Subject-Specific Intellectualism:

Re-examining Know How and Ability

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Abstract

Intellectualists claim that knowing how to do something is a matter of knowing, for some w, that w is a way to do that thing. However, standard accounts fail to account for the way that knowing how sometimes seems to require ability (although at other times does not). I argue that the way to make sense of this situation is via a 'subject-specific' intellectualism according to which knowing how to do something is a matter of knowing that w is a way *for some relevant person* to do that thing, but who the relevant person is can change from context to context. If it is the utterer themselves, then knowing how will require ability, but otherwise it will not.

Keywords: know how; intellectualism; practical knowledge; contextualism; ability account; knowledge how; subject-specific.

1. Introduction

Accounts of knowledge-how fall into two broad categories: intellectualist accounts (according to which knowing how is a matter of knowing a proposition about a way to do something) and ability accounts (according to which knowing how is a matter of having a certain ability).[1] When we compare how well each view accounts for intuitions about cases, we find a mixed bag. Some cases without ability seem to involve knowledge-how, but others cases do seem to require ability, moreover sometimes what is essentially the same case can elicit different intuitions. In this paper I propose that an intellectualist account which includes a contextually determined subject parameter can make sense of all of these intuitions. Knowing how to do something is always a matter of knowing of a way w, that w is a way that some subject can do that thing. But depending on who the relevant subject is in a given context (in particular if it is the utter themselves), the truth of a knows how claim may or may not require ability. I further argue that the context dependence of knows how utterances is an artifact of pragmatics rather than semantics, and that this view is immune from arguments against other forms of epistemic contextualism.

2. Varieties of knowledge claims

Knowledge ascriptions in English come in a variety of forms, for instance the claim that someone knows *that* there is milk in the fridge, knows *where* the milk is, knows *what* is in the fridge, knows *how* the milk got in the fridge, *when* it was put there, *who* put it there, and *why*. It is widely agreed that all of the above

[1] Although of course there are those who don't quite fit into either category, such as the non-propositional intellectualism endorsed by Bengson and Moffett (2012) according to which know how requires *objectual* knowledge of a way to do something.

are different ways of expressing claims about propositional knowledge, in other words, they can all be reduced to claims like the first in the list, about knowing *that* such-and-such is the case.[2]

For instance, to know *where* the milk is just to know that the milk is in the fridge. To know *what* is in the fridge is to know that there is milk (and perhaps some other things) in the fridge. To know *how* it got there is to know that you put it there, etc. The idea is that these knowing-wh expressions are about knowing a proposition which provides an answer to a related question: Where is the milk? What's in the fridge? How did it get there?[3]

So far so good. But there is also another kind of knowledge ascription that is common in English, 'knowing how to' expressions, e.g. I know how to ride a bike, my father knows how to make lasagne, and the engineer knows how to fix my boiler. These are typically referred to as cases of knowing how (although 'knowing how to' would be a more apt expression to connote the difference from cases like knowing how the milk got in the fridge). According to a view popularised by Stanley and Williamson (2001), this knowing how expression works in the same way as knowing-wh expressions and serves to express the possession of propositional knowledge.[4] In particular it is a matter of knowing an answer to a question of the form: what is a way to ride a bicycle? According to this view:[5]

> One knows where the milk is iff one knows of some place p, that p is where the milk is.
>
> One knows who put the milk in the fridge iff one knows of some person s, that s put the milk in the fridge.

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[2] Schaffer (2007) refers to this reductive account as the 'received view' about knowledge wh-, although Schaffer himself questions this reduction.

[3] And while knowing a given proposition may require knowing the answers to several such questions, it is fruitful for epistemologists to keep them separate, as I argue in Wallbridge (2016a).

[4] The details of Stanley and Williamson's argument need not concern us here, but it involves applying standard syntactic theory to show that knowledge-how claims contain embedded questions and phonologically null pronouns just like other cases of knowledge-wh.

[5] Endorsed by Vendler (1972), Stanley and Williamson (2001), Stanley (2011a, 2011b), Brogaard (2009, 2011), and Braun (2011, 2012), among others.

And most relevantly for us:

> One knows how to ride a bicycle iff one knows of some way w, that w is a way to ride a bicycle.

According to this view, knowing how to do something reduces to a certain kind of propositional knowledge, knowledge that some way *w* is a way to that thing. We will call this the intellectualist account of knowledge-how.[6] (As we will see later, Stanley and Williamson ultimately endorse a slightly modified version of the above requiring that w is grasped under a 'practical mode of presentation.' Although this might seem to make the view a slightly less 'pure' version of intellectualism, it still takes knowledge-how to be reducible to a particular form of knowledge-that.)

3. Knowledge and ability

The intellectualist account of knowledge-how runs contrary to a much older view about knowledge-how which finds its roots in Ryle (1949), namely the ability account of knowledge-how. According to this kind of account:

> One knows how to ride a bicycle iff one has the ability to ride a bicycle.[7]

[6] A weaker position is sometimes endorsed under the label of intellectualism, according to which know how is reducible to true justified belief (plus perhaps some other epistemic conditions), given that know how does not seem to be Gettierisable in the same way as propositional knowledge (see Poston 2009, Brogaard 2011). Zardini (2008) even claims that know how just involves true propositional belief, and Cath (2011) argues that know how doesn't even require belief, but merely that a certain proposition *seems* true to you. (And I have already mentioned Bengson and Moffett's non-propositional intellectualism.) Everything that I say here applies to these views as well.

[7] This ability account is often attributed to Ryle (e.g. by Stanley and Williamson, 2001, Noë, 2005), although Hornsby (2011) disputes this.

On this view, knowledge-how is importantly different from propositional knowledge, such as knowledge that and knowledge-wh.[8] According to the intellectualist account (as stated above) know how requires propositional knowledge but no mention of ability is made, whereas according to the ability account, know how requires ability and no mention of propositional knowledge is made.

