Minimal Intellectualism about Know-How

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Abstract. Philosophers working on knowledge-how, or 'know-how' aim to characterize know-how as a distinctively practical kind of knowledge. Anti-intellectualists characterize it as an ability that amounts to a kind of knowledge, and intellectualists characterize it as a distinctively practical kind of propositional knowledge. In this paper, I argue that this is a false errand. There's no need to characterize know-how as distinctively practical. I develop and defend an account of know-how ascriptions according to which 'S knows how to φ' is true iff S knows (in the ordinary propositional knowledge sense) whatever they need to know in order to φ. If we understand know-how to be knowledge of not one, but a set of propositions, there's no need to posit and explain any 'distinctively practical' features of knowing how.

Keywords: knowledge-how, practical knowledge, propositional knowledge, intellectualism

I. Introduction

A good barista knows facts: that the way to pull an espresso so it's neither too bitter nor too sour is to pull the shot within a window of 30–45 seconds. That steamed milk for an espresso drink should be 150 degrees Fahrenheit. That the grinder must be dialed in for each new batch of beans, and that the way the beans were processed before roasting matters to the grind setting. Of course, knowing facts like these isn't all there is to being a barista. It's natural to think that you have to have some practice in order to count as knowing how to do what a barista knows how to do: how to pull an espresso, how to steam milk, how to dial in the grinder. The idea is that, with practice, you relate to an activity in a new way—you gain practical command, say, or the ability to perform the activity 'with control' (see, e.g., Carter and Shepherd 2023, Habgood-Coote 2018, and Setiya 2008, 2012). At least,

it seems there must be something *practical* about knowing how to do something, and that ordinary factual knowledge doesn't already include this practical *something*.

Philosophers working on know-how overwhelmingly agree on this, that there's something distinctively practical about knowing how to do something. Call this the Practical Intuition. In fact, it's striking that even philosophers who aim to show that know-how is *a lot like* ordinary factual knowledge share the Practical Intuition, since in their accounts they try to capture something distinctively practical about the way knowing facts about φ amounts to knowing how to φ, when it does (see Pavese 2022). Even Stanley and Williamson (2001), known for their intellectualist view, argue that knowing how is only a *species* of factual knowledge, or 'knowledge-that'. 'Knowing how' and 'knowing that' aren't equivalent, on their view, because the former requires dispensation for its practical nature. Anti-intellectualists, on the other hand, tend to begin their theorizing from the Practical Intuition, instead of making a dispensation for it. They argue that *because* knowing how is distinctively practical, it isn't a kind of propositional knowledge, but a complex ability or disposition that amounts to a kind of knowledge or intelligence (see, e.g., Kremer 2016, Löwenstein 2017, Elzinga 2021). So the Practical Intuition acts as a *desideratum* across the debate. It's a widely accepted measure of the adequacy of any candidate account of know-how. Naturally, it follows that a good deal of the debate is about whether this or that account respects the Practical Intuition.

This is the status quo I upset in this paper. I argue that we shouldn't accept the Practical Intuition, nor should we measure candidate accounts of know-how against it. I do this by analyzing the literature's best reasons for the Practical Intuition and arguing that they fail to rule out a simpler explanation of what's involved in knowing how: that knowing how is 'made up of' ordinary propositional knowledge. I then develop and defend this alternative, according to which, what makes claims like 'S knows how to φ' true is just that S knows whatever facts they need to know in order to φ. To illustrate, the idea is that anyone who reads the above facts about pulling an espresso knows

those facts *in the same sense* as even a talented barista knows them. The epistemic difference between the reader (who isn't a barista) and a barista is just that the barista knows more facts about pulling espresso, steaming milk, dialing in the grinder, and so on. One gains *more* knowledge with practice, not knowledge of another kind.

So I argue that we shouldn't accept the Practical Intuition, and I advance a view that makes sense of our know-how ascriptions. This view makes sense of our concept of know-how by rejecting the assumption that there's a *state* of 'knowing how' or 'knowledge-how'. Because this assumption has been widely (implicitly) accepted, my arguments for its rejection invite us to take a significant step forward in the debate.

Here's how the paper proceeds. In the next section, I present four arguments for the Practical Intuition, and I argue that none rules out a simpler explanation of what's involved in knowing how to φ. In section III, I develop that simpler explanation into a view of know-how ascriptions. On this view, with locutions like 'S knows how to φ' we indirectly ascribe S the ordinary propositional knowledge they need in order to φ. Then, in section IV, I lay out its virtues while dispelling worries. In concluding remarks, I describe how this view amounts to eliminativism about knowledge-how: there's no such thing as 'knowledge-how', or a distinctively practical kind of knowledge.

II. Why Think 'Knowing How' is Distinctively Practical?

The Practical Intuition (PI) says that there's something practical about knowing how to do something, and that our notion of ordinary propositional knowledge doesn't already capture this 'practical something'.[1] Formally:

[1] My arguments won't depend on any particular account of propositional knowledge, so the reader may treat 'ordinary propositional knowledge' as a placeholder for their preference.

The Practical Intuition. Knowing how to φ, for any activity φ, is, or requires, having distinctively practical knowledge relevant to φ-ing.

Intellectualists argue that this 'distinctively practical knowledge' is distinctively practical *propositional* knowledge. Anti-intellectualists argue that knowing how to φ is having an ability to φ and that this ability amounts to a distinctively practical kind of (non-propositional) knowledge. Intellectualists generally *concede* PI while anti-intellectualists *advance* it, but both parties accept PI, and so PI has become an adequacy condition for accounts of know-how. As such, it shapes our accounts of know-how. Any account that doesn't make sense of how know-how is practical (in a way that ordinary propositional knowledge *isn't*) is found inadequate.[2]

Generally, the motivation for PI comes from cases of apparent 'knowing that' without 'knowing how'. The anti-intellectualist appeals to such cases and aims to show that knowing how doesn't reduce to knowing that because knowing *how* relates us to action in a way that (mere) knowing *that* doesn't. By way of response, the intellectualist concedes that 'knowing how' doesn't reduce to *ordinary* 'knowing that', or propositional knowledge. What such cases establish, says the intellectualist, is only that the propositional knowledge in question must be distinctively practical. Then, naturally, intellectualists end up giving a variety of accounts of how propositional knowledge is practical when it amounts to knowledge-how.[3]

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[2] Evidence that PI is widely accepted: Bengson and Moffett (2011b) list it as one of three theses that any adequate account of know-how should reconcile:

i. Knowing how is not merely a kind of knowing that.
ii. Knowing how is practical: it bears a substantive connection to action.
iii. Knowing how is a cognitive achievement: its status as a piece of practical *knowledge* is not merely coincidental. (p. 165)

Bengson and Moffett don't argue for (i)-(iii); they just present them as the culmination of what we've learned from the debate about know-how so far. I understand PI to be identical in spirit to Bengson's and Moffett's (ii).

[3] Here I mean to be describing dialectical patterns in the debate. There will, of course, be exceptions to the rule. Bengson and Moffett (2011b), for example, give an intellectualist account that concedes know-how isn't *propositional*. While I don't address my arguments to Bengson and Moffett in particular, I do show that the intellectualist isn't compelled to make this concession, either.

