over the relevant action. Likewise, *general* ability ascriptions, like ‘Susie is generally able to hit bullseyes’, very plausibly involve control. But possibility and probability judgments show that connections between ability and control are not encoded in the meaning of specific ability ascriptions. Ability does not require control; success does entail ability.

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