Of course, given certain background assumptions the two views do not need to be in conflict. If knowing a way to ride a bicycle necessarily provides one with the ability to ride a bicycle, and having the ability to ride a bicycle requires one knowing some way w such that w is a way to ride a bicycle, then each view entails the other. However, these premises are generally not granted.

More likely, however, is a partial rapprochement between the two views. For instance, Stanley and Williamson require that in order to know how to ride a bicycle, one has to know of w that it is a way to ride a bicycle, where w is grasped under 'a practical mode of presentation.'[9] This avoids potential problems with a simpler version of their view. For instance, Maddy is aware that there is a book in the library which includes a chapter on how to ride a bicycle (although she has not checked it out), and therefore she knows that the way *b* described in that book is a way to ride a bicycle. But despite knowing that *b* is a way to ride a bicycle, Maddy does not appear to know (yet) how to ride a bicycle. The problem in this case can be diagnosed, according to Stanley and Williamson, as a case in which one knows of a way to do something, but not under a practical mode of presentation.

Unfortunately, as Stanley and Williamson note, giving a non-trivial characterization of practical modes of presentation is no easy task (much like characterizing first-personal and

[8] Although Hetherington (2006) attempts to unify things another way, and instead of saying that knowledge-how is a species of knowledge that, claims that knowledge that is a species of knowledge-how.
[9] Although see Koethe (2002) for the objection that practical modes of presentation illicitly smuggles in the notion of knowing how.

third-personal modes of presentation). However they do claim that knowing of a way of doing something under a practical mode of presentation will involve having a certain range of complex dispositions to act.[10]

In a similar move, Bengson and Moffett (2011) note the importance for intellectualist views of knowledge-how of the idea that the propositional knowledge in question is able to play a *guiding* role in activity.[11] Like the notion of practical modes of presentation, this moves towards a view on which knowing how to do something could entail having an ability (although the reverse direction would still not hold).[12]

However, there are good reasons for thinking that even this partial rapprochement would concede too much to the ability view. This is because there appear to be an abundance of cases in which someone has knows how to do something, despite lacking the ability to do it. For instance, Stanley and Williamson (2001) point to the case of a pianist who has lost her arms. Likewise, Snowdon (2003) discusses the case of a chef who has lost his arms, and Ginet (1975) a violinist who has damaged their fingers.

It seems that in these cases the subject retains their knowledge of how to play the piano, cook an omelette, or play the violin, however, they no longer have the ability to do so (therefore know how cannot require ability). Similarly, Stanley and Williamson mention the example of a ski instructor who teaches their students how to do complex jumps which they are unable to do themselves. Again, it seems

[10] Stanley & Williamson (2001), p.429.
[11] For instance, one answer to the question 'How do you ride a bicycle?' would be 'You sit on it and push the pedals with your feet.' But this answer is an inadequate guide to cycling.
[12] Intellectualists have often pointed to counterexamples to the claim that if you have an ability to do something then you know how to do it. For instance Carr (1981) gives the case of a novice trampolinist who, by accident, performs a difficult somersault. Although they have the ability to do this somersault (after all, they just did it) they do not know how to do it. (Carr 1979 similarly discusses a dancer who unwittingly performs Gray's Elegy in semaphore and Hawley 2003 discusses a hiker mistaking falling snow for water and escapes an avalanche by making swimming motions.) However, Glick (2012) argues that this is not actually a case of ability, since it is a matter of luck that the novice got the trick.

that here the ski instructor knows how to do the jumps despite never having been able to do them themselves.[13]

Intuitions about these examples seem to show that know how does not entail ability. However, supporters of the ability account are able to fight fire with fire when it comes to intuitions about cases, by providing cases where intuitively know how claims *do* seem to require ability in order to be correct.

> 'Suppose that after the pianist's accident, with her hands completely gone, I introduce you to her, saying "She knows how to play the piano really well!" You would either be baffled or interpret my remark as some kind of cruel joke, not a perfectly sensible report of her expertise.' Glick (2012)

> 'After seeing the instructor perform one impressive trick, a student might ask about another: "Do you know how to do a McTwist?" The response 'No' would be accurate if the instructor had never learned to do a McTwist, even if he could help someone else learn to do it.' Glick (2012)

So in some cases the intuition is that know how entails ability, whereas in others it does not, and in some cases (like the case of a ski instructor, which is used by both Glick as well as Stanley and Williamson) intuitions can point both ways.

A number of empirical studies have also been conducted to measure folk-intuitions about knowledge-how claims (Bengson, Moffett, & Wright, 2009; Harmon & Horne, 2015; Gonnerman,

[13] Noë (2005) distinguishes between having the ability to do something and being able to do it, where the former includes cases in which a subject has an ability although they are unable to exercise it. For instance, he makes the claim that an accomplished pianist who has lost her arms still knows how to play the piano, and does so in virtue of her ability to play. (Bengson, Moffett, and Wright, 2009, give an empirical response to Noë, showing that folk intuition is not on his side.)

Mortensen, & Robbin, 2018.) We will examine these more closely later, but for now it suffices to note that here too we see disagreement: Bengson, Moffett, and Wright's results appear to validate intellectualism about knowledge-how, Harmon and Horne's support an ability view, while Gonnerman, Mortensen, and Robbin's suggest that knowledge-how is a 'hybrid concept' which requires that *either* a intellectualist *or* an ability condition is met.

This tangled mess of intuitions presents a problem for both ability accounts and intellectualist accounts, since they are not well-explained by either. But note that while this mix of intuitions is a problem in general, the problem is *worse* for ability accounts than intellectualist ones. Ability accounts claim that *all* knowledge-how requires ability, but intuitions about cases appear to be incompatible with this claim. Intellectualists meanwhile are primarily interested in a claim about the reduction of knowledge-how to a certain kind of propositional knowledge, and various views about the relation between the relevant kind of propositional knowledge and abilities are compatible with that account. (We have already seen how, given the right background assumptions, an intellectualist account of know how is compatible with the claim that *all* know how requires ability.) So an intellectualist account could in theory allow that in certain kinds of cases know how entails ability, whereas in others it does not.

