

Know how to transmit knowledge?

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Abstract

Intellectualism about knowledge-how is the view that practical knowledge is a species of propositional knowledge. I argue that this view is undermined by a difference in properties between knowledge-how and both knowledge-that and knowledge-wh. More specifically, I argue that both knowledge-that and knowledge-wh are easily transmitted via testimony while knowledge-how is not easily transmitted by testimony. This points to a crucial difference in states of knowledge. I also consider Jason Stanley's attempt to subsume knowledge-how under an account of de se knowledge. I argue that there are crucial differences between de se knowledge and knowledge-how. Thus, this paper advances both the discussion of intellectualism and the literature on the nature of de se knowledge.

Timothy Williamson and Jason Stanley (2001) and Jason Stanley (2011) defend intellectualism about knowledge-how on the basis of our best theories of the syntax and semantics of embedded questions.¹ Their view is that because a construction like 'John knows how to ride a bike' contains an embedded question 'how to ride a bike?' one should look to the semantics of embedded questions for determining whether states of knowing-how imply states of knowing-that. They argue that if the best linguistic theories take sentences of the form 'S knows how to ϕ ' to imply sentences of the form 'S knows that w is a way to ϕ ', then intellectualism about knowledge-how is true. While this is a plausible approach, it may be that there

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¹(Stanley and Williamson 2001; Stanley 2011)

are properties of knowledge-how and knowledge-that which show that knowledge-how is different in kind from knowledge-that. My goal in this paper is to argue for one such difference in properties: propositional knowledge permits easy knowledge transfer but practical knowledge does not. This shows that practical knowledge has a different causal profile than propositional knowledge. Thus, the argument of this paper provides further grounds for thinking that practical knowledge is not propositional knowledge.²

1 Intellectualism

The intellectualist claims that knowledge-how is a species of knowledge-that. Knowledge-how, like knowledge-that, is a relation between a subject and a true proposition. Given intellectualism, practical knowledge comes under the aegis of propositional knowledge. The intellectualist account concerns *knowledge-how-to*. I will refer to this as *infinitival knowledge-how* (IK, for short) because expression of infinitival know-how requires a tenseless infinitival clause. When we say that John has practical knowledge concerning bike riding we use a tenseless infinitival clause ‘to ride a bike’ and say ‘John knows how to ride a bike.’

IK is distinguished from knowledge-how which takes a finite clause. I refer to this kind of knowledge-how as *non-infinitival knowledge-how* (NIK, for short). Consider

‘Smith knows how Nixon intended to cover up Watergate.’

Smith knows how Nixon intended to keep Watergate secret in virtue of knowing that Nixon aimed to do thus and so. This receives support from natural judgment as well as support from the syntax and semantics of embedded questions. Smith has this NIK in virtue of knowing the correct answer to the question “how did Nixon intend to cover up Watergate?”

It is common in the literature on knowledge-how that NIK is propositional.³ Stanley and Williamson write, “An embedded question in a tensed clause, such as: (5a) *Hannah knows how Bill rides a bicycle*. seems clearly to attribute propositional knowledge to Hannah.”⁴ Michael Devitt expresses a reservation about this, but his case is not convincing. He considers a case in which Hannah knows how Bill rides a bicycle but exhibits this knowledge ‘by *simply* imitating Bill riding a bicycle.’⁵

²See also (Noe 2005; Devitt 2011; Poston 2009)

³See (Wiggins 2012; Stanley and Williamson 2001; Snowdon 2003), and (Noe 2005, 284, fn 4)

⁴(Stanley and Williamson 2001, 419)

⁵(Devitt 2011, 208)

However, imitation is a way of demonstrating and in virtue of demonstrating a way Hannah has a demonstrative concept. Consequently, Hannah knows that this is the way Bill rides a bike. A general theory of propositional content needs to allow for demonstrative concepts and so there is not a genuine challenge here to the propositional nature of NIK.

Intellectualism concerns IK, but not all cases of IK are the same. Consider Sam who, when he is about to meet the president, is given strict instructions about how to conduct himself. Then

(1) Sam knows how to behave before the president,

is true. But (1) expresses the proposition that

(1)' Sam knows how *one ought* to behave before the president.