My aim in this section is to show that the intellectualist who concedes this concedes too much. I address three arguments for PI from cases of 'knowing that' without 'knowing how', as well as an argument from Gettier cases for know-how. I show that these leave PI unsupported. Because I pair these negative arguments—arguments against the motivation for PI—with the development of an alternative explanation of its very motivation (section III), I show that parties to the debate *should not* accept PI. PI is superfluous, so we should adopt our more parsimonious alternative.

To begin, here is an argument of Gilbert Ryle's that appears to motivate PI. Ryle (1946) considers two chess players who know exactly the same rules and maxims of chess (i.e., they have exactly the same propositional knowledge about chess). One tends to play cleverly and the other stupidly. What explains this difference in the players' performance? Ryle's point is that although both players may very well have all the same propositional knowledge, or 'knowledge-that', one player exercises a kind of intelligence that the other fails to: "he might still play chess stupidly, that is, be unable intelligently to apply the maxims, etc." (p. 5). On one way of understanding Ryle, the not-so-clever player's inability to apply what they know amounts to a lack of 'knowledge-how': they don't know how to apply the rules or maxims.[4] The connection to PI is this: it seems that the player who knows how to apply the rules and maxims of chess has a practical standing with respect to chess that the other player lacks. Since the not-so-clever player knows them only in an ordinary 'knowledge-that' sense, the difference between the players seems to be a matter of practical standing, or 'ability to intelligently apply maxims'. For the anti-intellectualist, this is a reason to characterize know-how in terms of ability itself; for the intellectualist, it's a reason to distinguish between ordinary and practical propositional knowledge.

Intellectualists and anti-intellectualists alike tend to credit Ryle with identifying a legitimate explanatory project: explaining the difference between these chess players, where the difference can't

[4] Cf. The student of logic who can recite the definition of validity but doesn't know how to tell a valid argument from an invalid one (Ryle 1946, p. 6).

be a matter of what they *know* (in the ordinary-propositional-knowledge sense).[5] I'm going to argue that Ryle's chess players don't give us reason to accept PI. The case appears to be a case for PI only because we fail to hold fixed that both players have exactly the same propositional knowledge about chess. When we hold fixed that both players have exactly the same propositional knowledge, we don't find a relevant difference in their practical standing with respect to chess. The point will be that this kind of case doesn't give us reason to think that 'knowing how' is practical in a way that 'knowing that' isn't.

Let's fill out the not-so-clever player's situation by focusing on a particular maxim M, which says one should employ strategy *x* when the board state is *y*. By description of the case, both players know that they should employ strategy *x* when the board state is *y*. Why does the not-so-clever player fail to employ *x* when they should? One possibility is that they fail to recognize that the board state is *y*. Another is that, when the board state is *y,* they recognize that it is *y*, but they fail to think of M. M (and so *x*) just doesn't occur to them. Neither of these failures, however, is a failure to have a practical standing with respect to M. When they fail to recognize that the board state is *y,* the not-so-clever player just doesn't know that the board state is such that M is apt. When they fail to think of M, the not-so-clever player just fails to have an occurrent thought about M. Evidence of a lack of practical standing would be this: the not-so-clever player is thinking that they should apply M, and yet they *fail* to apply M. If the not-so-clever player has all of the propositional knowledge that the case stipulates—the same knowledge as the clever player—then it's very difficult to imagine how the not-so-clever player could fail to apply M when they realize that they should apply it. After all, even if *x* is a complicated strategy, they must know its ins and outs.

When we home in on what the not-so-clever player knows, there's no practical standing that they lack. That they fail to think of M, or that they bungle *x* aren't reasons to think the not-so-clever player

[5] See, e.g., Fantl (2008) and Bengson and Moffett (2011a).

doesn't know how to apply M. So we have no reason to think they're lacking the 'knowledge-how' or practical knowledge that the clever player has. Ryle's chess players don't give us reason to think that knowing how (to play chess) amounts to having a distinctively practical kind of knowledge (about chess).

To be clear, nothing I say here depends on what Ryle in fact *meant* to show by contrasting two chess players, since my point is just that Ryle's chess players don't motivate PI. Interpretation of Ryle is notoriously controversial,[6] so I'll just flag the possibility that what I've argued here is consistent with Ryle's (1946, 1949) project. Briefly, the reason is that I doubt Ryle meant to draw a contrast between what the two players *know how* to do. His point is, rather, about intelligence. The case shows that even when we hold propositional knowledge fixed (i.e., both players know all the same propositions), the intelligence exhibited by an action that depends on that knowledge may vary—he's warning against taking 'knowledge-that' to be "the ideal model of all operations of intelligence" (1946, p. 5). If this interpretation is right, then my arguments here are not arguments against Ryle's view. It's just that parties to the know-how debate have taken the wrong lesson from Ryle's chess players.

Stanley and Williamson (2001) offer an account of know-how as distinctively practical knowledge without, it seems, taking their motivation for PI from Ryle. They argue that 'knowing how' is a species of 'knowing that'; specifically, they argue that knowing how to φ is knowing the answer to a question about how to φ. On the initial view they develop, S knows how to φ iff S knows, of some way w, that w is a way for them to φ. At a certain point in their dialectic, their view is that know-how *just is* ordinary propositional knowledge, where the proposition S knows is about a way for them to perform the activity in question. However, at this point, Stanley and Williamson encounter trouble. The case they

[6] For example: Waights Hickman (2019) argues that Ryle is an intellectualist about know-how; Löwenstein (2017) argues that Ryle borrows elements of both intellectualism and anti-intellectualism; Kremer (2017) argues that Ryle was neither an intellectualist nor an anti-intellectualist.

consider is this: Hannah has never ridden a bike before and doesn't know how to ride one. When Hannah sees John ride a bike, she thinks "*That's* a way for me to ride a bike!" We have every reason to think Hannah knows a proposition about a way for her to ride a bike once she observes John, so she meets Stanley's and Williamson's criteria for knowing how to ride a bike. It nonetheless seems that Hannah does not yet *know how* to ride a bike.

Hannah's case gives us *prima facie* reason to accept PI, since the reason we think she doesn't know how to ride a bike—despite the fact that she knows a proposition about a way—is that she doesn't yet have the requisite experience. She lacks some 'practical standing' with respect to bike riding. This is an instance of what seems to be a more general problem for intellectualism. For any proposition, p, the intellectualist identifies as *the* proposition knowledge of which constitutes S's knowing how to φ, S might very well know that p without knowing how to φ.[7] Of course, Stanley and Williamson have a story to tell about *why* knowledge that p doesn't necessarily amount to knowledge-how. When knowledge that p doesn't amount to knowledge-how, it's because S doesn't yet entertain p under what they call a 'practical mode of presentation'. Hannah doesn't yet know how to ride a bike because she doesn't yet entertain the proposition about a way to ride a bike under a practical mode of presentation. But once Hannah learns to entertain the proposition under the right mode of presentation, Stanley's and Williamson's view predicts she knows how to ride a bike. So the story goes.