Of course, although this may deal with many of the examples proposed by each side of the debate, perhaps the most troubling problem is the way that both sides of the debate have appealed to what is essentially the same case, the case of the ski-instructor who can teach but cannot perform certain tricks, and come to differing verdicts about whether the instructor knows how to do something. How could both kinds of intuitions possibly be accommodated regarding these cases?

4. Knowledge-how in context

Recall how we formulated intellectualism above:

S knows how to phi iff S knows of some way w, that w is a way to phi.

This formulation actually differs somewhat from the prototypical formulation given by Stanley and Williamson (leaving aside concerns about practical modes of presentation), which states that:

S knows how to phi iff S knows of some way w, that w is a way *for S* to phi.

This formulation brings the intellectualist accounts closer to an ability account insofar as it is more plausible that knowing that w is a way for *oneself* to phi is more likely to mean that one *can* phi, than merely knowing a way of phi-ing in general. This by itself of course doesn't enable intellectualists to account for the menagerie of intuitions documented above, since stepping closer to an ability account might help with *some* of the intuitions but it puts the intellectualist in an even worse position regarding others.

However, the introduction of an extra term, a subject term (a *who*), into the equation does seem to provide the resources needed to cut through this Gordian knot. The trick is to generalise from thinking about just the subject of the know how, to any subject at all. In other words:

S knows how to phi iff S knows of some way w, that w is a way *for some person P* to phi.

This formulation is then a schema for different possible accounts of knowledge-how, that restrict who the relevant P can be in different ways. For instance, if it has to be S themselves then the account is equivalent to Stanley and Williamson's, but it could instead require that P be a normal

person in ordinary circumstances (in which case it is an account of knowing how *one* does something as discussed by Bengson and Moffett, 2012).

But more to the point, this extra subject term opens up the possibility of a new, distinctively flexible, account of knowledge-how. In particular, we can account for the intuitions in all of the examples given by both sides of this debate if we claim that knowing how to do something requires knowing of some way w, that it is a way for P to do that thing, *while also* allowing who counts as the relevant P to shift from case to case. This account remains a form of intellectualism, proposing that knowledge-how reduces to propositional knowledge about ways of phi-ing, but is more flexible than other accounts in how it determines which ways of phi-ing count. (As a further complication, related factors such as the shape and situation of the person in question, for instance whether they are currently tied up or drunk, might also feature here in a similar way, but for simplicity we will ignore these factors here).

In cases where know how seems to imply ability, this can be explained by claiming that this is because the contextually relevant P is the subject of the know how themselves, whereas in cases where one knows how despite a lack of ability, the relevant P is someone else. If someone asks 'Do you know how to phi?' the correct answer will depend in part on *who* P is in the contextually relevant question 'Do you know a way w, that P can phi?' You only count as knowing how to phi if you know of a way w that it is a way P can phi. Call this *subject-specific intellectualism* about knowledge-how.

In section 5 we will see how this kind of account explains the otherwise confusing array of responses to putative cases of knowledge-how. But first it is worth exploring how this view relates to contextualism, and how it differs from other contextualist views in epistemology.

4.1. Contextualism in the philosophy of language

Contextualism is a view in the philosophy of language according to which the meaning of an expression depends in important ways upon the context in which it is used. (At least, that is how we will understand it here, although see Kompa, 2010, for a variety of ways in which contextualism has been characterized). The subject-specific account of knowledge-how that I am proposing is contextualist in this sense. It claims that a given knowledge-how claim can mean different things in different contexts (sometimes attributing knowledge of a way S can phi, and sometimes attributing knowledge of a way that someone else can). This is prima facie similar to a range of everyday cases, for instance, if someone is making coffee and I tell them 'there is milk in the fridge' then I seem to mean something different to when I tell somebody who is cleaning up milk from a leaking carton that 'there is milk in the fridge.' In the first case I am communicating that there is a usable container of milk in the fridge, whereas in the second I am communicating that there is a quantity of spilt milk.

Grice (1989) provides a highly influential explanation of these kinds of cases,[14] distinguishing between two aspects of the meaning that an utterance conveys on a given occasion (what we can call 'utterance meaning'): what the sentence uttered semantically or *literally* means, and the meaning that the utterance of that sentence *pragmatically implies*.

Although a change of context had long been recognised as capable of producing a change in the semantic content of sentences involving indexicals (for instance, 'it is nice here' means different things depending on the context in which I say it: sometimes it literally means that place A is nice, sometimes it literally means that place B is nice.) Grice argues that we also see contextual variability in meaning in non-indexical, or demonstrative, involving, cases where (although the literal meaning of the sentence is invariant) what an utterance of the sentence *pragmatically implies* varies between contexts. For instance, when someone asks me if I know where they can buy milk and I tell them that there is a shop around the corner, all I have literally said is that there is a shop around the corner (where this is compatible with the

[14] See Grice (1989), and for other key early approaches, Stalnaker (1970), and Searle (1979).

shop being closed, or being a bookshop), but the *implied* meaning of my statement (the one that I intended my partner in communication to understand, and the one that they take me as intending to express) is that there is shop around the corner where they will be able to buy milk. Grice describes a set of 'conversational maxims' codifying various assumptions that communicative partners make about each other and which drive these implicatures.

Grice's view is a form of 'semantic minimalism,'[15] according to which sentences have some literal semantic meaning, independent of context, and utterances of sentences can also have a distinct, contextually saturated, meaning which is dependent on context. However, some opposing views suggest that contextualism permeates *all* meaning, to the extent that no sentence has any 'literal meaning,' i.e. a determinate set of truth conditions independent of a context of use.[16] For convenience, I will assume that something approximating Grice's form of semantic minimalism is correct, although this assumption is not crucial to my argument.