(1)' is clearly propositional and not of issue in the debate over intellectualism. Stanley and Williamson concur. They write of the following sentences 'Hannah knows how she ought to ride a bicycle' and 'Hannah knows how one ought to ride a bicycle' that '[both] quite obviously seem to attribute some kind of propositional knowledge to Hannah, so they are not the interpretations underlying the thesis that knowledge-how is not a species of knowledge-that."⁶ Thus, the kind of IK that concerns us is *non-deontic IK*. I shall substitute 'practical knowledge' for 'non-deontic IK' in many places to avoid needless repetition and to provide a smoother presentation. Practical knowledge is non-deontic infinitival knowledge.

Attributing practical knowledge to a subject is the standard way of indicating that a subject has the ability to perform a certain action.⁷ It is controversial whether knowledge-how entails ability.⁸ But it is not disputed that the normal use of sentences attributing practical knowledge indicates that someone has an ability. We routinely indicate that John is able to ride a bike by saying that 'John knows how to ride a bike.' The argument I give does not assume that knowledge-how entails ability. It only assumes that knowledge-how implies a complex disposition whether or not the person is able to manifest that disposition. This assumption is uncontroversial. Both Stanley (2011) and Stanley and Williamson (2001) maintain that knowledge-how requires thinking of a way to do something under a practical mode of presentation

⁶(Stanley and Williamson 2001, 425) See also (Glick 2012, 120-123)

⁷See (Ryle 1949, 32). See also (Stanley 2011, 114)

⁸For counterexamples to the claim that know-how entails ability see (Snowdon 2003, 8-9). See (Glick 2012) for a reply to Snowdon and a defense that know-how implies ability.

which entails the possession of a complex disposition.⁹

The specific intellectualist account I focus on comes from Stanley and Williamson’s 2001 paper ‘Knowing how’ and Stanley’s more recent 2011 book *Know how*.¹⁰ The official intellectualist account of non-deontic IK is this:

(INT) A subject S knows how to ϕ if and only if there is some contextually relevant way w such that S stands in the knowledge-that relation to the proposition that w is a way for S to ϕ , and S entertains this proposition under a practical mode of presentation.¹¹

In the following I argue that practical knowledge has a distinctive causal profile from both knowledge-that and knowledge-wh. That is, I argue for the following thesis.

(†) Both knowledge-that and knowledge-wh are easily transferred by testimony but practical knowledge is not easily transferred by testimony.

The truth of (†) provides good evidence that practical knowledge is not propositional knowledge. A straightforward explanation of the difference in casual profiles between know-how and both know-that and know-wh is that practical knowledge is objectual knowledge relating a subject to a way of acting.¹² As several philosophers have noted, (INT) is compatible with a substantive difference between propositional knowledge and practical knowledge. Alva Noe states that Stanley and Williamson’s intellectualism “doesn’t eliminate the distinction [between knowledge-how-to and knowledge-that], or give anyone committed to it a reason to give it up; it merely relocates it.”¹³ Moreover, Ephraim Glick observes that the linguistic defense of intellectualism just yields a weak form of intellectualism according to which “know-how is knowledge that has a proposition as a relatum.”¹⁴ Yet Stanley and Williamson resist this. They explain,

If the special subclass of knowing-that which we call ‘knowing-how’ is too dissimilar from other kinds of knowing-that, then one might suspect

⁹ “[T]hinking of a way under a practical mode of presentation entails the possession of a certain complex disposition.” (Stanley and Williamson 2001, 429)

¹⁰ (Stanley and Williamson 2001; Stanley 2011)

¹¹ This is a paraphrase of (Stanley and Williamson 2001, 430). See (Stanley 2011) for a fuller defense of (INT)

¹² Cf. (Bengson and Moffett 2011)

¹³ (Noe 2005, 287)

¹⁴ (Glick 2011, 412)

that we have just recreated the traditional distinction between knowing-how and knowing-that, but in other terms. So it must be that, on our analysis, knowing-how possesses the characteristic features of other kinds of knowing-that.¹⁵

Stanley and Williamson's remarks suggest that if (INT) is compatible with (\dagger), then intellectualism just recreates the distinction between propositional knowledge and practical knowledge. My argument for (\dagger) is a double-edged sword: either (INT) is false or it recreates the old distinction between know-that and know-how. What is novel and probative about my argument for (\dagger) is that it rests on strong linguistic intuitions about knowledge-wh. I show that reflection on knowledge-wh supports a metaphysical difference between propositional knowledge and practical knowledge.

