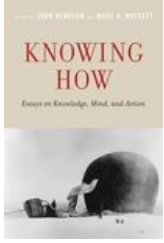

Knowing How: Essays on Knowledge, Mind, and Action

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CHAPTER

6 Knowledge-How: A Unified Account

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Abstract

I argue for a unified theory of knowledge how that is compatible with the reductionist variety of intellectualism: knowledge how is reducible to knowledge that. But, I argue, there are knowledge states that are not justification entailing and knowledge states that are not belief entailing. Both kinds of knowledge state require the possession of practical abilities. I conclude by arguing that the view defended naturally leads to a disjunctive conception of abilities as either essentially involving mental states or as not essentially involving mental states. Only the former kind of ability is a kind of knowledge state, that is, a knowledge how state.

Keywords: ability, knowledge how, disjunctive, conception of abilities, unified theory of knowledge, how, primitive knowledge

Subject: Philosophy, Epistemology, Philosophy of Language, Metaphysics, Philosophy of Mind

THERE ARE TWO competing views of knowledge-how: intellectualism and anti-intellectualism. According to the reductionist varieties of intellectualism defended by Jason Stanley and Timothy Williamson (2001) and Berit Brogaard (2007, 2008, 2009), knowledge-how simply reduces to knowledge-that. To a first approximation, *s* knows how to A iff there is a *w* such that *s* knows that *w* is a way to A. For example, John knows how to ride a bicycle if and only if there is a way *w* such that John knows that *w* is a way to ride a bicycle. John Bengson and Marc Moffett (2007, chapter 7) defend an antireductionist version of intellectualism that takes knowledge-how to require, in addition to a propositional attitude, that *s* understands the concepts involved in her attitude.

According to the anti-intellectualist accounts originally defended by Gilbert Ryle (1945) and many others after him, knowledge-how requires the possession of a practical ability and so knowing that *w* (for some *w*) is a way to A does not suffice for knowing-how. For example, John knows how to ride a bicycle only if John has the ability to ride it; if John merely knows that *w* (for some *w*) is a way to ride a bicycle, John does not know how to ride a bicycle.

Here I argue for a conciliatory position that is compatible with the reductionist variety of intellectualism: knowledge-how is reducible to knowledge-that. But, I argue, there are knowledge states that are not justification entailing and knowledge states that are not belief entailing. Both kinds of knowledge state require the possession of practical abilities. I conclude by arguing that the view defended naturally leads to a disjunctive conception of abilities as either essentially involving mental states or as not essentially involving mental states. Only the former kind of ability is a kind of knowledge-state, that is, a knowledge-how state.

1. Intellectualism versus Anti-Intellectualism

On the anti-intellectualist view of knowledge-how, originally due to Gilbert Ryle (1945, 1949, ch. 2), one
p. 137 knows how to A only if one has the practical ability ↳ to A.[1] On the face of it, this view is exceedingly plausible. Tim (a distinguished philosophy professor and devout defender of the intellectualist view of knowledge-how) is going on a skiing vacation. In preparation for the trip, he carefully studies two renowned skiing 101 books. But on his arrival at his destination, he finds, to his surprise, that he doesn't know how to ski. Fortunately, the ski holiday resort is full of able skiing instructors who are more than willing to teach Tim how to ski.

As Tim is an excellent scholar, Tim was, prior to his skiing vacation, in the possession of a vast amount of knowledge-that concerning skiing. Tim knew that to slow your speed as a beginner, you should use the snowplow position, that to snowplow you must stand with the tips of the skis closer together than the tails, that to turn right your head should move toward the tip of your right ski, and so on. But he still didn't know how to ski. After ten days on the slope with his private skiing instructor, Tim had acquired the ability to ski. Only then could Tim claim to know how to ski.

Consider further examples. Suppose I have never practiced playing the piano but have taken numerous theory lessons. There is then a way *w* such that I know that *w* is a way for me to play the piano. Still, it would seem that someone could correctly claim that I don't know how to play the piano. Likewise, if Mary—a monolingual speaker of English—sees Danny curse out his cousin in Italian, she might correctly say (while pointing), "*That* is how to curse out someone in Italian." Yet someone could correctly say, "Mary doesn't know how to curse out someone in Italian." After all, Mary doesn't even speak Italian.

In all of these cases, we are willing to treat the relevant knowledge-attribution as correct only if the subject possesses the relevant practical ability.

However, despite the initial plausibility of the anti-intellectualist view, the view cannot ultimately be correct. The view raises the following two related worries. First, it is plainly obvious that there are cases in which one can know how to A without having the ability to A. Here is an example from Bengson and Moffett (2007): the Olympic figure skater Irina Slutskaya cannot perform a quintuple salchow. Still, it makes good sense to say that Irina knows how to perform a quintuple salchow. She knows exactly what one ought to do to perform one; she just can't do it.

Second, it is uncontroversial that some forms of knowledge-how do *not* require practical abilities. John knows that Mary caught a ride home with Peter. So John knows how Mary got home. Yet John's knowledge
p. 138 of how Mary got ↳ home does not require any practical abilities on John's part. So the anti-intellectualist view cannot handle the full range of knowledge-how attributions.

Of course, defenders of the anti-intellectualist view could reply to this latter objection by insisting that their view applies only to constructions of the form 's knows how to A.' Since John's knowledge of how Mary got home is not of this form, the example does not run counter to the anti-intellectualist view. But this reply is idle. It is idle because it presupposes that 'knowledge-how' means different things depending on whether it occurs with an infinitive clause or an indicative clause. Yet there is no evidence for this being the case. There is certainly no lexical ambiguity in play here. 'Know' is, familiarly, lexically ambiguous. The objectual 'know,' which occurs in constructions such as 'John knows Peter,' and the nonobjectual 'know,' which occurs in know-how and know-that constructions, have different lexical meanings. This can be seen from the fact that the two occurrences of 'know' translate into different words in languages such as German and Italian. In German the objectual 'know' translates as 'kennen,' whereas the nonobjectual 'know' translates as 'wissen.' Likewise, 'how' is lexically ambiguous. In some languages (e.g., Danish) 'how' translates one way when it occurs in scalar constructions such as 'John knows how tall Mary is' and another when it occurs in nonscalar constructions such as 'John knows how to ski' or 'John knows how Mary got home.' But the occurrences of 'know how' in 'Tim knows how to ski' and 'John knows how Mary got home' do not translate into different expressions in other languages. As the relevant occurrences of 'know how' are not lexically ambiguous, the fact that practical abilities are required for Tim to know how to ski but not for John to know how Mary got home presents a serious problem for the anti-intellectualist view.

In view of these difficulties, it is fair to conclude that the anti-intellectualist account cannot be quite right. Several thinkers have thus turned to an intellectualist account of knowledge-how.[2] Reductionists take knowledge-how to be reducible to knowledge-that. According to Stanley and Williamson, for example, *s*

knows how to F iff for some contextually relevant way *w* which is a way for *s* to F, *s* knows that *w* is a way for her to F.

Stanley and Williamson are well aware of potential counterexamples to their account. Recall the case of Tim. It is fair to say that, prior to Tim's skiing vacation, there was a contextually relevant way *w* such that Tim
p. 139 knew that *w* was a way for him to ski. But in some very salient sense, Tim didn't know how to ski until he hit ↳ the slopes and acquired the ability to ski. To avoid these kinds of counterexamples, Stanley and Williamson argue that knowledge-how sometimes requires having the knowledge in question under a certain practical guise. Prior to his skiing vacation, Tim had knowledge of how to ski, but he didn't have the knowledge under a practical guise. So, it was only once he acquired the ability to ski that he knew how to ski. This, of course, is not to say that we couldn't have truly uttered 'Tim knows how to ski' before Tim hit the slopes but only that in the envisaged context of utterance, our utterance of 'Tim knows how to ski' requires for its truth that Tim had the relevant knowledge under a practical guise. Since Tim didn't have the knowledge under a practical guise, what we said was false.