4.2 Contextualism in epistemology

A recent strand of thought in epistemology takes knowledge attributions to be contextualist in the above sense: that the meaning (and truth conditions) of a claim 'S knows that *p*' will vary depending upon the context in which they are made.[17]

According to this view a claim 'S knows that *p*' expresses different propositions, about different knowledge relations involving different epistemic standards, in different contexts. For instance, DeRose notes that skeptical arguments mention skeptical alternatives which are difficult or even impossible to rule out. He proposes that by making such possibilities salient these arguments thereby introduce a context in which the claim 'S knows that *p*' comes to mean

[15] See Recanati (2004).
[16] See Travis (1975), and Searle (1979).
[17] See DeRose (1992, 1999, 2009), Lewis (1996), Cohen (2005).

that S can rule out such possibilities. Because this 'knowing$_{HIGH}$' relation requires a standard of epistemic support which is so high as to be unobtainable, we cannot truly claim to know anything. However in typical contexts, the claim 'S knows that *p*' expresses a proposition about the 'knowing$_{LOW}$' relation, something which only requires more moderate standards of epistemic support, which we *are* able to meet.

A closely related view, 'subject-sensitive invariantism,' makes a similar claim.[18] According to this view, whether it is true that a subject knows depends on factors such as how salient error possibilities are to the subject (i.e. the S in a claim of the form 'S knows that *p*'). But this is not because what 'knows' means changes between contexts (as contextualists like DeRose suggest), but rather just because part of what 'S knows that *p*' means (in all contexts) is that the error possibilities which are salient to S have been ruled out.[19]

Moreover, the most prevalent version of this view (which is sometimes specified as 'interest-relative invariantism')[20] proposes that the level of epistemic support required for knowledge depends not (only) on the salient alternatives, but (also) on how practically important it is for the subject to be correct about *p*. For instance, in a well-worn example, on Friday a subject is considering whether to queue up and deposit their paycheck straight away, or whether to wait until Saturday morning. They have evidence that the bank is open on Saturday mornings: they were recently passing on Saturday and saw that it was open. In a low-stakes situation where it is not particularly important that they deposit their paycheck very soon, this is sufficient to know that the bank will be open tomorrow. However, in a high-stakes context in which it is a matter of life or death that their paycheck is deposited before Monday (because, say, they need

[18] See Hawthorne (2004).
[19] A closely related idea is that the range of alternatives that need to be considered varies depending on the proposition known, and in particular that knowledge requires ruling out a range of situations in which this proposition is false. This, in short, is the 'sensitivity condition' which I defend in Wallbridge (2016b, 2017, forthcoming).
[20] See Hawthorne (2004), Stanley (2005), Fantl and McGrath (2009), Weatherson (2012).

the funds to repay a violent loan shark), they do not know that the bank will be open tomorrow: the evidence they have does not rule out possibilities (like the bank having recently changed their hours) which they would need to rule out in order to count as knowing that the bank will be open.

Although these views are rightly distinguished from properly contextualist views like that of DeRose (which propose that the proposition expressed by a knowledge claim changes across contexts) they share the idea that the truth conditions of a given knowledge claim depend on factors such as the salience of error possibilities and the practical stakes, which have not traditionally been considered relevant to knowledge. The views ultimately diverge over whether it is the conversational and practical context of the *attributor* or the *subject* of a knowledge claim which matters for determining its truth.[21] For ease of discussion in what follows, however, I will sometimes elide this difference, and consider subject-sensitive invariantism an honorary form of contextualism.

4.3 Key differences

It is important to note how the subject-specific account of knowledge-how that I am proposing is similar to the above views, and how it is different.[22] It is similar insofar as it proposes that contextual features such as salience and practical importance play a role in determining the truth

[21] Yet another related view is the kind of epistemic relativism defended by MacFarlane (2005, 2014) according to which the truth of a given (knowledge) claim depends not upon the context of attribution (as with contextualism), nor with the context of the subject (as with subject-sensitive invariantism), but rather with the context of the *evaluator* - hence, to put it crudely, S's utterance can be 'true for me' but 'false for you.'

[22] It is also distinct from other contextualist approaches to knowledge-how in particular. Hawley (2003) and Williams (2008) develop accounts of knowledge-how on which what we count as knowing how to do depends on our counterfactual success in a way which depends on the context of what task we are engaged in, for instance in the UK knowing how to drive requires being able to drive stick (manual), whereas in the US it does not. Parent (2014) talks about context sensitivity of answers to embedded questions and hence of knowledge-wh, although he does not talk about knowledge how.

of certain knowledge claims. However, while the above views propose that context plays a role in setting the *standards* that one has to meet in order to count as knowing that a proposition is true (where this is usually understood in terms of expanding the range of alternatives that one needs to be able to rule out in order to count as knowing), the subject-specific view does not. It instead proposes that *what proposition* a given knowledge claim expresses knowledge *of* changes with context: in one context 'S knows how to phi' might express that S knows a way that *they* can phi, but in other contexts it might express knowledge of something else, namely of a way that some other person can phi.

This means that the subject-specific view is immune from a number of criticisms that have been levelled against existing forms of epistemic contextualism. (Although, of course, this is not to say that there will not be other objections that could be levelled at the current view.)

Because the kind of contextualism on offer here does not suggest that the justification or knowledge of a particular proposition is affected by non-traditional factors such as salience or practical concerns, and does not suggest that the relevant epistemic standards shift between contexts, it does not make any claims about the normative features close to epistemologists' hearts. It therefore does not suffer from concerns such as Dretske's that skepticism could be '*made* true by being put in the mouth of a skeptic' (1991), or the worry that Cohen rephrases nicely as the idea that although we do know things, 'knowledge [is] not all [it was] cracked up to be' (2004). The view proposed in this paper is consistent with a perfectly mundane invariantist account of what is required for knowledge of a proposition, although it is equally consistent with a contextualist one.