2 Knowledge transfer

I begin with a generic, non-controversial account of testimonial knowledge that will aid the overall argument that propositional knowledge, but not practical knowledge, permits easy knowledge transfer. I then turn to the failure of knowledge-how to easily transmit by testimony.

2.1 Testimony & knowledge

Sanford Goldberg provides an account of testimonial knowledge aimed to be acceptable to both reductionist and anti-reductionist about testimony. For the purposes of the ensuing argument I assume that Goldberg's account is correct. His account is thus:

- A has testimonial knowledge that p if and only if
- (A) A knows that p ;
 - (B) There is a speaker S whom A observed to offer testimony on occasion O , such that the proposition that p was understood by A to be presented-as-true in S 's testimony on O ; and
 - (C) A's knowledge that p depends for its status as knowledge on both (i) the reliability of S 's testimony on O , as well as (ii) A's epistemic right to rely on that testimony.¹⁶

¹⁵(Stanley and Williamson 2001, 434)

¹⁶(Goldberg 2006, 128)

In the following cases I assume that condition B is true, S’s testimony on occasion O is reliable, A has an epistemic right to rely on that testimony, and A retains the information that S communicates. I discuss two kinds of cases: cases in which knowledge is transmitted from speaker to hearer and cases in which it is not transmitted. In the cases in which knowledge is transmitted all of Goldberg’s conditions are met. In the cases in which knowledge is not transmitted, S does not have knowledge of the testified proposition. In these cases, (A) and (C) are not true, even though the other features of Goldberg’s account are present, viz., condition B is true, S’s testimony on occasion O is reliable, A has an epistemic right to rely on that testimony, and A retains the information that S communicates. Goldberg’s account of testimonial knowledge is straightforwardly extended to knowledge-wh; change the knowledge verb and replace ‘p’ with an embedded question. In the cases below I apply that account to knowledge-wh without comment.

2.2 The problem

Consider the following two sentences.

- (2) Hannah knows how Obama will govern.¹⁷
- (3) Hannah knows how to ride a bike.

(2) attributes to Hannah NIK. (3) attributes to Hannah non-deontic IK. As I observed in the first section (2) implies that Hannah has propositional knowledge about how Obama will govern, whereas (3) naturally expresses the thought that Hannah has the ability to ride a bike.¹⁸ The difference between (2) and (3) can be seen in the following pairs of inferences, the first of which is good and the second is bad.

Good

- (4) Bill knows how Obama will govern.
- (5) Bill tells Hannah how Obama will govern.
- So, (6) Hannah knows how Obama will govern.

Good invokes a routine way of coming to know on the basis of testimony. We may stipulate that Goldberg’s conditions on testimonial knowledge are satisfied.

¹⁷(Stanley 2011, 36)

¹⁸On Stanley’s account (3) can be restated using an *ability or dispositional modal*. So we have (3)’ Hannah knows how she could ride a bike. See (Stanley 2011, 114) Nothing in my argument below turns on this point. Both (3) and (3)’ do not routinely transfer by testimony.

Condition (A) is satisfied because Hannah comes to know how Obama will govern. Condition (B) is satisfied because (5) is true and Hannah understands what Bill said as presented-as-true. Condition (C) is satisfied because Hannah's knowledge depends on (i) the reliability of Bill's testimony and (ii) Hannah's epistemic right to rely on that testimony. Cases of NIK transfer from testimony are widespread. Hence, **Good** is a good inference.

Compare **Good** with the following inference.

Bad

- (7) Bill knows how to ride a bike.
- (8) Bill tells Hannah how to ride a bike.
- So, (9) Hannah knows how to ride a bike.