2. The Predicate View

My own sympathies lie with the intellectualist account. However, on my view, the analysis of knowledge-how is a special case of the analysis of knowledge-*wh* (Brogaard 2007, 2008, 2009). On the standard account of knowledge-*wh*, *wh*-clauses that occur as the complements of verbs that take both that-clauses and *wh*-clauses are (implicit) questions that denote their true answers.[3] Following Higginbotham (1996, 381), knowledge-*wh* sentences may be assigned the following *metalinguistic* truth-conditions:[4] There is a proposition *p* such that *s* knows that *p*, and *p* is a true and contextually appropriate answer to the indirect question of the *wh*-clause.

> Knowledge-*wh*: *s* knows-*wh* iff there is a proposition *p* such that *s* knows *p*, and *p* is a true and contextually appropriate answer to the indirect question of the *wh*-clause.

The standard account yields the following predictions for 'Maggie knows what to do to get her mother's attention.' The indirect question of the *wh*-clause 'what to do to get her mother's attention' is 'what should
p. 140 Maggie do to get her mother's ↳ attention?' So on the standard account, Maggie knows what to do to get her mother's attention iff she knows a true and contextually appropriate answer to 'what should Maggie do to get her mother's attention?' If 'Maggie should scream to get her mother's attention' is a true and contextually appropriate answer to 'what should Maggie do to get her mother's attention?' and Maggie knows that she should scream to get her mother's attention, then she knows a true and contextually appropriate answer to the indirect question of the *wh*-clause in 'Maggie knows what to do to get her mother's attention.' So the sentence is true in the envisaged circumstances.

Likewise, the indirect question of the *wh*-clause 'where her binkie is' is 'where is Maggie's binkie?' So Maggie knows where her binkie is iff she knows a true and contextually appropriate answer to 'where is Maggie's binkie?' If 'Maggie's binkie is on the kitchen table' is a true and contextually appropriate answer to 'where is Maggie's binkie?' and Maggie knows that her binkie is on the kitchen table, then Maggie knows a true and contextually appropriate answer to the indirect question of the *wh*-clause in 'Maggie knows where her binkie is.' So the sentence is true.

The standard account seems to yield the right result in a significant number of cases. However, it runs into trouble with respect to iterated knowledge claims. Consider, for instance:

> (1) Bart knows that Maggie knows what to do to get her mother's attention.

(1) can be true even if Bart does not know that Maggie will get her mother's attention if she screams. Yet this is not the result delivered by the standard account. On the standard account, 'what to do to get her mother's attention' denotes the proposition 'Maggie will get her mother's attention if she screams.' So (1) is true just in case (2) is true:

> (2) Bart knows that Maggie knows that Maggie will get her mother's attention if she screams.

But (we may suppose) Bart knows that knowledge is factive, and so he knows that if Maggie knows that she will get her mother's attention if she screams, then she will get her mother's attention if she screams. So, as

knowledge is closed under known consequence (if *s* knows *p*, and *s* knows that *p* entails *q*, then *s* knows *q*),[5]
p. 141 (2) entails: ↳

> (3) Bart knows that Maggie will get her mother's attention if she screams.

But, ex hypothesi, Bart doesn't know this.

One could reply to this objection by rejecting Closure. This move has a considerable degree of initial plausibility. Fred Dretske and Robert Nozick familiarly disallow corollaries of Closure where *p* is an ordinary light-weight proposition and *q* is the negation of a heavy-weight skeptical hypothesis (Dretske 1970; Nozick 1981).[6] For example, they disallow the inference from 'I know I have hands' to 'I know I am not a disembodied brain in a vat.' Someone sympathetic to Dretske/Nozick considerations might thus suggest that we reject the instance of Closure utilized in the argument. However, Dretske/Nozick considerations do not lend support to a rejection of the instance of Closure utilized in the argument. That instance does not license inferences from light-weight propositions to the negation of heavy-weight skeptical hypotheses. It licenses inferences from '*s* knows that *r* knows that *p*' to '*s* knows that *p*.'

It may also be objected that the substitution of 'that Maggie will get her mother's attention if she screams' for 'what to do to get her mother's attention' is illegitimate. Following the standard account, 'what to do to get her mother's attention' denotes the true answer that Maggie will get her mother's attention if she screams, but, it may be said, 'that Maggie will get her mother's attention if she screams' does not denote a proposition; following Frege, it denotes a truth-value.

However, this reply is amiss. As the that-clause 'that Maggie will get her mother's attention if she screams' occurs in an attitude context, it does not denote a truth-value. If it denoted a truth-value, its truth-value would matter to the truth-value of the whole. But the truth-values of sentences embedded under an attitude verb do not matter to the truth-value of the whole (except when the attitude verb is factive).[7] 'Fermat's last theorem is true' cannot be substituted for '2 + 2 = 4' in 'almost everyone believes that 2 + 2 = 4.' When embedded under an attitude verb, '2 + 2 = 4' denotes the proposition that 2 + 2 = 4. Likewise, when embedded under an attitude verb, 'that Maggie will get her mother's attention if she screams' denotes the proposition that Maggie will get her mother's attention if she screams. So when embedded under 'know,'
p. 142 the *that*-clause 'that Maggie will ↳ get her mother's attention if she screams' and the *wh*-clause 'what to do to get her mother's attention' denote the same proposition. As they denote the same proposition, they are intersubstitutable *salva veritate*.

It may also be urged that the substitution of 'that Maggie knows that she will get her mother's attention if she screams' for 'that Maggie knows what to do to get her mother's attention' is illegitimate. However, it is difficult to see what could possibly be the cause of this sort of substitution failure. As we have just seen, when embedded under 'know,' the *that*-clause 'that Maggie will get her mother's attention if she screams' and the *wh*-clause 'what to do to get her mother's attention' denote the same proposition. Moreover, blocking substitution is unlikely to help. If the standard account does not generalize to iterated knowledge ascriptions, then it does not offer a fully general account of *wh*-clauses.

I have elsewhere defended an alternative to the standard view, the so-called *predicate view* (Brogaard 2008, 2009). On the predicate view, *wh*-complement clauses and how-complement clauses (e.g., 'what to do when assaulted by a bully' or 'how to juggle') function as predicate nominals much like 'a man,' as it occurs in 'John met a man,' or 'a philosopher I met in graduate school,' as it occurs in 'I went out with a philosopher I met in graduate school' (Brogaard 2009). In truth-functional contexts, predicate nominals denote sets whose elements are the entities that satisfy the properties expressed by the predicates. 'A man' denotes the set of men, and 'a philosopher I met in graduate school' denotes the set of philosophers I met in graduate school. In attitude contexts, predicate nominals denote the properties they express. On the predicate view, then, the complement clause 'what to do to get her mother's attention' denotes the property of being a (salient) thing Maggie can do to get her mother's attention rather than a true answer to the implicit question of the *wh*-clause. The sentence structure of 'Maggie knows what to do to get her mother's attention' provides a wide-scope existential quantifier. The sentence is true iff for some way *w*, Maggie knows that *w* is what to do to get her mother's attention. That is, 'Maggie knows what to do to get her mother's attention' is true iff for some entity *w*, Maggie knows that *w* is a (salient) thing she can do to get her mother's attention.

On the predicate view, then, knowledge-how comes out as a special case of knowledge-*wh*. We can articulate the analyses as follows:

> (Knowledge-Wh) *s* knows-*wh*-F iff there is an *x* such that *s* knows that *x* is *wh*-F
> (Knowledge-How) *s* knows how-F iff there is an *x* such that *s* knows that *x* is how-F

p. 143 'F' is the remainder of the 'how' clause (e.g., 'to walk' or 'Mary got home'). So the predicate view predicts that Maggie knows what to do to get her mother's attention iff there is an *x* such that Maggie knows that *x* is what to do to get her mother's attention. Likewise, Maggie knows how to get her mother's attention iff there is an *x* such that Maggie knows that *x* is how to get her mother's attention.