The view is also safe from a number of linguistic criticisms that have been levelled at standard contextualist views. Stanley (2004) argues that 'knows' is not gradable in the way that other context-sensitive terms like 'tall' or 'flat,' and nor does it behave like an indexical or a

relational term.[23] Since the view proposed here does not imply that we should expect 'knows' to behave in any of these ways, it is immune from these worries.

However, possibly the most worrisome objection to standard forms of contextualism (where I here include subject-sensitive invariantism and interests-relative invariantism), comes from empirical data apparently showing that factors such as salience and practical stakes have little to no effect on knowledge attribution. Buckwalter (2010) found no significant effect for either stakes or salience, while May et al (2010), found that neither stakes nor salience affected knowledge attribution, although they did find that stakes (but not salience) altered the confidence people had in their responses. Meanwhile Feltz & Zarpentine's (2010) results were not well explained by practical stakes effects, but could be explained by an 'attributor effect' whereby people are more reluctant to agree with third personal attributions than first personal ones.

More favourable results were reported by Hansen & Chemla (2013), who found modest effects of stakes and salience on knowledge attribution (although only when participants were presented with both the high stakes and the low stakes versions of the case for contrast), Pinillos (2012) who found a robust stakes effect, and Sripada & Stanley (2012) who found that stakes affected knowledge attributions (as well as the perceived quality of evidence)[24] in two of the three studies that they ran (although these effects were modest - around one point on a seven-point scale.)

In reply, however, Buckwalter & Schaffer (2015) show that the results of Pinillos (2012) extend to other verbs, including believe and guess, and suggest that this is because of a flaw in the probe used: rerunning the same experiment with a different probe found no stakes effect. Likewise, they suggest that Sripada & Stanley's studies conflated salience and stakes, and rerunning the studies with an improved control for salience found that the stakes effects disappear, suggesting that while salience has a modest

[23] Although see Kompa (2002), Partee (2004), and Stainton (2010) for replies.
[24] Although in a different study, Phelan (2014) finds that stakes do not make a difference to the perceived quality of evidence.

effect on knowledge attribution, stakes do not.

In summary then, the evidence to date appears to show that salience and stakes do not have the large effects on knowledge attributions that contextualists have supposed.[25] But, of course, while these results tell against typical forms of epistemic contextualism, they have no bearing on the kind of contextualism proposed by the subject-specific account of knowledge-how, since they were testing a different kind of knowledge claim for a different form of contextualism. In fact, as we will see below, subject-specific intellectualism appears to be in line with all of the available data on knowledge-how ascriptions.

5. Subject-specific knowledge-how and the data

Recall that the subject-specific intellectualist account of knowledge-how that I am proposing says that S knows how to phi iff S knows of some way w, that w is a way *for some person P* to phi, where who the relevant P is can shift from context to context.

Compare: 'Do you know how to traverse this narrow beam and front-flip over that obstacle?' asked in a situation where there is a bomb that you can defuse but it is on the other side of a crevasse traversable by a narrow beam; versus a gymnast putting this same question to his coach because it is a routine required by a competition he is entering. A coach lacking in ability to actually do the routine cannot answer affirmatively in the first case, but he can in the second. We can account for this by noting that the relevant P in the first case differs from that in the second. In the first case it matters whether the subject knows a way such that *they* could perform the routine, whereas in the second it matters whether the subject knows a way such that *their student* can perform the routine.

[25] And any more modest effects might be explained as the result of performance errors owing to heuristic processing biases, as suggested by Nagel (2008) and Gerken (2017).

This appears to be exactly what is happening when we look at the cases alluded to in the ability debate. Take the tricky case of the ski-instructor.

Glick's version

'After seeing the instructor perform one impressive trick, a student might ask about another: "Do you know how to do a McTwist?" The response 'No' would be accurate if the instructor had never learned to do a McTwist, even if he could help someone else learn to do it.'

Stanley and Williamson's version

A ski-instructor can count as knowing how to do a McTwist if they can teach their students how to do a McTwist, even though they do not have the ability to perform the trick themselves.

Here we have two cases in which the beliefs and abilities of the subjects are the same, yet in one case we are inclined to attribute know how to them and in another not. The subject-specific account explains what is going on here. In Stanley and Williamson's description of the case the subject is described as a ski-instructor and the relevant P are thereby the instructor's students or potential students. And the instructor *does* know of a way w that is it a way for certain competent and able-bodied people to perform a McTwist.

In Glick's version of the case, on the other hand, there is a very different context for the student's question: they have just seen the instructor perform one very impressive trick and they now ask him if he knows how to do another. In this context the relevant P is the instructor himself; to count as knowing how to do a McTwist he has to know a way in which *he* could perform a McTwist.

Similarly, we can impose a new context on cases originally taken to support one particular side of the ability debate and thereby invoke the opposite intuition. For instance, take Snowdon's armless chef: if his new amputee support group has been discussing ways to manage daily activities given a lack of arms and someone asks him 'do you know how to make an omelette?' it is not enough to say that he does that he knows a way that *someone with arms* could make an omelette; he needs to know a way that *he* can make an omelette, which is to say a way that someone without arms can make an omelette.

But this differs markedly from a context in which he is running a cookery school imparting his culinary knowledge to young chefs. In *this* context, when a student comes up to him and asks whether he knows how to make an omelette, it is enough for him to answer affirmatively that he knows a way for his non-amputee student to make one.