Bad is a bad inference. It is not a normal way of acquiring non-deontic IK. We can stipulate that nothing odd occurs when Bill tells Hannah how to ride a bike. As with **Good**, all the features of the testimonial act are present apart from the testimonial recipient acquiring knowledge. There is a reliable speaker, Bill, whom Hannah observes to offer testimony on occasion O, such that the propositions expressed by Bill are understood by Hannah to be presented-as-true on occasion O. Hannah has an epistemic right to rely on that testimony. Moreover, Hannah understands and retains the information that Bill communicates. But Hannah does not come to know how to ride a bike merely on the basis of Bill's testimony.

While Hannah does not acquire non-deontic IK on the basis of hearing and accepting what Bill says, it is plausible that Hannah thereby acquires deontic IK. That is, Hannah comes to know how one ought to ride a bike. But, as I explained above, deontic IK is not at issue in the debate over intellectualism.

The difference between **Good** and **Bad** remains even if we suppose that in both cases Bill attempts to transfer the knowledge via demonstration. Suppose Bill tells Hannah how Obama will govern by elaborate pantomime. He moves this way and that, gestures thus and so, walks around the room in such a manner, and so on. Hannah understands what is communicated through this demonstration and retains it. Bill is reliable and Hannah has a right to rely on Bill's testimony. Hannah comes to know how Obama will govern. But if Bill tells Hannah how to ride a bike by an elaborate demonstration, then Hannah won't thereby come to know how to ride a bike. The transfer of non-deontic infinitival knowledge-how does not work like that.

I submit that it is a datum that **Good** is good and **Bad** is bad. The explanation for why **Good** is good is that propositional knowledge can be transferred by a speech act. Bill knows how Obama will govern in virtue of knowing that Obama's policies are thus and so and that given such and such opportunities, Obama will govern thusly.

Bill is thus in a position to transfer this knowledge by speech. **Bad**, though, involves a kind of knowledge which is not easily transmitted by a speech act. In virtue of knowing how to ride a bike, Bill has a particular skill. While he tells Hannah that one rides a bike upright, moving forward, and properly balanced, he is unable to transfer this practical knowledge by a speech act. Bill cannot transfer this non-deontic IK by a speech act because the transfer of this knowledge involves the acquisition of a skill.¹⁹ Transferring skill based knowledge requires more than a speech act. Indeed, as Alva Noe, says “As a general rule, skills aren’t acquired all at once, in a fell swoop. They’re built up or acquired gradually.”²⁰ The crucial difference between knowledge-that and non-deontic IK is that propositional knowledge can, as a general rule, be transferred in one fell swoop but practical knowledge cannot. I look at challenges to this claim below, but before that, let us examine some further supporting evidence. What we see in the following is even stronger evidence that practical knowledge stands apart from knowledge-wh. This is remarkable because Stanley’s main argument for (INT) proceeds on the basis of treating practical knowledge as an instance of knowledge-wh. If my argument in the following is correct, then knowledge-wh has the same causal profile with respect to knowledge transfer as does knowledge-that. Practical knowledge, though, has a distinctive causal profile.

Before we proceed further, let me set to the side a potential objection to (†).²¹ The objection is that there are some cases in which practical knowledge is easily transferred. These are cases in which a subject has preexisting practical knowledge that is then applied to a new case. Consider the following example. John is an expert fisherman and, among other things, he knows how to tie many different knots. There is a specific knot he has heard about—the Bimini Twist—and he wants to learn how to tie this knot. He asks Sam and Sam tells him how to tie the Bimini Twist. It is plausible that John acquires some new practical knowledge from Sam’s testimony. John comes to know for the first time how to tie a Bimini Twist. This is not an objection to (†) because it is a case of a general skill being applied to a specific novel case. On my view what happens is this. John knows how to tie knots. He learns from Sam how one ought to tie the Bimini Twist, and given his general knot tying practical knowledge, he can successfully implement his new propositional knowledge of how one ought to tie the Bimini Twist. (†) is consistent with some atypical cases of non-deontic IK being transferred by testimony. The explanation of the knot tying example extends to these cases: a general skill is present that, given some new propositional knowledge, is applied to a new instance of the general skill.

¹⁹Or, a complex disposition. The points below can be put in terms of a complex disposition.