The predicate view has the advantage over the standard view that it avoids the problem of iterated knowledge attributions. John knows that Maggie knows how to get her mother's attention iff John knows that there is an *x* such that Maggie knows that *x* is how to get her mother's attention. From this, we cannot infer that John knows that Maggie will get her mother's attention if she screams.

The predicate view also has the advantage over the standard view that it extends to other categories of knowledge-how besides knowledge-how-to, including scalar constructions, for instance, 'Jim knows how many graduate students landed a job this year,' 'Amy knows how sensitive Bob is,' 'Maria knows how much wine she can drink without acting silly,' and 'Rachel knows how Shiraz tastes.' The predicate view predicts that 'Jim knows how many graduate students landed a job this year' is true iff there is an n such that Jim knows that n is how many graduate students landed a job this year, that 'Amy knows how sensitive Bob is' is true iff there is an n such that Amy knows that n is how sensitive Bob is, and so on. As it stands, Stanley and Williamson's intellectualist account does not have this virtue, as it takes knowledge-how attributions to quantify over ways.

3. Gettier Problems

The intellectualist accounts offered by Stanley, Williamson, Brogaard, Bengson, and Moffett have a certain degree of initial plausibility. As they stand, however, they cannot be quite right. Consider the following kind of counterexample, originally due to Yuri Cath (chapter 5).[8] The faucet in Jason's apartment leaks. Jason finds a faucet manual in the kitchen drawer and fixes it. However, unbeknownst to him, the manual was created by the previous owner's parrot, who liked to step dance on the keyboard of the owner's old typewriter. Over the fifty years of step dancing, the parrot had created a lot of nonsense, but there was this
p. 144 one time when the parrot happened to hit the right keys and created something that made ↳ sense: "the faucet manual." The owner never looked at it but had left it in the kitchen drawer, where Jason found it. Under these circumstances, it seems odd to say that there is a way *w* such that Jason knows (in the standard sense in which knowledge requires nonaccidentally acquired belief) that *w* is a way to fix the faucet. There is admittedly a way *w* such that Jason *believes truly* that *w* is a way to fix the faucet, but the belief is acquired via a faulty method. So Jason cannot claim to have the relevant knowledge. Even so, it seems all right to say that Jason knows how to fix the faucet. In fact, Jason's neighbors often talk about what a handyman he is. Jason knows how to fix the faucet in virtue of having the ability to fix the faucet, but there is no way *w* such that Jason *knows* (in the standard sense) that *w* is a way for him to fix the faucet.

Cath offers two further objections to the intellectualist accounts. One can know how to A, Cath says, if one's belief that *w* (for some *w*) is a way for one to A is defeated, or if there is no *w* such that one believes that *w* is a way to A. He offers two examples in support of these claims. In the first case, Lucy suffers from memory hallucinations. It often seems to her that she remembers learning how to A in spite of the fact that she never learned it. Lucy learns how to juggle on a Saturday, but on Sunday her false memory detector accidentally goes off. However, despite the fact that Lucy knows that she ought to revise her belief that *w* (for some *w*) is a way for her to juggle, she continues to hold onto the belief. As Lucy's belief is defeated, there is no way *w* such that Lucy knows (in the standard sense) that *w* is a way to juggle. Nonetheless, it seems intuitively clear that Lucy knows how to juggle. She will show you if you ask her.

The second case is similar. Jodie, too, suffers from memory hallucinations and learns how to juggle on Saturday. On Sunday, her false memory detector goes off. Unlike Lucy, however, Jodie revises her belief that *w* (for the way *w*, which she was taught was a way to juggle) is a way for her to juggle. So there is no *w* such

that Jodie knows that *w* is a way for her to juggle. Nonetheless, it seems initially plausible that Jodie still knows how to juggle. She certainly has the ability to do it.

The examples just outlined are counterexamples to the intellectualist views of knowledge-how. Unlike Gettier counterexamples, the know-how counterexamples do not show that the agent lacks knowledge, in spite of the fact that all the posited constraints on knowledge are satisfied. Rather, they show that the agent has knowledge in spite of the fact that some of the posited constraints on knowledge are not satisfied. So the counterexamples show that standard knowledge is not necessary for knowledge-how. As the intellectualist accounts, as originally formulated, entail that standard knowledge is necessary for knowledge-how, the intellectualist accounts must be rejected. Or so the argument goes.

How might the intellectualist reply to this objection? One possible reply is to say that knowledge-how does
p. 145 not require the kind of solid grounding that is ↳ required for knowledge-that. This route is taken by Cath. Cath argues that one can have knowledge-how without having a nonaccidentally acquired belief. On Cath's account, *s* knows how to A if it intellectually seems to *s* that *w* (for some *w*) is a way to A, and *w* is a way to A. So on Cath's account, knowledge attributions represent belief- and justification-entailing knowledge states in some contexts and intellectual seemings in others.

I am sympathetic to this sort of reply. As we will see, I think Cath is quite right in thinking that knowledge attributions do not always represent standard belief- and justification-entailing knowledge states. However, I do not think there is good reason to treat 'know' as ambiguously denoting sometimes a knowledge-state and sometimes an intellectual seeming-state. The right conclusion to draw is not that 'know' ambiguously denotes but rather that not all knowledge states are standard knowledge states. Some knowledge states are belief-entailing states that are grounded in the agent's practical abilities. Other knowledge states are not belief-entailing states but are perceptual states or ability states. I begin by arguing that knowledge sometimes is grounded in the agent's practical abilities. I then argue that not all knowledge states are belief-entailing states.

4. Practical Grounds

The key to a solution to the problem of how to account for knowledge-how uniformly is to note that the exact same kind of apparent ambiguity that resides in knowledge-how constructions resides also in other knowledge constructions. Consider the following examples.

> (4) Bart knows what to do if he is assaulted by a bully.
> (5) Maggie knows what to do to get her mother's attention.
> (6) There is a way *w* such that Maggie knows that *w* is a way to get her mother's attention.

Each of these knowledge attributions has two readings: an ability reading that requires that the agent possess a practical ability and a nonability reading that requires merely that the agent know that *w* (for some *w*) is a way to A but that does not require that the agent have the corresponding practical ability. Even if Bart does not have the ability to kick (perhaps he has no legs), Bart may still know in the nonability sense that kicking a bully in the family jewels is what one ought to do if one is assaulted by one. The more natural reading, of course, is the ability reading. On this reading, (4) requires for its truth that Bart has the practical ability to kick. Likewise, on its nonability reading, (5) may be true even if Maggie does not possess the
p. 146 practical ability that is required to get her mother's attention. ↳ What is required on this reading is that Maggie knows that *w* (for some *w*) is a way to get her mother's attention. On the ability reading, on the other hand, (5) requires for its truth that Maggie has the ability to get her mother's attention.

Note that even the knowledge-that construction in (6) admits of these two readings. On its nonability reading, it may well be that Maggie knows what to do to get her mother's attention, even if she is unable to do what it takes (perhaps she has lost her voice). On the ability reading, on the other hand, (6) requires for its truth that Maggie has the corresponding practical ability.

More importantly, one can easily conjure up Gettier-style counterexamples for all of these cases. Consider the following scenario: Bart is told by an unreliable witness that if he is ever assaulted by a bully, he ought to kick the bully in the family jewels. The witness is right. If Bart is ever assaulted by a bully, then he ought to kick him in the family jewels. Despite the unreliability of the witness, Bart thus acquires knowledge of what

to do if assaulted by a bully. However, it is not the witness's story that grounds his knowledge of what to do if assaulted.