Stanley's and Williamson's 'practical modes of presentation' are a matter of controversy,[8] but I won't wade into these weeds since my point is only this: it becomes necessary on Stanley's and Williamson's view to postulate a difference between (a) propositional knowledge and (b) the kind of propositional knowledge that amounts to knowing how, and it becomes necessary *because* they need to be able to account for cases like Hannah's. So they capture the practical nature of know-how—what

[7] Glick (2015) formulates the problem this way. See also Habgood-Coote (2018).
[8] See Stanley (2011) and Carlotta Pavese (2015) for the semantic development of 'practical modes of presentation'. Pavese (2019) also argues that practical modes of presentation are psychologically real. See Glick (2015) for critical response.

Hannah lacks—with practical modes of presentation. However, Stanley's and Williamson's reason to accept PI doesn't generalize. It's their commitment to identifying *the* proposition (knowledge of which constitutes know-how) that puts them in the position of having to identify the practical features missing from Hannah's knowledge that *w* is a way for her to ride a bike. But cases like Hannah's don't establish a general *desideratum* for accounts of know-how. It's open to an intellectualist not committed to identifying *the* proposition Hannah must know to explain Hannah's predicament another way. It might be that Hannah doesn't know how to ride a bike because she doesn't yet know enough relevant facts about bike-riding. In order to know how to ride a bike, she needs to learn more. Maybe she needs to hop on a bike and learn that *this* is what it's like to balance.[9] Whatever she has to learn, it doesn't follow from Hannah's not yet knowing how to ride a bike that what she lacks is a distinctively practical kind of knowledge. So, even if Stanley and Williamson accept PI, intellectualists need not. We'll press on for a generalizable reason to accept PI.

Here's another case for PI. Waights Hickman (2019) borrows Ryle's notion of knowing 'in the executive way'. On the view she arrives at, "knowing how to φ is knowing the rules, principles, methods, or procedures for φ-ing, *in the executive way of being able to apply them*" (p. 324, emphasis original). A significant part of the motivation for this view is that it satisfies PI, which Waights Hickman motivates by contrasting John and Phil:

> John has no intention of ever practicing woodwork, but he has an interest in crafts and has read various woodworking books, and followed a documentary about cabinet-making. Phil, on the other hand, is a professional furniture maker with years of experience building, among other things, cabinets. (p. 331)

[9] Granted, one might think that learning what it's like to balance on a bike might be part of what's required for getting to know the proposition about a way to ride a bike under the right mode of presentation (see Glick 2015). The point here, however, is simply to illustrate a way of explaining Hannah's lack of know-how that wouldn't lead us to posit practical modes of presentation in the first place.

Waights Hickman reasons that if we hold fixed that neither John nor Phil is *able* to make cabinets—never mind why—we will nonetheless intuit an epistemic difference between John and Phil:

> Now, we could ensure that neither Phil nor John are *able* to build a cabinet by tying Phil's hands or injuring him permanently. But plainly he and John would not then be on a par epistemically; the difference in the way they grasp what they know about cabinet-building remains… In the envisaged scenario where neither individual has the ability to build cabinets, the difference in the quality of Phil and John's knowledge remains manifest in *actual* circumstances, and that must be explained. (p. 331, emphases original)

Waights Hickman acknowledges that folks in the literature tend to think cases like this demonstrate only a counterfactual difference between epistemic states like Phil's and John's. The emphasis of Waights Hickman's point here is that we don't need nearby possible worlds to intuit that difference. Here I'm going to grant that there's an epistemic difference to be explained, but I'm going to critique Waights Hickman's move to characterizing that difference as a matter of the *kind,* or nature of the knowledge at issue. The idea is that if there's a way to characterize the epistemic difference between Phil and John that doesn't require carving out a distinct way of knowing, we should, all else equal, prefer it. I think there is. Waights Hickman overlooks a simpler explanation: Phil just knows more about cabinet making than John. Phil has more experience, and experience of a different kind than John, and what this experience amounts to, or results in, is Phil's having more (propositional) knowledge relevant to cabinet making than John. This would suffice to explain why we'd expect Phil's cabinets to be better than John's, were John ever to make any. Phil has encountered and learned from more woodworking scenarios than John has, so when Phil finds himself in circumstances C while making a cabinet, he's better able to troubleshoot than John if John were in C. This doesn't mean that John wouldn't manage to make a rudimentary cabinet were he to try.

So far, I've argued only that Waights Hickman overlooks an alternative way of characterizing the epistemic difference between Phil and John, but there's a reason to prefer this alternative over Waights Hickman's characterization, where the difference is a matter of the kind of knowledge each has. Both

Phil and John have propositional knowledge relevant to cabinet making, and they both know how to make cabinets. Waights Hickman acknowledges this much. But we have no reason to think that whatever John has learned from reading and watching documentaries *wouldn't* inform his cabinet making were he to try. If there's an 'executive' way of knowing (in the sense of being able to apply what one knows), as Waights Hickman argues, then we should think that John knows in that way, too! And if this is right, then what *best* explains the difference between John and Phil isn't that Phil grasps the propositions he knows in a way that John doesn't (yet)—it's just what I've already suggested, that Phil knows more (propositions about cabinet making) than John.[10]

This line of reasoning will apply to other cases in the literature that are supposed to motivate PI. Bengson and Moffett (2011b), for example, contrast Pat the ski instructor with Albert the physiologist (who specializes in the physiology of skiing) and intuit that Pat's knowledge is practical in a way Albert's isn't.[11] As their analysis goes, Pat *knows how* to ski, while Albert doesn't, because Albert's theoretical knowledge of the physiology of skiing fails to be practical in the way Pat's knowledge is. It seems to me, however, that Pat and Albert just know different facts about skiing. Just as in the case of John and Phil, we should judge that what Albert knows *would* inform his attempts to ski, clumsy though they may be, just as Pat's knowledge would inform his. The epistemic difference between Pat and Albert is not a difference in the (practical) nature of their knowledge.

Yuri Cath (2015) endorses PI for another reason: it yields an "attractive explanation of why knowledge-how is compatible with Gettier-style luck" (p. 14).[12] I'll focus on just one Gettier case for know-how:

[10] Some of the knowledge that Phil has and John lacks might very well be proprioceptive knowledge relevant to cabinet making. Although proprioceptive knowledge may be difficult to articulate, this doesn't mean it's nonpropositional (or distinctively practical) knowledge. Thanks to Baron Reed for helpful discussion about this.
[11] See Barker (2024) for critical response to this case.
[12] Brogaard (2011) also concludes that know-how is a distinctively practical kind of knowledge on the basis of Gettier cases for know-how. My response to Cath's argument applies to Brogaard's, too.