In general then, one could take any case put forward as showing that ability is or isn't required to know how in this instance and hold all of the beliefs and abilities that the subjects have exactly the same, but change the practical or conversational context in such a way that the exact opposite intuition gets elicited. Context determines *who* is such that you need to know a way in which they can phi. When the relevant who includes you, knowing how requires the ability to phi. But when the relevant who does not include you, you don't necessarily have to have the ability to phi (although of course you might anyway).[26]

And note that although the cases of knowledge-how without ability that have appeared in the literature typically involve someone with an articulate grasp of how to phi, and the ability to teach others, this is not essential. A chef might know how to tell visually if a souffle is cooked to perfection even though she is unable to articulate this subtle skill well enough to impart it to anyone else. And even if she were blinded and so lost the ability to tell, she would still know what a perfectly cooked souffle looks

[26] Recall that for simplicity we are leaving aside considerations about P's situation, such as whether they are tied up or drunk. The range of relevant situations may also vary contextually and may alter whether they are presently able to phi.

like, she could imagine it, and would be able to pick one out if she ever recovered her sight. She therefore still knows of a way *w* that someone with eyes could pick out a perfectly cooked souffle, even though she grasps *w* in a highly visual way that she cannot articulate (this might perhaps count as grasping w under a practical mode of presentation, in Stanley and Williamson's sense, or perhaps just under a uniquely visual mode of presentation). Moreover, there are contexts in which this is what is required to count as knowing how. If we were considering which chef to give bionic eyes to, we might well argue that we should give them to the chef who knows how to tell a perfectly cooked souffle. Or our blinded chef might note that part of what makes her suffering so acute is that she knows how to do all of these wonderful things, like cook perfect souffles, that she will never again be able to do - and this impotent knowledge haunts her and makes it all the more unbearable when she overcooks a souffle.

Subject-specific intellectualism about knowledge-how appears to make very good sense of a whole host of cases, including an otherwise very confusing set of responses to cases found in the know how literature. But (as previously noted) there have also been a number of studies canvassing folk intuitions about knowledge-how how claims and we should therefore also examine how well subject-specific intellectualism accounts for the intuitions uncovered in these cases.

Study 1

Details aside, Bengson, Moffett, & Wright (2009) presented participants with vignettes followed by a series of questions answered according to a four-point scale with options ranging from 'definitely yes' to 'definitely no.'

The first case involves Pat, an Olympic-level ski instructor who has never been capable of doing the stunts himself. This is very much like Stanley and Williamson's ski instructor case, and the results were just what subject-specific intellectualism would predict: 92.3% of participants attributed knowledge-how to Pat.

A second case is about Jane, a figure skater who wants to be the first person to ever perform a *quintuple* Salchow (a special kind of jump with rotations, in this case five), and has propositional knowledge of what this requires. Although she is currently training for the trick, she does not currently have the ability to successfully land the trick. In this context, Jane has no immediate need to perform the trick, and therefore what is relevant is knowing a way such that, given sufficient practise, a competent skater like her could perform the trick. The subject-specific account (or a variant of it)[27] would therefore likewise predict in this case that her current propositional knowledge is sufficient to attribute knowledge-how. And this is indeed what the study found: 87% of participants attributed knowledge-how.

The third case considered is that of Sally, a poorly sighted hiker who gets caught in an avalanche, but mistakenly takes the wave of snow to be a flood of water from a nearby damn and successfully escapes by making swimming motions (which just so happen to also be a good technique for escaping avalanches, although she doesn't know this). In this case, although Sally stumbled upon a correct course of action, she did not know that what she was doing was a way to escape avalanches (after all, she was trying to escape a *flood* not an avalanche, and she is very lucky to be alive since she would not ordinarily have made swimming motions in the event of an avalanche). An intellectualist of any stripe (including a proponent of subject-specific intellectualism) should therefore say that this is not a case of knowledge-how. And that is exactly what the study's participants thought: knowledge how was *not* attributed (but disavowed) by 88%.

The final case that the authors considered involves Irina, a figure skater who has a mistaken belief about the nature of the Salchow, but nonetheless, because 'Irina has a severe neurological abnormality that makes her act in ways that differ dramatically from how she actually thinks she is

[27] Since, this could instead be put by noting that the contextually relevant *situation* is one in which she has had time to practise, and she knows of a way that she could perform the trick in that situation - see page 9.

acting,'[28] whenever she attempts to do what she (mistakenly) thinks that the trick entails, she ends up unwittingly doing what the trick *actually* entails. Hence she has a reliable ability to do the trick in spite of her mistaken belief. While this case is somewhat exotic, the details of the case would appear to suggest that Irina is not aware of what she is doing, even in a physical, non-intellectual way, e.g. proprioceptively she takes herself to be performing a trick different to the one she actually is performing. There is therefore no very good candidate for a way that she is aware of that she can do the trick. Even a demonstrative 'like *this*' fails to pick out a relevant way, since the referent of the demonstrative fails to be guided to its target by her minimal internal grasp of what she is doing. This means that an intellectualist should again disavow knowledge-how, and again this is what the authors found: 87% thought that Irina did not know how to do a Salchow.

All of the results of this study are therefore well accounted for by subject-specific intellectualism about knowledge-how.

Study 2

Gonnerman, Mortensen, & Robbin (2018) again use vignettes followed by questions for the participants. They consider two variations on the case of the figure skater practising a Salchow.

The first involved a skater called Jane, and participants were presented with one of four different versions of the case: either one in which Jane has both true beliefs about what a Salchow involves and can reliably perform them; one in which she has true beliefs but reliably *fails* to perform them; one in which she mistakenly believes that the move involves taking off and landing on the *front* edge of the skates (when in fact it is the back) but nonetheless can reliably perform them; or one in which she both has the mistaken belief and reliably fails to perform them.

[28] p.397.