Consider a further scenario. Bart thinks the only way *not* to get his mother's attention is to scream. However, Bart, wanting to deceive his little sister, tells Maggie that the only way to get their mother's attention is to scream. Unbeknownst to Bart, however, their mother, who has just attended a pioneering child-rearing course, believes that one ought to give one's full attention to children who scream. So unbeknownst to Bart, Maggie's screaming will indeed get their mother's attention. Even so, Bart's story is not what grounds Maggie's knowledge of what to do to get her mother's attention.

Cath's Lucy and Jodie cases also carry over to knowledge-*wh*. If Lucy and Jodie know how to juggle, then plausibly they also know what to do to begin juggling and what to do to keep the ball in the air. So Lucy knows what to do to begin juggling in spite of the fact that her belief that *w* (for some *w*) is a way for her to begin juggling is defeated, and Jodie knows what to do to begin juggling in spite of the fact that there is no *w* such that she believes that *w* is a way for her to begin juggling.

So what is going on? Here is a tentative hypothesis. If the very same problems that arise for the intellectualist accounts of knowledge-how arise also for a reductionist account of knowledge-*wh* and for the corresponding knowledge-*that* constructions, then the problem we have been encountering does not lie with the intellectualist accounts of knowledge-*how*. Rather, it plausibly lies with our standard conception of what can ground practical knowledge.

As epistemic externalism gained popularity in the post-Gettier era, it became widely accepted that one can gain knowledge by acquiring one's belief in the right way. According to reliabilism, one can gain knowledge
p. 147 by acquiring one's belief via a reliable belief-forming method. More recently, a special brand of ↳ reliabilism—virtue epistemology—has become the more widely accepted form of externalism. On this view, one does not gain knowledge by acquiring a belief via just any old reliable method. The method in question must be internal to the agent: it must be a cognitive capacity or virtue.

However, the case of practical knowledge illustrates that virtue epistemology, as it stands, cannot be the whole story about what can ground knowledge states. One can possess knowledge in virtue of possessing the right sort of cognitive capacities and exercising them in the right sort of way in the right sort of environment. Beliefs formed in this way are safe. They could not easily have been false. Further, a belief is reliable iff beliefs formed via the same method in the same sort of environment tend to give rise to safe beliefs. So beliefs acquired through the exercise of an intellectual virtue are reliable. But practical belief accompanied by the right sort of practical abilities also satisfies safety and reliability. Abilities are stable traits. If you have the ability to A by doing P in S, then doing P in S is a way for you to A in worlds in which you are sufficiently physically similar to the way you actually are.[9] So if you believe that doing P in S is a way for you to A, and you have the ability to A by doing P in S, then your belief is safe. In the closest worlds in which you believe that doing P in S is a way for you to A, doing P in S is a way for you to A.[10] So in those worlds your belief is true. Moreover, your belief is reliable. Beliefs with the same sort of ground as your actual belief tend to be safe. Practical belief can thus be safe and reliable without being intellectually grounded.

We can thus distinguish two ways in which a knowledge state may be grounded: practically and cognitively. A cognitive ground, as envisaged here, is whatever makes the difference between mere true belief that *p* and cognitive knowledge that *p*, for instance, the fact that the belief was formed via a reliable and virtuous belief-forming method in the right sort of environment. A practical ground is whatever makes the difference between mere true belief that doing P in S is a way for one to A and knowing how to A, for instance, the ability to A. Let us refer to both kinds of grounds as 'justificatory grounds.'

Given this notion of a justificatory ground, let us now return to our Gettier cases. Jason knows how to fix the faucet because there is a way *w* such that Jason knows that *w* is a way for him to fix the faucet in the right
p. 148 sort of environment. But what grounds his belief that doing P in the right sort of environment is a way for ↳ him to fix the faucet is not the fact that his belief was acquired via a faulty method but rather the fact that he has an ability that he acquired by reading the manual: the ability to fix the faucet by doing P in S. One cannot acquire knowledge by using methods that yield the right result only accidentally. However, one can acquire a practical ability by using such a method. Thus, one can acquire the ability to A by relying on a method that yields the right result accidentally, and once one has the ability, it can then serve as a justificatory ground for one's true belief that doing P in S is a way for one to A. By reading the fake manual,

Jason acquires the true belief that doing P in S is a way for him to fix the faucet, and he acquires the ability to fix the faucet by doing P in S. The ability then serves as a justificatory ground for his true belief that doing P in S is a way for him to fix the faucet.

The case of Maggie is a bit different. Prior to Bart telling her that screaming while being appropriately situated is a way to get her mother's attention, Maggie already has the ability to scream while being appropriately situated. But prior to hearing Bart's story, Maggie doesn't have a belief to the effect that screaming while being appropriately situated is a way for her to get her mother's attention, and so she does not have the ability to get her mother's attention by screaming while being appropriately situated. Bart's story about their mother, of course, does not serve as a cognitive ground for Maggie's true belief that screaming in a certain kind of situation S will get her mother's attention. But the story, together with her ability to *scream* in S, puts her in a position *to get her mother's attention by screaming in S*. It is this newly acquired ability that grounds Maggie's true belief that screaming in S is a way for her to get her mother's attention. That is, it is not the ability she already possesses, the ability to scream in S, that grounds her true belief, but rather the ability to get her mother's attention by screaming in S, an ability she acquires partially on the basis of Bart's story. So Maggie's ability to get her mother's attention by screaming in S, an ability she didn't possess prior to her encounter with Bart, serves as a justificatory ground for her true belief that screaming in S is a way for her to get her mother's attention.

Here is a further example to illustrate, a variation on Alvin Goldman's barn case. Henry is driving in the country and stops in front of a barn. Unbeknownst to Henry, he is looking at one of few real barns in an area with many facsimiles. The facsimiles are so realistic that if he had stopped in front of any of them, he would have been tricked into thinking that he was looking at a real barn. The standard intuition is that Henry does not know that he is looking at a barn, because he could easily have had the same belief while looking at a facsimile. In the variation, Henry truly believes that *w* (for some *w*) is a way for him to get to a barn. As in the original example, Henry's belief could easily have been false. If Henry had stopped anywhere else in barn country, which he could easily have done, he would have stopped in front of a fake barn. As Henry doesn't
p. 149 know that he is in an area full of ↳ barn facades, he would still have formed the belief that *w* (for some *w*) is a way for him to get to a barn. Yet his belief would have been false. Since Henry's belief that *w* (for some *w*) is a way for him to get to a barn could easily have been false, Henry fails to know (in the standard sense) that *w* is a way for him to get to a barn. Nonetheless, there is a strong feeling that Henry knows how to get to a barn. All he has to do is walk for five minutes in the right direction.

If we allow that knowledge can be grounded in practical abilities, then we have a straightforward explanation of how Henry can have knowledge of how to get to a barn in spite of the fact that there is no way *w* such that Henry knows (in the standard sense) that *w* is a way for him to get to a barn. What grounds Henry's knowledge of how to get to a barn is his ability to get to a barn by walking for five minutes toward a barn. In the closest worlds in which Henry believes that walking for five minutes toward a barn is a way for him to get to a barn, Henry's belief is true. So Henry's belief that walking for five minutes toward a barn is safe.

The proposed solution to the Gettier-style counterexamples carries over to Cath's Lucy case. Acquiring the ability to A by doing P in S provides a justificatory ground for one's belief that doing P in S is a way for one to A. The fact that Lucy ought not to have believed that doing P in S is a way for her to juggle is irrelevant. She does believe this, and her belief is safe and reliable. In the closest worlds in which she believes that doing P in S is a way for her to juggle, doing P in S is indeed a way for her to juggle.