²⁰(Noe 2005, 280)

²¹Thanks to an anonymous referee for raising this point.

2.3 Knowledge-wh & testimonial transfer

The goodness of **Good** holds for other kinds of knowledge-wh. Consider the following instances of knowledge-wh that Stanley mentions.

1. (a) John knows whether Mary came to the party.
- (b) John knows why Obama won.
- (c) Hannah knows what Obama will do in office.
- (d) Hannah knows who Obama is.
- (e) Hannah knows what she is pointing to.
- (f) Hannah knows how Obama will govern.
- (g) Hannah knows why to vote for Obama.²²

Each of these kinds of knowledge-wh can be transferred by a single speech act. Hannah knows who Obama is. Hannah tells Bill who Obama is. Thus, Bill knows who Obama is. Or, Hannah knows what she is pointing to. Hannah tells Bill what she is pointing to. So, Bill knows what Hannah is pointing to. It is a remarkable feature of knowledge-wh that it, like knowledge-that, permits easy transfer by testimony. Practical knowledge does not. This difference in causal profiles is strong evidence that practical knowledge is not propositional knowledge.

It might be countered that what explains the difficulty of transferring practical knowledge is that it is a particularly complex instance of propositional knowledge. Just as one cannot teach topology in one class, so too one cannot transfer practical knowledge concerning bike riding on the basis of a brief conversation. Let us put some flesh on this proposal. The thought predicts that we should find other instances of knowledge-wh or knowledge-that that are not easily transferred. Before we consider that directly, let us consider objectual knowledge. Objectual knowledge is the kind of knowledge present when we say ‘Terence Tao knows topology’. Tao’s knowledge of the mathematical field of topology is superior to that of most other mathematicians. Does a corresponding inference hold for objectual knowledge?

Questionable

- (10) Tao knows topology.
- (11) Tao tells Smith about topology.
- So, (12) Smith knows topology.

²²(Stanley 2011, 36)

Premise (11) is ambiguous between (11a) Tao tells Smith *all* about topology and (11b) Tao tells Smith *something* about topology.²³ If (11) is understood as (11b) then the inference is not good but need not concern us because objectual knowledge requires the communication of core truths. Smith can not come to know topology on the basis of being told merely that topology concerns the mathematical study of space. So the inference that concerns us is the following:

Questionable'

- (10) Tao knows topology.
- (11a) Tao tells Smith all about topology.
- So, (12) Smith knows topology.

The evaluation of this inference is not straightforward because Tao knows topology better than most. Tao is a world-renowned expert, a Fields Medalist. Tao knows because he has accumulated knowledge of many truths about topology but also has keen insight and skill. If Tao tells Smith all about topology then Smith will come to know topology, but Smith will not know as well as Tao. Once we control for this fact, the inference is good. Tao is able to transfer objectual knowledge via speech even if he cannot transfer the complete strength of this knowledge.

Objectual knowledge is complex knowledge but here too it stands apart from pure practical knowledge. Consider the complex skill of a triple Axel.

Spurious

- (13) Smith knows how to perform a triple Axel.
- (14) Smith tells Jones how to perform a triple Axel.
- So, (15) Jones knows how to perform a triple Axel.

Spurious is parallel to **Questionable**, but, whereas Tao telling Smith about topology can give Smith some knowledge of topology, Smith telling Jones how to perform a triple Axel does nothing to give Jones practical knowledge, that is non-deontic IK. Jones can, though, come to acquire deontic IK on this basis. When Smith tells Jones how to perform a triple Axel, Jones learns how one *ought* to perform the triple axel. Smith's new deontic IK, however, doesn't give him the crucial practical knowledge. He needs something more than being told what to do.

The same pattern holds for complex instances of propositional knowledge. Sam knows that all non-trivial zeros of the zeta function have as real part 1/2. Sam

²³A third reading is "Tao tells Smith a lot of what he knows about topology". My remarks about (11a) apply to this reading as well.

tells Jones this. Assuming that Jones understands what is said (he understands the concepts expressed) Jones comes to know this. So the difference in learning is not a result of complexity.