In a second version of the case, involving a skater named Janice, the participants were again presented with one of four versions of the vignette, but this time instead of varying the presence of propositional knowledge of how to do a Salchow by varying the correctness of the skater's belief, the *source* of her (correct) belief varied instead: in two versions of the case Janice's beliefs about how to do a Salchow are based on instruction from an expert, while in the other two they are based on 'the ill-informed ramblings of an ignoramus in figure skating' (and hence fail to be knowledge).[29]

In just the same way as with Bengson, Moffett, and Wright's case of Jane the figure skater practising her Salchow, both of these cases involve a context in which the skater is *practising* in order to be able to perform the trick at a future date, and therefore the subject-specific account would predict that in order to count as knowing-how in this context she only needs to know of a way in which a competent skater like herself could perform the trick given appropriate practise. While if she is in fact also already able to perform the trick then she will of course still count as knowing-how to do so, since she knows of a way to perform the trick under another guise.

The results this study is entirely in line with those predictions: they showed that the presence of *either* the specified ability *or* the specified propositional knowledge alone elicited agreement with the claim that the subject knows how (i.e. an average score of over 3.5 on a six-point scale: strongly disagree, disagree, mildly disagree, mildly agree, agree, strongly agree). Hence, the subject-specific account also fits with these results.

(Note that I have here omitted a third vignette used by the authors which appeared to be problematic, see footnote for details.)[30]

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[29] I take it that the idea of 'basing' here is intuitive, but for clarification see Wallbridge (2018).

[30] This is the case of Jimmy, a grade school student 'getting some practise with his fractions.' The results for this vignette suggested that Jimmy lacked knowledge-how unless *both* conditions were met (i.e. Jimmy had propositional knowledge of how to do fractions, as well as 'always' getting the right result in doing fractions rather than 'always' getting the wrong result). This difference from the other cases was not remarked upon by the authors, since it was still the case that there was an overall positive association between ability and know how, as well as between propositional knowledge and know how, in line with their hypothesis. (Although the difference was notably less marked than with the other two vignettes.)

Study 3

The final set of experimental results on knowledge-how come from Harmon & Horne (2015), who make use of a somewhat different methodology. Participants were again presented with a short story (although longer than the vignettes used by the previous studies). The first story involved a ski instructor, Patrick, teaching a student how to perform ski stunts, and the second involved a chess instructor, also called Patrick, teaching a student how to play chess. Different participants were presented with variations of these stories in which Patrick is described as either having sound technical knowledge of the subject, or none, and as being either a very accomplished skier/chess player, or an extremely poor one. After a delay (and other distractions), participants were presented with a series of sentences and asked to indicate whether they had appeared in the story they read earlier, where one of these sentences was 'It was clear that Patrick knew how to perform ski stunts/play chess.'

The operative idea here is that people do not in general remember a story syntactically as a series of given sentences, but instead encode the relevant semantic information. Therefore one would expect participants to be more likely to falsely think that a sentence ascribing knowledge-how had appeared in the story if they had believed that knowledge-how was present when initially reading the story. If knowledge-how requires ability, then this should happen more frequently among those who read versions of the story in which Patrick had the relevant ability and less frequently among those who read versions of the story in which he lacked it. And likewise, if knowledge-how requires propositional knowledge, then thinking that a sentence ascribing knowledge-how occurred in the story should be more

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However, I suspect that the different results in this case stem from a difficulty in understanding the case: if one knows the simple mathematical procedure to follow, it is unclear how one could always get the wrong result, and likewise if one has an entirely mistaken idea of the procedure, it is unclear how one could always get the right result. Therefore the only versions of the case which really seem to make sense, and which can be relied upon to generate sensible results are the case in which Jimmy has both propositional knowledge and ability, and the case in which he has neither.

common among those who read versions of the story in which Patrick had the relevant propositional knowledge than among those who read versions in which he lacked it.

Given this, what results would the subject-specific account of knowledge how predict? One matter complicating this question is that the stories involved make a point of explicitly discussing *both* Patrick's propositional knowledge regarding ski-stunts and his ability to teach his student, *as well as* his impressive proficiency or surprising lack of ability to actually perform such stunts himself (and likewise for the chess case.) It is therefore not clear which is most salient when participants are later asked obliquely about whether they think that Patrick has knowledge-how: the role of Patrick as a teacher aiming to show his student a way for them to perform stunts, or his role as a skier himself.

However, the fact that the later question only references Patrick (and not his student), would perhaps lend slightly more weight to the view that this sentence will be understood as requiring Patrick to know of ways in which he himself can perform the stunts.

And this would be in line with the actual results, which indicated that the stories involving Patrick having the ability to perform ski stunts, or to play chess, led participants to falsely think that the sentence 'It was clear that Patrick knew how to perform ski stunts/play chess' had appeared in the story, with a greater frequency than those who read stories in which he lacked these abilities. Therefore, once again, the subject-specific intellectualist account fits the available data - which means that it fits with *all* of the data on knowledge-how collected to date. We have now seen how a subject-specific intellectualist account of knowledge-how is able to explain the otherwise confusing set of responses that we find to different cases in the literature.

6. Pragmatics vs. semantics

Everything that we have said so far about the contextual nature of knowledge-how can be understood as a claim about the meaning of knows how claims as the level of *utterance meaning* (which is to say the

particular meaning communicated on a given occasion where everything goes smoothly and the hearer picks up on the meaning intended by the speaker).

However, this leaves open two distinct ways that the contextualism at the level of utterance meaning can get there. This is because (as we saw earlier) we can distinguish between what an utterance of a sentence *literally* means, and the meaning that the utterance of that sentence *pragmatically implies*.[31]

Can we say any more about which of these two kinds of phenomenon is responsible for the contextual nature of knowledge-how claims? For a start let's see at what each kind of account would look like. On a semantic account, what is literally said would include an indexical element picking out the individual (or individuals) relevant to the situation at hand (be it due to conversational context or other practical factors) and knowledge-how would literally require that one knows of a way w that it is a way such that this person (or people) can phi. The utterance meaning of the relevant knows how claim would simply be this meaning. (Note that we have some immediate reason to be suspicious of this account of the phenomenon for the simple reason that there are far fewer indexical terms than non-indexical but potentially pragmatically sensitive ones.)