> Bob wants to learn how to fly in a flight simulator. He is instructed by Henry. Unknown to Bob, Henry is a malicious imposter who has inserted a randomising device in the simulator's controls and intends to give all kinds of incorrect advice. Fortunately, by sheer chance the randomising device causes exactly the same results in the simulator as would have occurred without it, and by incompetence Henry gives exactly the same advice as a proper instructor would have done. Bob passes the course with flying colors. He has still not flown a real plane. (Cath 2015, p. 11)

Cath defends two general claims about Gettier cases for know-how: (1) S knows how to φ (Bob knows how to fly), and (2) S does not know that w is a way for S to φ (Bob does not know that w is a way for him to fly). Bob's justified true belief about a way to fly a plane doesn't amount to knowledge for the orthodox epistemological reason that it's the result of Gettier-style luck. Cath argues that Bob nonetheless *knows how* to fly because Bob has the ability to intentionally fly, and the ability to intentionally φ, for any action φ, requires knowing how to φ. Cath had originally (2011) seen these two claims, taken together, as a case against intellectualism. On the present analysis, he ends up endorsing what he calls 'revisionary intellectualism'—'revisionary' because, as Cath argues, it leads us to revise our notion of propositional knowledge. In particular, Cath's own view is that we should distinguish two kinds of propositional knowledge, one theoretical (susceptible to Gettier-style luck) and one practical (not susceptible to Gettier-style luck).

Cath's case for this distinction begins with this observation:

> It is plausibly an essential feature of intentional actions that they are guided by states of knowledge-how. The mirror-image of this idea is that it is an essential feature of knowledge-how states that they are states which can (in the right circumstances) guide intentional action. (p. 14)

As I see it, Cath's point is that Bob's know-how survives Gettier circumstances because Bob, after his flight-simulator experience, is in an epistemic state that can guide his flying, even if his justified true beliefs about how to fly a plane don't amount to knowledge. In short, it's *because* know-how is essentially action guiding that it survives Gettier-style luck. Briefly, here's how Cath sees the reason for this. When we evaluate whether a true belief amounts to knowledge, we 'look backwards', to the

circumstances of belief formation. Gettier cases interfere with these circumstances, so we can understand Gettier cases as cases of 'upstream luck'. This upstream luck keeps justified true beliefs from amounting to what Cath calls *theoretical* knowledge-that. Now, contrast this with the fact that we don't look to circumstances of belief formation when we evaluate whether S knows how to φ. What we care about is whether S is in a state that can reliably guide their φ-ing (a forward-looking evaluation!). For this reason, upstream luck doesn't interfere with know-how. This leads Cath to hypothesize a kind of *practical* knowledge-that, "a distinctive species of true belief that is exhaustively characterized in terms of its content and the forwards-looking property of being an action-guiding state" (p. 20). On the resulting view, a true belief amounts to theoretical knowledge-that if it's *justified* and *not* the result of upstream luck, and a true belief amounts to practical knowledge-that if it "can reliably guide *S* in successfully and intentionally φ-ing" (p. 17). Applied to Bob's case: Bob knows that *w* is a way for him to fly a plane in the distinctively practical sense of 'knows that', but he doesn't know that *w* is a way for him to fly a plane in the theoretical sense of 'knows that'.

I will return to Gettier cases for know-how in section IV. For now, my aim is to show that we don't need to posit a distinctively practical kind of knowledge to explain why 'know-how' survives Gettier circumstances. Here's my argument for this. Suppose that, for any activity φ, there is a set of true propositions about φ such that believing them suffices for knowing how to φ. Let this be the True Belief Hypothesis (TBH). Applied to Bob's case: suppose that there is a set of true propositions about flying a plane such that believing them suffices for knowing how to fly a plane. Some such propositions will be prescriptive, about what he *should* do at the outset of take-off, what he *should* do to initiate landing, and so on. But other relevant propositions will be descriptive, about, say, the effects of the various controls in the cockpit. When Bob walks out of the flight simulator, he's lucky to have a set of true beliefs about flying a plane (let these be the beliefs that together suffice for knowing how).

There are two features of true beliefs worth noticing here. First, Gettier circumstances don't undermine them, since the point of Gettier cases is to show that even a (justified) true belief might not amount to knowledge. Second, true beliefs might very well be the sort of thing that can guide, or inform intentional action.[13] Because true beliefs have these two features, it looks like our ordinary notion of true belief can do the explanatory work Cath wanted from his notion of practical knowledge-that. The fact that we intuit that Bob knows how to fly a plane when he walks out of the flight simulator (granting we do) can be explained by the fact that Bob walks out with all the right true beliefs, since true beliefs are (a) Gettier-proof and (b) the sort of thing that can guide intentional action.

Now, TBH is just a placeholder. We could substitute another (non-factive) state (e.g., ability, disposition), and as long as it has features (a) and (b), it should allow us to explain why Bob knows how to fly a plane despite lacking propositional knowledge (Cath's 'theoretical knowledge-that'). The point is that it doesn't follow from Cath's analysis of Gettier cases for know-how that there's any distinctively practical kind of propositional knowledge. There are too many other, more parsimonious options on the table. If none of these other options is worthwhile, the burden to show this is Cath's.[14] At best, with cases like Bob's, Cath shows that ascribing know-how to S is apt when S has something that can guide them in successfully and intentionally φ-ing. This doesn't amount to showing that S has a distinctively practical kind of (propositional) knowledge.

Here's one more reason Cath's arguments don't give us reason to accept PI. We have no reason to think that ordinary propositional knowledge *isn't also* practical in the way Cath argues 'knowledge-how states' are. Cath's 'theoretical' knowledge-that doesn't require any extra bells or whistles to

[13] See, e.g., Davidson (1963), and cf. Gibbons (2001).

[14] One might find the true belief hypothesis dissatisfying because it doesn't make sense of why we call Bob's state '*knowledge*-how'. Two things to note: (1) 'knowledge-how' is a term of art—only philosophers (since Ryle) use it; relatedly, (2) the fact that we say Bob 'knows how' doesn't establish that 'know-how' is a kind of knowledge.

amount to 'practical' knowledge-that. It's just that which of these we ascribe to S will depend on what we care about: the circumstances of belief formation, or whether what S truly believes will reliably guide what S does. Because PI is a claim about a *distinctively* practical kind of knowledge, Cath's arguments neither motivate nor satisfy it.

I've argued that the cases and arguments supposed to support, or justify PI in the debate about know-how neither support nor justify it. At each turn, there's an alternative explanation, so we're left without positive reason to think knowing how to φ amounts to having a distinctively practical kind of knowledge relevant to φ-ing. Of course, I haven't shown that PI is false, but in the next section I fill out the details of its alternative and then, in section IV, I show we should prefer it.

III. Minimal Intellectualism

In this section I develop the aforementioned alternative to PI, an alternative to the project of characterizing know-how as a *distinctively* practical kind of knowledge. It's worth flagging that this is an alternative way of explaining our practice of ascribing know-how, an account of what makes claims like 'S knows how to φ' true when they are. The point, for now, is to fill out an account of know-how ascriptions that no one in the literature has tried. In later sections I clarify the view while dispelling worries.

This will require modification, but here's the view I will develop, in a slogan: knowing how to φ is 'made up of' ordinary propositional knowledge about the activity, φ. More formally:

Minimal Intellectualism. S knows how to φ iff S knows a certain set of facts relevant to φ-ing.

For any activity φ about which we might ascribe know-how, there will be some (sets of) facts one *must* know in order to know how to φ, and there will be some (sets of) facts such that S's knowing them

suffices for S's knowing how to φ. (Later, I'll concede that S might only truly believe some facts—it won't matter for my purposes whether these true beliefs amount to knowledge.) Here's a preliminary argument for the view.