A somewhat similar response can be given to an objection offered by Bengson and Moffett (2007) to the reductionist intellectualist accounts defended by Stanley and Williamson (2001) and Brogaard (2007, 2008, 2009). According to them, there are cases in which *s* knows that *w* (for some *w*) is a way for *s* to A but in which *s* fails to know how to A because *s* lacks sufficient understanding of the concepts involved in her belief. They offer the following example as an illustration. Irina knows a way of doing a salchow: to do a salchow, she must take off from the back inside edge of her skate, jump in the air, spin, and land on the back outside edge of her skate. But she is confused about the concepts back inside edge and back outside edge. She takes her back inside edge to be her front inside edge and her back outside edge to be her front outside edge. However, Irina has a neurological disorder and acts in ways that differ from how she takes herself to be acting and is therefore able to perform a salchow in spite of her confusion. In this case, Bengson and Moffett say, Irina does not know how to perform a salchow in spite of the fact that she possesses the ability to perform one. Bengson and Moffett conclude that for one to know how to A, it does not suffice that one has

a true and justified belief to the effect that *w* (for some *w*) is a way to A; one must also have minimal understanding of the concepts involved in the beliefs one has about the relevant way to A.

p. 150 My intuitions differ from those of Bengson and Moffett. How odd it would be to say 'Irina performs at least one salchow every day but she doesn't know how to do it; she simply has no clue.' Here is one possible explanation of why it is odd to say this: if Bengson and Moffett are right that there is a *w* such that Irina truly believes that *w* is a way for her to perform a salchow, then the fact that she has the practical ability to perform a salchow suffices to turn her true belief into knowledge. Owing to the stability of her ability to A by doing P in S, her belief that doing P in S is a way for her to A is safe and reliably formed.

Cath's Jodie case is potentially more devastating. Acquiring the ability to A may suffice for acquiring a justificatory ground for one's true belief that *w* (for some *w*) is a way for one to A, but it does not seem sufficient for acquiring the belief that *w* (for some *w*) is a way for one to A.

Here is a possible reply to this case. Some abilities are acquired as a result of acquiring a belief of the right sort. For example, Jason didn't have the ability to fix the faucet by doing P in S before he acquired the belief that doing P in S is a way for him to fix the faucet. Likewise, Maggie didn't have the ability to get her mother's attention by screaming while being appropriately situated until she acquired the belief that screaming while being appropriately situated is a way for her to get her mother's attention. It is plausible that when Jodie acquires the ability to juggle, she also acquires the belief that *w* (for some *w*) is a way for her to juggle. But then if Jodie really has the ability to juggle, arguably she also has a belief to the effect that *w* (for some *w*) is a way for her to juggle. The belief may not be an occurrent belief. Jodie may even deny that she knows how to juggle (and hence also that *w* is a way for her to juggle). But she might nonetheless have acquired the belief that *w* (for some *w*) is a way for her to juggle when she acquired the ability to juggle.

Of course, it may be denied that when Jodie acquired the ability to juggle, she also acquired the belief that *w* (for some *w*) is a way for her to juggle. But there is then a different reply to these sorts of cases. When one has the ability to A, and that ability intuitively suffices for knowledge of how to A, then one is in an ability state that carries information about the procedure that will lead one to A. Such ability states, I will argue, are primitive knowledge states that are not belief entailing. So one can be in them without being in a corresponding belief-state. On this view, then, it could be that even if Jodie does not believe that *w* (for some *w*) is a way for her to A, she has primitive knowledge that *w* (for some *w*) is a way for her to A. I will now offer arguments for thinking that some ability states are (primitive) knowledge states.

5. Primitive Knowledge

One argument for the existence of primitive knowledge states is what I will call the 'argument from animal
p. 151 knowledge.' We sometimes say of infants and ↳ nonhuman individuals that they know how to A in spite of the fact that we would hesitate to attribute substantive belief states to them. For example, it seems all right to say that my hamster knows how to find his food tray and that baby Bob knows how to touch his feet. But it is quite plausible that to have the capacity for belief in the full sense, one must have the capacity for thought. Yet infants and nonhuman individuals do not have the capacity for thought. So it is plausible that they do not have the capacity for belief either. As the standard intellectualist accounts state that *s* knows how to A just in case *s* knows that *w* (for some *w*) is a way for *s* to A, and standard knowledge-that entails belief, the standard intellectualist accounts make the wrong predictions in these cases.

One could perhaps explain away the appeal of attributions of knowledge-how to infants and nonhuman individuals pragmatically. This strategy has some degree of initial plausibility, especially since the problem arises also for knowledge-that. For example, if my hamster Harry sees me fill his food tray and waddles toward it, it seems all right to say that Harry knows that there is food in his tray, and if I hand baby Bob his binkie and he reaches for it, it seems all right to say that Bob knows that his binkie is in front of him.

However, while it is tempting to offer a pragmatic explanation of these cases, I think the strategy ultimately fails. There is a more compelling argument for the thesis that infants and nonhuman individuals can have knowledge. For Williamson, knowledge is the most general factive mental state because any other factive mental state entails it. More precisely, where 'Φ' is a factive attitude verb (e.g., seeing or realizing), '*s* Φs that *p*' entails '*s* knows that *p*.' For example, "John realized that Mary was in love with him" entails "John knew that Mary was in love with him," and "John saw that there was food on his plate" entails "John knew that there was food on his plate."

Suppose for the moment that Williamson is right about the generality of knowledge. It then follows that necessarily, if *s* sees that *p*, then *s* knows that *p*. But most of us would be quite happy to grant that infants and nonhuman individuals have the capacity to see. For example, it should be quite uncontroversial to venture that Fido can see that the gate is open and that baby Bob can see that his binkie is in front of him. But if seeing-that entails knowing-that, then it follows by the generality assumption that Fido knows that the gate is open and that baby Bob knows that his binkie is in front of him. So if the generality assumption is correct, then either infants and nonhuman individuals have the capacity for belief, or knowledge is not always belief entailing.

One way to avoid the objection from animal knowledge is thus to argue either (i) that infants and nonhuman individuals have the capacity for belief or (ii) that knowledge is not belief entailing. If indeed belief requires
p. 152 the capacity for thought, which it plausibly does, then the first line of response is not very ↳ plausible. The first line of response also does nothing to address other cases of knowledge-that in which the agent has knowledge but not belief. Consider, for example, the problem of the timid student (see Woozley 1953, Radford 1966 , and Lewis 1996). The timid student knows the answer to the teacher's question, but he doubts his own abilities and hence fails to believe what he knows. The problem of the timid student is exactly that of explaining how knowledge can be possible without belief.

However, the second strategy, which is that of denying that knowledge is belief entailing, holds some promise. We can interpret Williamson's generality claim as follows: knowledge need not be a belief state that satisfies certain epistemic constraints. Rather, knowledge is a determinable of which other mental states are determinates. Perceptual states, standing belief states, judgments, realizations, recollections, ability states, introspective states, and so on are all determinates of knowledge, as long as they satisfy certain epistemic constraints. Some of these, for example, seeings, are primitive knowledge states; others are standard knowledge states.

We can shed further light on the nature of primitive knowledge states by turning to Ernest Sosa's (2007) distinction between what he calls 'animal knowledge' and 'reflective knowledge.' For Sosa, reflective knowledge requires a reliable second-order belief, whereas animal knowledge requires only a reliable first-order belief. For an individual *s* to have animal knowledge, *s*'s belief must be apt, that is, correct in a way creditable to the believer (the belief must be accurate in virtue of having been formed on the basis of *s*'s exercise of an epistemic competence). For *s* to have reflective knowledge, *s* must in addition aptly believe that she aptly believes that *p*. Sosa thus takes both of these kinds of knowledge to require belief. But one could spell out the distinction between animal knowledge and reflective knowledge in other ways. For example, instead of saying that *s* has animal knowledge just when *s* has an apt belief, one could say that *s* has animal knowledge that *p* when *s* is in some state with the content of '*p*' that is apt (e.g., a perceptual state, a memory state, an introspective state, a belief state, and so on). For simplicity, let us take aptness to be analyzable in terms of safety and reliability.