On a pragmatic account by contrast, what is literally said would be less demanding. Knowing how would require only that one knows of some way w that it is a way that *someone* (perhaps an existentially quantified person, or perhaps an ordinary person in ordinary circumstances) could phi. This means that it is much easier for it to be literally true that you know how to phi than on the alternative account. For instance, you might count as knowing how to do a McTwist, just because you know that to do that you have to do a front flip with a 540 degree spin, and that is enough information to guide someone who has the ability to do those individual things and put them together. Contextualism enters

[31] Note that I have assumed here that a form of 'semantic minimalism' is true, according to which sentences have a basic meaning independent of any context. However, since I will ultimately endorse a pragmatic understanding of the phenomena at hand, my view is also consistent with the view that there is no role for pure semantic meaning devoid of context. See Recanati (2004) for an overview of contemporary theorising about the nature of the semantic/pragmatic distinction and the scope (or lack thereof) of literal meaning in natural language.

the picture because the contextually relevant question sets the pragmatic standards for utterance: the meaning *communicated* by an utterance 'S knows how to phi' is that S knows of some way w, that w is a way for the contextually relevant individual(s) to phi. On this view, in all of the examples given on both sides of the ability debate it is *literally true* that the subject knows how to do the relevant thing. But our intuitions are tracking whether the *pragmatically implied* claim is true, which is more demanding.[32]

The core argument presented here is about utterance meaning: so long as intuitions about cases motivate the claim that intellectualism is correct and *utterance meaning* is contextualist, the subject-specific account is vindicated, regardless of which side of the semantic/pragmatic distinction it inherits this contextualism from. However, there is also a simple test for pragmatic implicature which can determine which is it, which we would be remiss not to apply. This is to test for *cancellability* of the pragmatic implicatures. If the context sensitive claim is merely implicature then it can be cancelled.

Is it felicitous to say of an ex-pianist that they still *know how* to play the piano, they just *can't* on account of having no arms? Or to say that a trainer knows how to do a ski-jump, but they don't know a way for *you* to do a ski jump (for overweight people with dodgy knees to do one, or for uncoordinated people to do one, for instance). It seems that these *are* perfectly felicitous, which would imply that a lax semantics is in place and pragmatic considerations are contextually determining a more demanding utterance meaning, which can indeed subsequently be cancelled.[33]

(Another question which it would be nice the answer to is whether this effect is best understood as a result of changes in the context of the attributor, the subject, or even the evaluator of the relevant

[32] An alternative, but less appealing, view is that that literal meaning is a very strong claim to the effect that a subject knows a way for *themselves* to phi under the circumstances (hence ability is assured) but the implied meaning of an utterance about know how manages to be a laxer claim about knowing a way for a contextually relevant subject to phi thanks to some metaphorical or otherwise extended implication of what is strictly said.

[33] One well-known pragmatic effect which may be involved in many of the cases that we have considered is Grice's conversational maxim 'be relevant.' If one is looking for a ski instructor then the *relevant* thing is whether someone has some kind of propositional knowledge that could guide your practise. On the other hand, if you are looking for someone to replace a recently injured member of your ski-jump team, then the *relevant* thing is whether someone is able to perform stunts themselves. Knowledge-how claims in these contexts are therefore likely to be interpreted in different ways.

knowledge claim.[34] Unfortunately this question is much more difficult to answer and will have to wait until another occasion.)

7. Conclusion

Intellectualist accounts of knowledge-how face a problem from intuitions about certain cases in which it appears that ability is required for know how. Moreover, in some pairs of cases individuals seem to be epistemically and practically on a par and yet intuitions about know how diverge. I have proposed a simple fix for this problem. While a know how claim is true according to standard intellectualism iff one knows of some way w that w is a way to phi, a subject-specific intellectualist account of knowledge-how requires instead that you know of some way w that w is a way that P could phi, where 'P' picks out a contextually relevant class of individuals. In some situations the contextually relevant question that one has to be able to answer is 'In what way could *you* phi?' Knowing an answer to that question involves there actually being a way in which you could phi right here and now, i.e. it would require you to have the ability to phi. But the contextually relevant question needn't always involve knowing a way in which *you* could phi, so ability is not *always* required. (And I have further argued that this contextual variation is the result of pragmatic implicature, and all that knowledge-how claims *literally* mean is that one meets the more lax condition of knowing of some way w that w is a way that *someone* might phi.) Such an account is able to make sense of the otherwise confusing array of intuitions about cases that appear in the know how literature and studies of folk responses to such cases.

This account remains (quite intentionally) the barest sketch of a view. It is a response to certain prima facie troubling intuitions about ability, and as such sets out a minimal account which provides just enough structure to enable us to make sense of these troubling cases. But this leaves open all kinds of questions about (for instance) the exact nature of the context setting mechanisms,[35] the potential role of

[34] As discussed in section 4.
[35] Or even whether the relevant context is that of the subject, the attributor, or the evaluator of the knowledge claim.

‘practical modes of presentation’, restrictions on the nature of the lax ‘someone’ in the literal content of know how claims (and how this relates to claims about ways for ‘one’ to phi as discussed by Bengson and Moffett, or the PRO pronoun as discussed by Stanley and Williamson), and whether the contextual role of the subject P (and possibly their shape and situation) is interestingly privileged or simply one among many factors relevant to the pragmatics of such utterances. These are of course interesting questions, deserving of answers, but the view laid out here provides a broad church, compatible with different answers to all of them. It is a ‘small’ view with minimal commitments but a big impact when it comes to a key challenge facing accounts of know how.

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