For any activity φ, there will be some facts that one must know in order to know how to φ. In most ordinary cases, it seems that what φ (or the product of φ-ing) is is one of these facts. We probably wouldn't ordinarily think that a barista who doesn't know that a cortado is an espresso drink with a 1:1 espresso-to-milk ratio knows how to make a cortado, even if they know how to pull espresso and how to steam milk.[15] Similarly, knowing how to build a cabinet seems to require knowing what a cabinet is, and knowing how to play chess seems to require knowing what chess is, and so on. However, the fact that a cortado is an espresso drink with a 1:1 espresso-to-milk ratio isn't *necessarily* in the set of facts that a subject S must know in order to know how to make a cortado. Consider a barista who is told only that the 'cortado' on the café menu requires them to pour *this* much steamed milk in with *this* much espresso (where they don't realize these are equal parts). This barista knows how to make a cortado, and they know what a cortado *is,* albeit under a different guise (i.e., 'it's the drink that results from pouring *this* much steamed milk in with *this* much espresso'). We can take this observation one step further. Someone might very well know how to φ even without knowing what φ (or the product of φ-ing) is. Consider Andy, who's just bought a home espresso machine and has come to enjoy making an espresso drink with a 1:1 espresso-to-milk ratio. Even if Andy doesn't know that she's making cortados, I could report to my friend who *does* know about cortados that Andy knows how to make them.

[15] Of course, a barista who knows how (and has the ability to) pull an espresso and steam milk also has the ability to make a cortado. But this 'ability' amounts to mere ability, and almost no one in the literature thinks that mere ability to φ amounts to knowing how to φ (for exceptions, see Dreyfus 2005 and Noë 2005; cf. Markie 2015).

These reflections show that, for any given case of S knowing how to φ, we may be unable to specify which facts are among the facts S needs to know in order to know how to φ. It does not follow that there are no facts in the set of facts S must know. After all, if S doesn't know A ('a cortado is an espresso drink with a 1:1 espresso-to-milk ratio'), then they must instead know B ('a cortado is the drink that results from pouring *this* much steamed milk in with *this* much espresso') or C ('*this* drink results from pouring *this* much steamed milk in with *this* much espresso'). Andy, anyway, does know plenty of facts relevant to making a cortado, even if she doesn't know there's a name for the resulting drink. For my purposes, it suffices to recognize that at least some of the facts she knows are such that she wouldn't know how to make a cortado if she didn't know them.

The more controversial claim I'm advancing is the sufficiency claim: that, for any activity φ, there is at least one set of facts such that knowing these facts suffices for knowing how to φ. Which facts are in this set will vary with the activity, of course, and for many activities there will be more than one set of facts, knowledge of which would suffice for knowing how to do the activity. Here's a preliminary reason to think this is true. The possibility of creating instructions for an activity φ suggests that there are sets of facts that one learns in order to learn how to φ. Once one knows these facts, one knows how to φ. Consider some intuitive examples. Board games are straightforward in this way. Before I've read the rules to a new board game, I don't know how to play it. Once I've read the rules, I know how to play it, even if I don't yet know which strategy will serve me best. So, whatever one learns by reading the rules to a game seems to suffice for knowing how to play the game.[16] We can also recall John here. At some point during his reading and watching documentaries about cabinet making, John learned

[16] One might think, as Ryle seems to, that knowing rules isn't 'knowing' in the ordinary propositional knowledge sense. I don't think this is right, but I want to avoid the trouble by putting the point this way: what one knows when one knows how to play a game are facts about the game, not rules *per se*. Whatever it is to know a rule, when I play chess I know facts like this: *that* this is a knight, *that* I can move the knight in this way and not this other way, *that* my opponent will have this or that opportunity to counter, and so on.

enough facts to count as knowing how to build a cabinet. When exactly did John learn enough to count as knowing how to build a cabinet? This will depend on context. If I'm looking for someone to build a functional cabinet, John doesn't need to know much to know how to do the job. What he knows early on in his studies suffices. If I'm looking to refinish my kitchen with exceptionally fine cabinets, however, then I might not think of John as knowing how to make cabinets in the relevant sense at all. I'd be looking for someone who knows as much as Phil.

There's a general point here: whether S counts as knowing how to φ depends on context. In particular, it depends on what matters to whoever is ascribing know-how. Insofar as I think cabinet-making experience is *necessary* for knowing how to build cabinets, it's because I want someone who knows *more* and, in particular, I want someone who has whatever knowledge one gains through cabinet-building experience. This doesn't mean that I'm looking for someone with a distinct *kind* of knowledge. I submit that 'S knows how to φ' is true when S knows whatever they need to know to φ in the context-relevant sense (cf. Hawley 2003).

So the basic structure of Minimal Intellectualism is this: knowing how to φ is a matter of knowing (ordinary) facts relevant to φ-ing (in an ordinary way). From here, my argument proceeds by describing key virtues of Minimal Intellectualism and heading off worries.

IV. Virtues of Minimal Intellectualism

One might worry we should be able to determine *which* facts comprise the set of facts about φ, knowledge of which suffices for knowing how to φ. Stanley and Williamson, after all, are able to name the fact that S knows—it's a fact about a way to φ. Does their view have an advantage over mine? Predictably, I think not. Two things to say here. First, it's because Stanley and Williamson equate

know-how with knowledge of a particular fact that they run into trouble with Hannah.[17] They have to explain why Hannah doesn't know how to ride a bike even though she has the knowledge that would otherwise, on their account, amount to her knowing how to ride a bike. By contrast, it's because Minimal Intellectualism doesn't equate know-how with knowledge of a particular fact that it won't run into trouble with knowledge of propositions with demonstrative reference. It allows us to explain the case in this way: we don't think Hannah knows how to ride a bike because we don't think she knows everything she needs to know in order to ride a bike—she hasn't learned enough by observing John. When she hops on a bike and learns for herself that *this* is what it's like to balance (gaining relevant proprioceptive knowledge), and so on, we might think she knows how. Minimal Intellectualism allows us to explain the case without adding or distinguishing a feature of knowing how that makes it distinctively practical.[18] This is a benefit of the view, not a shortcoming.

There's another reason that it's a benefit and not a shortcoming that Minimal Intellectualism doesn't try to name the facts that comprise the relevant set(s) of facts about φ. It makes sense of what our concept of know-how is *for*. With sentences like 'S knows how to φ', we indirectly ascribe knowledge of whatever S knows about φ-ing.[19] This means I can sip a cortado and declare that that barista knows how to make a cortado without also knowing whatever it is the barista knows (and that, together with their skill, resulted in such a good cortado). I couldn't do this with a direct knowledge ascription, since it would take this unacceptable form: 'S knows that P, but I don't know that P'. Applied: I couldn't say that 'the barista knows that milk should be steamed to 150 degrees Fahrenheit,

[17] Habgood-Coote (2018) argues that this sets Stanley's and Williamson's view up for a generality problem (structurally identical to the generality problem for reliabilism). If Habgood-Coote is right, their view turns out to be critically underspecified.

[18] I have not argued against modes of presentation or the Fregean senses that Pavese (2015), for example, uses to distinguish propositional knowledge from the knowledge that amounts to know-how. So, I leave open the possibility that these are part of the story. What I have shown is that they have no explanatory work to do. All else equal, we can and should do without them. Thanks to an anonymous referee for bringing this to my attention.