A second line of response highlights the role of understanding and retaining what is communicated in testimony.²⁴ In all of the cases I've assumed that the hearer accepts what is communicated by the testifier. But one might respond that in the failures of practical knowledge to transfer the hearer either does not understand what is communicated or does not retain this information. If, for instance, Hannah understands and retains what Bill communicated then, plausibly, Hannah understands how to ride a bike. And if she understands how to ride a bike then she knows how to ride a bike.

Two points undermine this objection. First, just as there is a distinction between deontic IK and non-deontic IK, there is a distinction between deontic understanding-how and non-deontic understanding-how. It is plausible that Hannah acquires deontic IK upon understanding and retaining Bill's testimony about how to ride a bike. Mutatis mutandis, it is plausible that Hannah acquires deontic understanding-how; Hannah understands how one ought to ride a bike. The question is whether Hannah acquires non-deontic understanding-how and this is the same as the question whether she acquires practical knowledge. Second, given that deontic IK is easily transferred, it is implausible that the failure of non-deontic IK to transfer is attributable to a lack of grasping the content of what is communicated. If the objection is that there are practical concepts that Hannah lacks and so she doesn't understand what is communicated then the objection faces two problems: first, it incorrectly predicts that Hannah does not acquire deontic IK; and second, it predicts that (†) is true because the crucial concepts involved in non-deontic IK cannot easily be transferred by testimony. Thus, this saves intellectualism only to recreate the old distinction between know-how and know-that at the level of concepts.

A final line of resistance to my argument invokes practical modes of presentation. On Stanley's account there is a ready explanation for the failure of practical knowledge to transfer via testimony. Practical knowledge requires that the subject entertain the proposition *w is a way to ϕ* under a practical mode of presentation. Bill knows how to ride a bike in virtue of knowing that *w* is a way to ride a bike, for some contextually relevant way *w*, and Bill mentally hosts *w* by a practical mode of presentation. The nature of a practical mode of presentation is unclear, but how it functions in Stanley's account is not unclear.²⁵ A practical mode of presentation is the component of propositional knowledge that explains why one person can success-

²⁴Thanks to an anonymous referee for this objection.

²⁵See (Glick Forthcoming) for more on practical modes of presentation.

fully act on some knowledge but another person cannot. Jill may know lots of truths about how to play a piano, but she might be unable to play because she does not entertain the relevant proposition under an appropriate practical mode of presentation. This also explains why **Bad** is bad. Practical modes of presentation cannot be transferred by speech acts. One must host the practical mode of presentation for oneself. Stanley observes that his more sophisticated account of a proposition involving practical modes of presentation “explains why learning a fact is not always something one can do by reading a book.”²⁶

Stanley motivates the need for a practical mode of presentation by an in-depth development of *de se* knowledge. *De se* knowledge is the kind of knowledge present in infinitival constructions like “John expects to win the race.” It is commonly assumed in the linguistics literature that such infinitival constructions involve an unpronounced pronoun PRO which is the subject of the embedded clause. For example, “John expects PRO to win the race.” In this case John himself is the referent of PRO. Moreover, John must pick out himself using a *de se* thought. Consider, for instance, that John picks out some guy on video as a fast runner and he thinks that that guy will win the race. Yet unknown to John he himself is that guy. Then the sentence ‘John expects to win the race’ is false. So, if that sentence is true, then John has the *de se* thought that he himself will win.

I bypass the details of the interpretation of PRO.²⁷ The crucial points are that (1) the infinitive clauses in question attribute *de se* knowledge to the subjects by means of their unpronounced pronoun, (2) *de se* knowledge requires a special mode of presentation of the self to oneself, and (3) sentences attributing practical knowledge include an unpronounced pronoun. (1), (2), and (3) provide ground for Stanley to maintain that practical knowledge is not transferable. If practical knowledge is a kind of *de se* knowledge and *de se* knowledge isn’t transferable by testimony, then practical knowledge isn’t transferable. So, Stanley’s approach has resources to resist the line I have been pushing. To be clear, Stanley’s response is that the difference in causal profile between practical knowledge and propositional knowledge is expected

²⁶(Stanley 2011, viii) Katherine Hawley considers the connection between testimony and knowledge-how (Hawley 2010). Her paper provides an interesting argument for the claim that a great deal of what we learn from other people does not count as testimonial knowledge. A crucial argument for this is that the acquisition of knowledge-how is different from acquiring testimonial knowledge. I agree with many of Hawley’s conclusions. However, she argues that her conclusion that (as I would put it) acquiring non-deontic IK is different from acquiring testimonial knowledge is compatible with intellectualism. As I argued in section one, while this compatibility claim is true, it is not a defense of intellectualism. So here too I agree with Hawley but only to the extent that the compatibility claim just relocates the traditional debate over intellectualism.