A word on safety and reliability as applied to perceptual states is here in order. To a first approximation, we can say that *s* is in a safe perceptual state with the content of '*p*' iff in the closest worlds in which *s* is in a perceptual state with the content of '*p*,' *p* is true. Likewise, we can say that *s*'s perceptual state that *p* is reliably formed in a given environment iff perceptual states formed via the same method in the same kind of environment tend to give rise to safe perceptual states.

One virtue of taking perceptual states that satisfy certain epistemic constraints to be primitive knowledge states is that this hypothesis can explain the difference between good and bad perceptual states. Consider
p. 153 the following scenario: Mike ↳ is looking at a blue ball right in front of him and sees that the ball is blue and is right in front of him. But after a few minutes, Mike is given a palinopsia-inducing hallucinogenic drug. The drug causes his experience to persist after the corresponding stimuli have left and prevents his visual system from processing new visual information.

If we suppose, for the moment, that perception is a mental state with a Russellian content that consists of properties and/or physical objects, then the content of Mike's initial perceptual state consists of the blue ball o, the reflectance type blue, and the property of being right in front of Mike. But it is plausible that the content of Mike's experience continues to be a conglomeration of the blue ball o, the reflectance type blue, and the property of being right in front of Mike even after the drug takes effect. After all, advocates of the thesis that mental states have Russellian content will be happy to grant that one can have a belief directly about an object even when the object is not present. So given a Russellian view of content, there shouldn't be any principled reason for denying that the blue ball can be a constituent of Mike's experience even after the

drug takes effect. Of course, for one to have a belief directly about an object, one must be in some sort of causal contact with the object. But Mike is in causal contact with the blue ball. The blue ball is a cause of his experience. It is thus plausible that the content of Mike's perceptual experience consists of the blue ball *o*, the reflectance type blue, and the property of being two feet away from Mike. So Mike's hallucination is veridical.

Now, few would be happy to grant that the content of perceptual experience is exhausted by its Russellian content. David Chalmers (2004a) suggests that the content of perceptual experience has a Russellian and a Fregean component.[11] The Fregean component is the phenomenal content of the experience and is the same regardless of what the environment is like. The Fregean content yields a Russellian content in a particular environment. Roughly, the Fregean content of Mike's experience as of the blue ball *o* consists of the property of being the object that is causing the current experience, and the property of being the property that normally causes phenomenally blue experiences. In the best of cases, the Fregean content yields a Russellian content that consists of the blue ball *o* and the reflectance type blue. In normal cases of hallucination, there is no external object. So the Fregean content yields a gappy Russellian content, and so the hallucination fails to be veridical.

p. 154 However, even on the Fregean account of perceptual content, the possibility of veridical hallucination arises. Suppose again that Mike is given a palinopsia-inducing hallucinogenic drug that causes his blue ball experience to persist and prevents his visual system from processing new visual information. We might imagine that Mike's experience remains the same for at least a few minutes following the administering of the drug. But Mike's experience was caused by the blue ball *o*, so arguably the Fregean property of being the object that caused Mike's experience yields *o* in our envisaged circumstances. But Mike's hallucination then is veridical.

It may, of course, be thought that while Mike is under the influence of the drug, Mike's experience is not *appropriately* caused by the blue ball. One could, for example, say that even though there once was a causal chain leading from the blue ball to Mike's experience, such a causal chain no longer obtains. But this can't be right. Causation is never instantaneous. So it cannot be the time lag between the ball's reflectance of light and the experience taking place that stands in the way of causation. In fact, we can even stand in appropriate causal connections to objects that are no longer present. For example, it is quite plausible that I am not hallucinating when I am stargazing. But if we can stand in appropriate causal relations to objects that are no longer present, then it is plausible that Mike can also stand in an appropriate causal relation to the blue ball in the envisaged circumstances. Of course, Mike's perceptual system mistakenly allows his past experience of the blue ball to persist when it ought to have allowed for the receipt of new visual information. But this only shows that Mike's experience is defective in some way, not that it fails to be properly caused by the object the experience is about.

If veridical hallucination is possible, then we cannot take veridicality to be a mark of good perceptual experiences and falsidicality to be a mark of bad perceptual experiences. If, however, good perceptual states are primitive knowledge states, then we have a straightforward explanation of the difference between good and bad perceptual states. Bad perceptual states fail to be primitive knowledge states. Of course, not all safe and reliable perceptual states are primitive knowledge states. Suppose the hallucinatory drug prevents Mike from moving. Then in all the closest worlds in which Mike has an experience as of the blue ball being right in front of him, the blue ball is right in front of him. So Mike's hallucination is safe. Moreover, experiences formed in the same way as Mike's in the same type of environment will tend to be safe. So Mike's hallucination is reliably formed. It is, however, well known that knowledge cannot be analyzed in terms of safety and reliability. Some think knowledge states are sensitive, where *s* is in a sensitive S-state with the content '*p*' iff if *p* were false, then *s* wouldn't be in an S-state with the content of '*p*.' Mike's hallucination
p. 155 fails to be sensitive. In some of the closest worlds in which the blue ball *o* is no longer in front of Mike, Mike
↳ would still have an experience as of the blue ball *o* being right in front of him. So one could say that Mike's hallucination fails to be a primitive knowledge state because it fails to satisfy sensitivity.

Of course, appealing to sensitivity will not explain the defect of all cases of veridical hallucination. Suppose Alice is told to give Mike a drug that instantly neutralizes the effects of the hallucinatory drug just if the blue ball *o* is no longer right in front of Mike. Then in the closest worlds in which the blue ball *o* is no longer right in front of Mike, Mike does not have an experience as of *o* being right in front of him. So Mike's hallucination satisfies sensitivity. But this does not show that good perceptual states are not primitive

knowledge states but only that knowledge cannot be analyzed in terms of safety, reliability, and sensitivity, which of course is already well known.

Treating perceptual states that satisfy certain epistemic constraints as determinates of knowledge thus has the advantage that we can account for the difference between good and bad perceptual states. A further advantage of treating a wider range of mental states that satisfy certain epistemic constraints as knowledge states is that this gives us a straightforward way of explaining why it seems all right to attribute knowledge to individuals who do not have the capacity for belief. One can be in a primitive knowledge state without being in a corresponding belief state. So one can have primitive knowledge even if one does not have the capacity for belief. For example, my hamster Harry might know that there is food in his tray in virtue of being in a good perceptual state with the representational content of "there is food in my tray," Fido might know the gate is open in virtue of being in a good perceptual state with the representational content of 'the gate is open,' and baby Bob might know that his binkie is in front of him in virtue of being in a good perceptual state with the representational content of "my binkie is in front of me."

The concerns about animal knowledge-how can be addressed in the same way. Even if infants and nonhuman individuals do not have the capacity for belief, it is plausible that they can be in representational ability states. If *s* knows how to A but does not have a belief to the effect that doing P_1, P_2, P_3, ... in S is a way for *s* to A, then it is plausible that *s*, at least at some level of information processing, has information to the effect that doing P_1, P_2, P_3, ... in S is a way for *s* to A. But if *s* must have this sort of information in order to know how to A, then it is plausible that some knowledge-how states are pairs of a representational informational state and a bodily ability state. This sort of informational-ability state is not a belief-like state but is a quite distinct state, which we might simply call an 'ability state.' Let us stipulate that if one is in such a state, then the state represents the world correctly, and one has the ability to A. One can, of course,
p. 156 have a belief with the representational content of 'doing P_1, P_2, P_3, ..., in S is a way for me to A' ↳ without being in an ability state. Like the corresponding belief states, ability states are representational states, but unlike the corresponding belief states, they are not pure mental states. Like emotions, they have a mental and a bodily component.