[19] Snowdon (2004) inspires this point about indirect knowledge ascription.

but I don't know that'. The idea, then, is that our concept of know-how allows us to indirectly ascribe knowledge of facts, and this means that we (the ones ascribing) don't need to know which facts are the facts that S knows.

Here's another virtue of the view. It makes sense of why our concept of 'know-how', and not propositional knowledge, seems to be gradable. Ryle remarks on this difference:

> We never speak of a person having partial knowledge of a fact or truth, save in the special sense of his having knowledge of a part of a body of facts or truths. A boy can be said to have partial knowledge of the counties of England, if he knows some of them and does not know others. But he could not be said to have incomplete knowledge of Sussex being an English county. Either he knows this fact or he does not know it. On the other hand, it is proper and normal to speak of a person knowing in part how to do something, i.e., of his having a particular capacity in a limited degree. An ordinary chess-player knows the game pretty well but a champion knows it better, and even the champion has still much to learn. (1949, p. 59)

So it seems our concept of knowing how is gradable—one can know *in part* how to do something—while our concept of 'knowing that' (what I call 'ordinary propositional knowledge') is not. One cannot have partial knowledge of the fact that P.[20]

Minimal Intellectualism provides us with a straightforward story to tell about this apparent difference between 'knowing how' and 'knowing that'. The reason 'knowing how'—and not 'knowing that'—is gradable is that knowing how is 'made up of' knowing that. The way to explain gradability, then, is to say S knows how to φ better than S2 iff S has more propositional knowledge relevant to φ-ing than S2.[21] Knowing how is just like the 'special sense' in which we may have partial propositional knowledge: we make sense of this by saying that someone knows some but not all facts in a body of

[20] Pavese (2017) argues that this difference is a mere linguistic convention—it's not a difference in the properties of 'knowing how' and 'knowing that'. Two things to say. First, this is a strange argument to make on behalf of a view of know-how developed from the linguistic features of know-how ascriptions. If the fact that we talk about knowing how and knowing that as if only the former were 'gradable' doesn't tell us anything about the features of the concepts themselves, then we shouldn't accept that the linguistic features of know-how ascriptions tell us anything about know-how, either. Second, I'm going to show that Ryle's observation can actually be leveraged on behalf of (roughly) the kind of view Pavese endorses. So the intellectualist need not dismiss it.

[21] For ease of exposition, I talk about gradability in terms of one S knowing how to φ better than some S2, but the point is the same. S2 can be the same person as S, albeit at a different time, or in another possible world, etc.

facts (e.g., the counties of England). Similarly, when someone knows 'in part' how to φ, they know some but not all—or perhaps even *many*—of the facts that one could know about the activity, φ.[22]

Here's what this looks like in a straightforward case. A grandmaster knows how to play chess, but so does a novice who has just learned the rules. The grandmaster knows how to play chess better than the novice because they know a lot more about chess (say, more tactics or strategies). Somewhat crudely, they know more *facts* about chess. Of course, they know more because they've practiced and studied more. The point here is that this practice and study results in propositional knowledge. This knowledge might, for example, be of facts like 'strategy x is an apt response to strategy y in circumstances C', or 'if an opponent makes a move like x given a certain board state, y, their strategy is likely to be z', and so on. The key point is highly intuitive: grandmasters know more facts about chess than novices.

Now, one might grant that Minimal Intellectualism is a nice fit for chess but anticipate that it will be a poor fit for athletic activities, or activities that depend on dexterity. It seems knowing how to swim better or worse isn't a matter of knowing more or fewer facts about swimming. However, I find that this objection betrays an inclination to apply 'know-how' where it doesn't quite fit. So, in response, I'll show that insofar as our concept of know-how applies to athletic activities, Minimal Intellectualism is indeed a good fit. Notice first that training at any sport requires learning more about the sport and about one's own tendencies while engaging in it. For example, a subject S knows how to play tennis, but they're training to become better. S learns that they tend to hold their racket like *this,* but to respond to volleys more efficiently, they should instead hold their racket like *this*. The S who knows this knows how to play tennis better than the S2 who, all else equal, doesn't know this. Here's a real-world case. Kate Douglass, Olympic swimmer and graduate student in statistics at the University of Virginia,

[22] Baron Reed has convinced me that propositional knowledge may itself be gradable. For my purposes here, however, I remain neutral about this.

knows how to swim, of course, but she also knows a lot about swimming. This is because, when she swims, she wears an accelerometer, a device that yields very precise data about her movements. By studying the data, Douglass learns how to adjust her form in order to reduce drag and so cut meaningful milliseconds off her time.[23] Insofar as Douglass knows how to swim better than other Olympic swimmers, it's because she knows more about swimming (in particular, how to reduce her drag and so improve her speed). This doesn't mean Douglass is the fastest swimmer—a swimmer with more strength or stamina, say, might outperform her. But it also doesn't follow that a faster swimmer *knows how* to swim better than Douglass. It's just that they can perform better. My point is that these two claims are consistent: S knows how to φ better than S2 knows how to φ, while S2 is *better at* φ-ing than S. This shows that know-how ascriptions track knowledge of an activity and not *ability per se*. This is true even if knowledge of an activity isn't all there is to being good at it.

Now, I've made use of a somewhat odd way of saying S knows how to φ better than S2 knows how to φ. The odd way of saying this is that S knows more facts about φ-ing than S2 knows. Conversely, S2 knows fewer facts about φ-ing than S does. This is how Minimal Intellectualism explains the gradability of knowing how. In case the fact that we don't talk like this—in terms of knowing more or fewer facts—seems to be a mark against the view, here's why it isn't. The reason we don't talk like this is that our concept of 'know-how' allows us to say what amounts to the same thing while avoiding the awkward construction. We have a convention for saying S2 knows more (relevant) facts about an activity than S—I'm just trying to point to what lies behind the curtain, so to speak. If what lies behind the curtain, or convention seems awkward, that's just a reason to value the convention. This is what our concept of 'know-how' is for.

[23] Jenny Vrentas, "Why Some Olympic Swimmers Think about Math in the Pool," *The New York Times,* July 29, 2024, https://www.nytimes.com/2024/07/29/world/olympics/olympics-swimming-data-analytics.html.

Another key virtue of Minimal Intellectualism is that it predicts the results we get for Gettier cases for know-how. It's worth explaining why. In order to set up a Gettier-style case for know-how, we need for there to be a *particular* belief (justified and true), about which we'll ask whether it amounts to knowledge(-how). If Minimal Intellectualism is correct, there is no particular belief about which we could ask whether it amounts to know-how, since knowing how to φ is a matter of having any number of beliefs about φ-ing.[24] So it makes sense that we'd intuit that Bob knows how to fly a plane despite his Gettier-style circumstances.

There's a more general point about methodology here, which Minimal Intellectualism puts us in a position to notice. Gettier cases are a bad fit for learning much of anything about the nature of know-how. They're informative only if it turns out that our intuitions about know-how in Gettier circumstances are identical to our intuitions about would-be propositional knowledge in Gettier circumstances.[25] That, at least, would be good reason to think there's a 1:1 correspondence between a bit of 'knowledge-how' and a bit of 'knowledge-that'. As it is, this is not the case. We intuit that Bob knows how to fly a plane. In classic Gettier cases, we intuit that S has a justified true belief that doesn't amount to knowledge. What this tells us is just that either (a) we didn't identify the right belief when we put Bob in Gettier circumstances (i.e., knowing how to fly a plane isn't comprised of a belief about a way to fly a plane); or (b) knowing how doesn't consist of a particular belief. I think we're better off taking (b) as our upshot, primarily because Bob, when he walks out of the flight simulator, has many true beliefs, each of which is likely very important for knowing how to fly a plane. It's natural to think these beliefs together inform our intuition that Bob knows how to fly a plane.[26]

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[24] If there is some activity, φ, for which S's truly believing that P (where P is a particular proposition about φ) is both necessary and sufficient for knowing how to φ, then we could set up a Gettier case for knowing how to φ. Otherwise, we're (implicitly) trying to run Gettier cases on sets of beliefs, and this doesn't work.

[25] Stanley and Williamson (2001) defend this claim, as does Stanley (2011, ch. 8). See Poston (2009) for response.

[26] Additionally, I'm not sure what would be a better candidate for the relevant particular belief than the one Stanley and Williamson propose. As far as it goes, their proposal is a good one. As evidence: as far as I can find, anyone trying to

Now, we *could* isolate any one of Bob's (justified true) beliefs relevant to flying and ask whether *that* belief amounts to knowledge despite Gettier circumstances. We could ask what happens to our intuition that Bob knows how to fly a plane if it turns out that one or more of his justified true beliefs relevant to flying fails to amount to knowledge relevant to flying. However, I'd rather clarify an aspect of Minimal Intellectualism than wade into a great deal of tedium about this. As formulated, Minimal Intellectualism claims that S knows how to φ iff S *knows* a certain set of facts about the activity φ. I think it very likely, however, that not all of S's beliefs about the activity φ have to amount to knowledge in order for S to know how to φ. As long as S has the right true beliefs about φ-ing, we'd probably intuit that they know how to φ, since true beliefs, even if unjustified, are the kind of thing that can reliably guide intentional φ-ing.[27] So we should understand the view to be this:

Minimal Intellectualism. S knows how to φ iff S believes a certain set of facts about the activity φ.

Does this concede too much? I don't think so. First, some knowledge (and not mere true belief) is likely necessary for knowing how to φ, since there are some facts about φ-ing such that if S didn't *know* them, we'd intuit that S doesn't know how to φ.[28] These are likely to be facts about what φ-ing is or requires.[29] Second, what matters most to the case for Minimal Intellectualism is not whether or which true beliefs about an activity must amount to knowledge, but the fact that we don't need to appeal to any distinctively practical way of knowing propositions in order to say what it is for S to

characterize know-how in terms of propositional knowledge ends up following Stanley and Williamson on this (see, e.g., Brogaard 2011, Cath 2015, Pavese 2021).

[27] Knowing how to φ can also withstand some false beliefs about φ-ing. A barista who believes milk should be steamed to 170 degrees Fahrenheit for a cortado has a false belief relevant to how they make cortados. They know how to make a cortado even if they routinely burn the milk.

[28] See Nagel (2013) for helpful discussion of whether belief or knowledge better explains intentional action.

[29] We actually have some evidence for this, thanks to Bengson, Moffett, and Wright (2009), who have surveyed folks and found that "ordinary judgments of know-how are sensitive to the absence of a certain sort of propositional knowledge" (397). Irina is confused about what a salchow is, but because of a neurological abnormality, she nonetheless manages to do a triple salchow whenever she intends to. More than 80% of people surveyed judged that Irina is able to do a salchow but doesn't know how to do one.

know how to φ. Minimal Intellectualism is the view that ordinary propositional knowledge allows us to do this. Minimal Intellectualism is the view that ordinary knowledge *is* practical knowledge.

V. Concluding remarks: That there's no such thing as 'knowledge-how'

It's worth seeing what sets Minimal Intellectualism apart from all other approaches to the debate about know-how. Ryle (1946) is famous for having distinguished what he called 'knowing how' from 'knowing that' and arguing that 'knowing how' can't be explained in terms of 'knowing that'. Intellectualists since Stanley and Williamson (2001) have rejected Ryle's claim. They've argued that, in one way or another, knowing how *can* be explained in terms of knowing that, but always with the concession (albeit not typically understood as a concession) that it's a distinctively practical kind of 'knowing that' that explains 'knowing how' (apart from Stanley and Williamson 2001, see, e.g., Stanley 2011, Bengson and Moffett 2011b, Brogaard 2011, and Pavese 2015 and 2021). In effect, intellectualists have accepted the explanatory project they set out to reject.[30] They end up arguing not that there is *no* distinction between 'knowing how' and 'knowing that', but that the distinction isn't the one they attribute to Ryle. We can call the attempt to explain 'knowing how' in terms of a distinctively practical kind of 'knowing that' *explanatory intellectualism.*

Anti-intellectualists, of course, also accept Ryle's explanatory project, but because they take themselves to be advancing versions of Ryle's own view, they don't do this covertly. Anti-intellectualists set out to characterize a distinctively practical kind of knowledge—what we ascribe when we ascribe 'know-how'—it's just that they approach the task from the other direction: they argue that knowing how is having a complex ability or disposition, and *then* that this complex ability or

[30] Stanley (2011), though, takes himself to be defending a unified account of knowledge, so I doubt he'd accept this characterization of his view. Nonetheless, insofar as his view makes use of practical modes of presentation to make sense of know-how ascriptions, he concedes the point.

disposition amounts to a kind of practical *knowledge* (see, e.g., Setiya 2008, Glick 2012, Kremer 2016, Löwenstein 2017, and Elzinga 2021).

What makes Minimal Intellectualism unique among views about know-how is that it rejects this explanatory project, since we can make sense of what it is to know how to φ without characterizing a distinctively practical kind of knowledge. If an account of know-how is supposed to tell us what makes 'S knows how to φ' true—as contemporary accounts of know-how do—then 'know-how' is just ordinary propositional knowledge. 'S knows how to φ' is true iff S knows whatever they need to know in order to φ. There's no such thing as 'knowledge-how'.

Now, I think Ryle had his sights set on a legitimate explanatory project, just not the one that the contemporary debate has accepted. This project is distinct but related to explaining what it is to know how to φ: explain how knowledge guides or informs action, when it does. How does S manage to apply their knowledge relevant to φ-ing when they φ? It seems that the answer can't be that they think about what they know while they do what they know how to do—I don't think about how to tie my shoes while tying my shoes. However, neither would we want to say that knowledge guides action automatically, or else we begin to lose sight of the connection between our knowledge and our agency, or how knowledge informs what we do. The inquiry that parties to the debate about know-how should pursue, then, is this inquiry about intelligent action. Minimal Intellectualism tells us what *kind* of knowledge informs intelligent action (i.e., the ordinary propositional kind), and the next question is *how* this knowledge informs action when it does. That's the task of future work on 'knowing how'.