In spite of being psychosomatic states, however, ability states are much more like knowledge states than belief states. Being in a knowledge state with the content of '*p*' suffices for *p* to be true. Likewise, being in an ability state suffices for having the corresponding ability. Moreover, like knowledge states, ability states tend to be reliable, safe, and sensitive. First, if *s* is in an ability state with the information content of 'doing P_1, P_2, P_3, ..., in S is a way for *s* to A,' then in all the closest worlds in which *s* is in an ability state with the information content of 'doing P_1, P_2, P_3, ..., in S is a way for *s* to A,' doing P_1, P_2, P_3, ..., in S is a way for *s* to A. Second, in the closest worlds in which P_1, P_2, P_3, ..., in S is not a way for *s* to A, *s* is not in an ability state with the content of 'doing P_1, P_2, P_3, ..., in S is a way for *s* to A.' So ability states are sensitive. Third, ability states acquired in the same way as *s*'s ability state by agents physically similar to *s* tend to be safe. So ability states are reliable. These analogies between standard knowledge states and ability states give us some reason to treat ability states as kinds of knowledge states.

This is good news for the intellectualists. If we do not allow that ability states can be knowledge states, then the best we can do, it seems, is to posit a disjunctive account of knowledge-how: *s* knows how to A iff *s* has the ability to A, or there is a *w* such that *s* knows that *w* is a way for *s* to A. This yields the right result in a number of cases. I know how to get to New York in spite of lacking the ability to get there because there is a way *w* such that I know that *w* is a way for me to get to New York. Likewise, because Jodie has the ability to juggle, Jodie knows how to juggle in spite of the fact that there is no way *w* such that she knows (in the standard sense) that *w* is a way for her to juggle.

However, the disjunctive account of knowledge-how is not very satisfying. Here are two considerations against it. Disjunctive analyses, while they may be good first approximations, often leave something to be desired. They fail to offer an explanation of why the analysandum obtains just when one of the disjuncts does. This is not to say that there aren't any genuinely disjunctive concepts. There are. 'Sibling' is a case in point. To satisfy this concept, one must be a brother or a sister. However, in this case the disjuncts have important features in common. They both denote one of several offspring of the same parents. Things are different when it comes to a disjunctive account for knowledge-how. On the face of things, having the ability to A and having the knowledge (in the standard sense) that *w* (for some *w*) is a way to A are two entirely different things with no interesting features in common. There may, of course, turn out to be
p. 157 interesting commonalities between having the ability to A and having the ↳ knowledge that *w* (for some *w*)

is a way for one to A. But even if this should turn out to be the case, the disjunctive account is inadequate because it fails to explain what these features are.

Here is a second consideration against the disjunctive account of knowledge-how. If a disjunctive account is required for knowledge-how, then a disjunctive account is required also for knowledge-*wh*, for the problems that threaten to undermine the intellectualist accounts of knowledge-how also threaten to undermine a reductive account of knowledge-*wh*. First, we find it just as natural to attribute knowledge-*wh* to infants and nonhuman individuals as we do attributing knowledge-how. For example, it seems all right to say that baby Bob knows where his binkie is, that Fido knows where his bone is, and that the canary knows what to do to get from point A to point B. Second, one can possess knowledge-*wh* even when one's belief is not reliably formed in the standard way. Maggie knows what to do to get her mother's attention even if she acquired her belief that screaming while being appropriately situated is a way for her to get her mother's attention on the basis of unreliable testimony. Third, one can possess knowledge-*wh* even when one does not have any corresponding beliefs. For example in the Jodie case, if Jodie knows how to juggle, then plausibly she also knows what to do to begin juggling and what to do to keep the balls in the air.

The reductionist account of knowledge-*wh* is thus subject to the same range of problems as the intellectualist accounts of knowledge-how. So if we need a disjunctive account for knowledge-how, then we also need one for knowledge-*wh*. But it is generally agreed that knowledge-*wh* is reducible to knowledge-that. For example, John knows what the capital of Vermont is iff he knows that Montpelier is the capital of Vermont, and Lisa knows who the author of *Naming and Necessity* is iff she knows that Saul Kripke is the author of *Naming and Necessity*.

The hypothesis that one can have knowledge-how by being in a mental state (e.g., an ability state or a belief state) that qualifies as a kind of knowledge state has a number of virtues compared with the disjunctive and standard intellectualist accounts of knowledge-how. First, if both ability states and belief states can be knowledge states, then we have a more unified account of knowledge-how. If *s* is in an ability state with the content of 'doing P_1, P_2, P_3 ..., in S is a way for *s* to A,' and ability states are knowledge states, then there is a way *w* (namely, doing P_1, P_2, P_3, ... in S) such that *s* knows that *w* is a way for *s* to A. For example, it is plausible that my hamster Harry is in an ability state with the representational content of 'doing P_1, P_2, P_3, ..., in S is a way for me to find my food bowl.' So if ability states are knowledge states, then there is a way *w* such that my hamster Harry knows that *w* is a way for him to find his food bowl. The fact that nonhuman individuals can have knowledge-how then does not give us reason to opt for a disjunctive analysis of knowledge-how. An intellectualist analysis will suffice.

p. 158 Second, the hypothesis that both belief states and ability states are knowledge states allows for a more unified account of knowledge-*wh*. The kinds of knowledge-*wh* that we most frequently attribute to less cognitively capable individuals are knowledge-where and knowledge-what-to-do. For example, we might say that Fido knows where his bone is or that the canary knows what to do to get from point A to point B. In both of these cases, it is plausible that we attribute ability states to the individuals in question. For example, it is plausible that our attribution of knowledge-where to Fido represents an ability state with the content of 'doing P_1, P_2, P_3, ..., in S is a way for Fido to find his bone' and that our attribution of knowledge-what-to-do to the canary represents an ability state with the content of 'doing P_1, P_2, P_3, ..., in S is a way for the canary to get from point A to point B.' So if ability states are knowledge states, then when *s* is in an ability state with the content of 'doing P_1, P_2, P_3, ..., in S is a way for *s* to A,' there is a way *w* (namely, doing P_1, P_2, P_3, ..., in S) such that *s* knows that *w* is a way for *s* to A. So if ability states are primitive knowledge states, then there is no need for a disjunctive analysis of knowledge-*wh*.

Third, if Jodie stops believing that *w* (for some *w*) is a way for her to juggle but she still has the ability to juggle, and this ability intuitively suffices for knowledge-how, then plausibly Jodie is in an ability state that represents that a certain way is a way for her to juggle. So if ability states are knowledge states, then there is a *w* such that she knows that *w* is a way for her to juggle. So the Jodie objection then does not present a threat to an intellectualist account.

Fourth, if ability states can be primitive knowledge states, then we have a straightforward way of addressing the problem of the timid student. The timid student knows the answer to the teacher's question but doubts his own abilities and hence fails to believe what he knows. The timid student will answer the teacher's question correctly if asked but will refuse to raise his hand or admit that he believes what he knows (at least prior to answering the teacher's question). The problem of the timid student is that of explaining how the student can have knowledge without belief. One possible solution is to say that the student has a

dispositional belief and hence dispositional knowledge. Another, and in my opinion superior, solution is to say that the student has standing knowledge but that the knowledge in question is a kind of primitive knowledge. Although the timid student doesn't believe what he knows, he has the ability to answer the teacher's question correctly. Plausibly, he is in an ability state to the effect that expressing P is a way for him to answer the teacher's question. So if ability states are knowledge states, then the timid student plausibly has knowledge of the answer.