References

Barker, Beth. 2024. Knowing How and Being Able. *Synthese* 204, no. 76: pp. 1–20.

Bengson, John, and Marc A. Moffett. 2011a. Two Conceptions of Mind and Action: Knowing How and the Philosophical Theory of Intelligence. In *Knowing How: Essays on Knowledge, Mind, and Action,* edited by John Bengson and Marc A. Moffett, pp. 3–55. Oxford: Oxford University Press.

Bengson, John, and Marc A. Moffett. 2011b. Nonpropositional Intellectualism. In *Knowing How: Essays on Knowledge, Mind, and Action,* edited by John Bengson and Marc A. Moffett, pp. 161–95. Oxford: Oxford University Press.

Bengson, John, Marc A. Moffett, and Jennifer C. Wright. 2009. The Folk on Knowing How. *Philosophical Studies* 142: pp. 387–401. https://doi.org/10.1007/s11098-007-9193-x.

Brogaard, Berit. 2011. Knowledge-How: A Unified Account. In *Knowing How: Essays on Knowledge, Mind, and Action,* edited by John Bengson and Marc A. Moffett, pp. 136–160. Oxford: Oxford University Press.

Carter, J. Adam, and Joshua Shepherd. 2023. Intentional Action and Knowledge-Centered Theories of Control. *Philosophical Studies* 180: pp. 957–77. https://doi.org/10.1007/s11098-022-01904-4.

Cath, Yuri. 2015. Revisionary Intellectualism and Gettier. *Philosophical Studies* 172: 7–27.

Cath, Yuri. 2011. Knowing How without Knowing That. In *Knowing How: Essays on Knowledge, Mind, and Action,* edited by John Bengson and Marc A. Moffett, pp. 113–135. Oxford: Oxford University Press.

Davidson, Donald. 1963. Actions, Reasons, and Causes. *The Journal of Philosophy* 60, no. 23: pp. 685–700.

Dreyfus, Hubert L. 2005. Overcoming the Myth of the Mental: How Philosophers Can Profit from the Phenomenology of Everyday Expertise. *Proceedings and Addresses of the American Philosophical Association* 79, no. 2: pp. 47–65.

Elzinga, Benjamin. 2021. Intellectualizing Know How. *Synthese* 198: pp. 1741–60. https://doi.org/10.1007/s11229-019-02160-6.

Gibbons, John. 2001. Knowledge in Action. *Philosophy and Phenomenological Research* 62, no. 3: pp. 579–600.

Glick, Ephraim. 2015. Practical Modes of Presentation. *Nous* 49, no. 3: pp. 538–59. https://doi.org/10.1111/nous.12052.

Glick, Ephraim. 2012. Abilities and Know-How Attributions. In *Knowledge Ascriptions,* edited by Jessica Brown and Mikkel Gerken, pp. 120–139. Oxford: Oxford University Press.

Habgood-Coote, Joshua. 2019. What's the Point of Knowing How? *European Journal of Philosophy* 27: pp. 693–708.

Habgood-Coote, Joshua. 2018. The Generality Problem for Intellectualism. *Mind and Language* 33, no. 3: pp. 242–62.

Hawley, Katherine. 2003. Success and Knowledge-How. *American Philosophical Quarterly* 40, no. 1: pp. 19–31.

Hornsby, Jennifer. 2011. Ryle's *Knowing-How* and Knowing How to Act. In *Knowing How: Essays on Knowledge, Mind, and Action,* edited by John Bengson and Marc A. Moffett, pp. 80–98. Oxford: Oxford University Press.

Kremer, Michael. 2017. Ryle's 'Intellectualist Legend' in Historical Context. *Journal for the History of Analytical Philosophy* 5, no. 5: pp. 17–39. https://doi.org/10.15173/jhap.v5i5.3204.

Kremer, Michael. 2016. A Capacity to Get Things Right: Gilbert Ryle on Knowledge. *European Journal of Philosophy* 25, no. 1: pp. 25–46. https://doi.org/10.1111/ejop.12150.

Löwenstein, David. 2017. *Know-How as Competence: A Rylean Responsibilist Account.* Frankfurt am Main: Vittorio Klostermann.

Markie, Peter J. 2015. The Special Ability View of Knowledge-How. *Philosophical Studies* 172, no. 12: pp. 3191–3209. https://doi.org/10.1007/s11098-015-0464-7.

Nagel, Jennifer. 2013. Knowledge as a Mental State. In *Oxford Studies in Epistemology,* edited by Tamar Szabó Gendler and John Hawthorne, vol. 4, pp. 272–308. Oxford: Oxford University Press.

Noë, Alva. 2005. Against Intellectualism. *Analysis* 65, no. 4: pp. 278–90. https://doi.org/10.1093/analys/65.4.278.

Pavese, Carlotta. 2022. Practical Knowledge First. *Synthese* 200, no. 5: pp. 1–18.

Pavese, Carlotta. 2021. Know-How, Action, and Luck. *Synthese* 198, suppl. 7: pp. S1595–S1617.

Pavese, Carlotta. 2019. The Psychological Reality of Practical Representation. *Philosophical Psychology* 32, no. 5: pp. 784–821.

Pavese, Carlotta. 2017. Know-How and Gradability. *Philosophical Review* 126, no. 3: pp. 345–83.

Pavese, Carlotta. 2015. Practical Senses. *Philosophers' Imprint* 15, no. 29: pp. 1–25.

Poston, Ted. 2009. Know How to Be Gettiered? *Philosophy and Phenomenological Research* 79, no. 3: pp. 743–47.

Ryle, Gilbert. 1949. *The Concept of Mind.* New York: Barnes and Noble, Inc.

Ryle, Gilbert. 1946. Knowing How and Knowing That. *Proceedings of the Aristotelian Society,* 46: pp. 1–16.

Setiya, Kieran. 2012. Knowing How. *Proceedings of the Aristotelian Society* 112, no. 3: pp. 285–307.

Setiya, Kieran. 2008. Practical Knowledge. *Ethics* 118: pp. 388–409.

Snowdon, Paul. 2004. Knowing How and Knowing That: A Distinction Reconsidered. *Proceedings of the Aristotelian Society* 104, no. 1: pp. 1–29. https://doi.org/10.1111/j.0066-7373.2004.00079.x.

Stanley, Jason. 2011. *Know How*. Oxford: Oxford University Press.

Stanley, Jason, and John W. Krakauer. 2013. Motor Skill Depends on Knowledge of Facts. *Frontiers in Human Neuroscience* 7: pp. 1–11. https://doi.org/10.3389/fnhum.2013.00503.

Stanley, Jason, and Timothy Williamson. 2001. Knowing How. *The Journal of Philosophy* 98, no. 8: pp. 411–44.

Tanney, Julia. 2017. Volume Introduction: Gilbert Ryle on Propositions, Propositional Attitudes, and Theoretical Knowledge. *Journal for the History of Analytical Philosophy* 5, no. 5: pp. 1–15.

Waights Hickman, Natalia. 2019. Knowing in the 'Executive Way': Knowing How, Rules, Methods, Principles and Criteria. *Philosophy and Phenomenological Research* 99, no. 2: pp. 311–35.