It is plausible, then, that one can have knowledge-how without having a corresponding belief. Being in an ability state with the content of 'doing P_1, P_2, P_3, ..., in S is a way for me to A' suffices for knowing how to A.

p. 159 An objection here arises. It may be argued that possessing the ability to A does not always suffice for knowing how to A. Paul Snowdon presents the following counterexample:

> A man is in a room, which, because he has not explored it in the least, he does, as yet, not know how to get out of. In fact, there is an obvious exit which he can easily open. He is perfectly able to get out, he can get out, but does not know how to (as yet). (2003, 11)

It seems perfectly all right to say that the man has the ability to get out of the room (he just has to look around), and yet it seems highly plausible that he doesn't know how to get out. He doesn't know how to get out because at present there is no way *w* such that he knows that *w* is a way to get out. Despite the initial plausibility of this objection, I don't think it succeeds in undermining the thesis that knowledge-how attributions sometimes attribute primitive knowledge.

The example trades on an ambiguity in the word 'ability.' In one sense of the word, *s* has the ability to A just in case *s* is in an ability state with a content that represents a certain procedure for how to A, and *s* has the bodily capacities for carrying out the procedure. In another sense, *s* has the ability to A just in case *s* has certain bodily capacities that, if combined with the right sort of procedural information, will put *s* in a position to A. The man in Snowdon's example is not in a state with a content that represents a procedure for getting out. There is a procedure (namely, looking around) that, when internalized by the man, will put him in a position to get out. Only the first kind of ability is of the sort possessed by agents in ability states.

'Ability,' of course, is frequently used in the latter sense in ordinary language. For example, we might say, "Of course, you can swim, everyone can swim, you just have to learn it first" or "of course, she is perfectly able to walk, she just doesn't know how to yet, she is only eleven months old." Or consider a variation on the man-in-the-room example. To get out, one must press a button behind the bookshelves, step on a particular floor plank, and yell 'out' three times. Even so, saying the following seems perfectly fine: "Of course, the man is perfectly able to get out. He just has to press a button behind the bookshelves, step on a particular floor plank, and yell 'out' three times." However, in neither the original case nor the variation can we attribute to the agent an ability state with a content that represents a procedure for achieving the intended result. Hence, the agents in these scenarios do not know how to get out (as yet). They have not yet internalized the relatively simple procedures that will lead to their escape. The sorts of abilities that are relevant to knowledge-how are abilities that correspond to ability states, that is, abilities that correspond to
p. 160 procedures that have been internalized by the ↳ agent. Rather than being a counterexample to our account, Snowdon's example thus turns out to support it. His example shows that it is only the possession of abilities of a special kind that can constitute ability states, namely, abilities that correspond to step-by-step procedures that have been fully internalized by the agent in question.

The view that mental-state-involving abilities are knowledge-how states thus naturally leads to a disjunctive theory of abilities as either (a) states that are constituted by bodily capacities and procedures that have been internalized by the agent and are therefore essentially mind involving or (b) bodily capacities that, if combined with the right sort of procedural information, will put the agent in a position to achieve the relevant end. The former kind of ability is fundamentally a knowledge state, that is, a knowledge-how state.

6. Conclusion

The two predominant views of knowledge-how are the intellectualist and the anti-intellectualist views. On the intellectualist views defended by Stanley and Williamson (2001) and Brogaard (2007, 2008, 2009), one knows how to A just if one knows that *w* (for some *w*) is a way for one to A. On the anti-intellectualist view, originally defended by Ryle, one knows how to A just if one has the ability to A. The two views are normally thought to be in conflict. However, I have argued that the conflict is only apparent. The conflict can be partially resolved by noting that there are two ways in which a knowledge state can be grounded. A knowledge state can have either cognitive abilities or practical abilities as its justificatory ground. Whereas knowing that snow is white requires a cognitive ability as its justificatory ground, knowing how to fix the faucet or what to do to get your mother's attention requires a practical ability as its justificatory ground. The really problematic cases of knowledge-how are cases in which the agent does not have a belief that *w* (for some *w*) is a way for her to A. I concluded by arguing that there are primitive knowledge states that one can be in without being in corresponding belief states and that knowledge-that and knowledge-how attributions sometimes represent such states. The view defended naturally leads to a disjunctive conception of abilities as either essentially involving mental states or as not essentially involving mental states. Only the former kind of ability is a kind of knowledge state, that is, a knowledge-how state.[12]

Notes

1. For defenses of this and related views, see also Bechtel and Abrahamsen (1991, 152), Brandom (1994, 23), Braddon-Mitchell and Jackson (1996, 131), Haugeland (1998, 322), Hawley (2003), Noë (2005), and Cath (chapter 5).
2. See Stanley and Williamson (2001), Brogaard (2007, 2008, 2009), and Bengson and Moffett (2007). Stanley and Williamson (2001) and Brogaard (2007, 2008, 2009) defend reductionism. Bengson and Moffett (2007) argue for an antireductionist variation on the intellectualist view that amends the views of Stanley, Williamson, and Brogaard.
3. For a defense of the disguised-questions approach to wh-complement clauses, see Hintikka (1975), Boër and Lycan (1986), Higginbotham (1996), Bach (2005), Braun (2006, forthcoming), and Kallestrup (2009, 2010). For a variation on this view, see Schaffer (2007).
4. The metalinguistic truth-conditions are also sometimes called the 'truth-maker truth-conditions.' They specify what the world (or logical space) must be like for the sentence in question to be true. But they do not specify which proposition is expressed by the sentence. For example, 'it is possible that there are blue swans' can be given the following metalinguistic truth-conditions: 'it is possible that there are blue swans' is true iff there is a world in which there are blue swans. But if 'it is possible that' functions as a sentential operator rather than as an object-language quantifier over worlds, 'it is possible that there are blue swans' does not express the proposition that there is a world in which there are blue swans.
5. Some prefer the following closure principle for knowledge: if *s* knows *p*, and *s* competently deduces *q* and thereby comes to believe *q* while retaining knowledge of *p*, then *s* knows *q*. But if this is the preferred principle, we can assume that Bart comes to believe 'Maggie will get her mother's attention if she screams' by competently deducing it from 'Maggie knows that she will get her mother's attention if she screams' while retaining knowledge of 'Maggie knows that she will get her mother's attention if she screams.'
6. The terms 'light-weight proposition' and 'heavy-weight skeptical hypothesis' are borrowed from Hawthorne (2005).
7. Of course, the truth-value of the that-clause matters when the attitude verb is factive, but the point still stands that the truth-value of the whole is not determined by the truth-value of the that-clause. Factivity is a property of the attitude verb.
8. Stanley and Williamson offer a Gettier counterexample as an illustration of the parallel between knowledge-that and knowledge-how. In a footnote, however, they say, "Of course, I may learn how to swim by [a faulty] method. Suppose I were thrown in the water, and started to swim by the envisaged method. Then, I would acquire evidence of a practical sort the method is a way for me to swim, evidence that would then suffice for knowledge-how." It is this sort of response that is developed here.
9. I don't succeed in swimming by making swimlike movements if I am not submerged in enough water. So I don't have the ability to swim by making swimlike movements. But I have the ability to swim by making swimlike movements while sufficiently submerged in water.
10. At least assuming that the closest worlds in which you believe that doing P in S is a way for you to A are worlds in which you are sufficiently similar physically to the way you actually are.
11. Chalmers (2006) argues that perceptual experiences also have edenic content, which consists of primitive nonphysical properties. The edenic content of perceptual experience is (imperfectly) veridical just in case it matches the Russellian content, which it does if it is the sort of content normally caused by the properties and objects constituting the Russellian content.
12. Thanks to Kent Bach, David Braun, Yuri Cath, David Chalmers, Bruce Russell, Jonathan Schaffer, and Daniel Stoljar for discussion of these and related issues.