²⁷See (Stanley 2011, 72-83)

given that the former is a special kind of *de se* knowledge. Thus, on Stanley’s view the truth of (†) does not provide evidence that practical knowledge is non-propositional. In the next section I evaluate whether this response succeeds.

3 De se knowledge

Stanley’s account of a practical knowledge fits more generally within an account of knowledge *de se*. Practical knowledge, on his view, is first-person knowledge. “It is knowledge about oneself, or knowledge *de se*.”²⁸ As noted above, the connection between practical knowledge and *de se* knowledge comes from the fact that there is an unpronounced pronoun PRO in infinitival constructions like “John expects PRO to win the race.” If the referent of PRO involves *de se* knowledge, then, by parallel reasoning, one would expect that the referent of PRO in an infinitival construction as ‘John knows how PRO to ride a bike’ also to involve *de se* knowledge. Consequently, there is a strong linguistic connection between *de se* knowledge and practical knowledge.

De se knowledge is not transferable via testimony. I have *de se* knowledge that I myself am seated, but I cannot transfer this *de se* knowledge by testimony. I can tell you ‘I am seated’, and you will thereby acquire knowledge that I am seated. But the knowledge you acquire is not the *de se* knowledge I possess. *De se* knowledge is only about oneself. If *de se* knowledge is propositional then we have a good case of propositional knowledge that is not transferable via testimony.²⁹ I’ll assume for the sake of argument that something like Stanley’s Fregean account of *de se* knowledge in his chapter 3 “PRO and the Representation of First-Person Thought” is correct.³⁰ On this account *de se* knowledge is propositional; the subject position of the proposition involves a special way of thinking about oneself. This special way—the *de se* way—is not behaviorally inert; it entails a complex disposition to act in certain ways towards oneself.³¹ Thus, Stanley provides us with a model of propositional knowledge that has the right kind of features for explaining why (†) is compatible with (INT). *De se* knowledge isn’t transferable by testimony because it involves an intimate way of thinking of oneself that entails a complex disposition.

For our purposes we can ignore the linguistic details of Stanley’s account of *de se* knowledge. The question that concerns us is whether the properties of practical knowledge are properties of *de se* knowledge. I contend that there are three

²⁸(Stanley 2011, 98)

²⁹Whether *de se* knowledge is propositional is controversial.(Lewis 1979)

³⁰(Stanley 2011)

³¹(Stanley 2011, 98)

differences between de se knowledge and practical knowledge that undermine Stanley's attempt to subsume practical knowledge under de se knowledge. First, de se knowledge is only contingently related to a complex disposition whereas practical knowledge is necessarily related to a complex disposition. Second, de se knowledge cannot be transferred via testimony whereas practical knowledge can be transferred (even though, it is not normally done so). Third, de se knowledge is necessarily individual knowledge whereas practical knowledge may be group knowledge.

Let us examine the first difference between Stanley's account of de se knowledge and practical knowledge. Stanley makes the following connections: (i) de se knowledge involves a special first person way of thinking about oneself and (ii) this special first person way of thinking about oneself requires a certain disposition which we may call the 'first-person regarding disposition.' Concerning (ii) Stanley writes,

To think of an object in the world as myself is to possess certain dispositions involving that object in the world. If that object in the world is cold, I will clothe it; if it is wet I will dry it; etc. In general, I think of an object in the world as me if and only if I treat it in a first-person way.³²

Is it true that the special first person way of thinking constitutively involves a complex disposition to act in the 'first-person way' to oneself? I don't think so for the following reason. It is possible that an individual think of herself in the first person way without taking this first-person way to be a source of reasons. Imagine a thoroughly convinced utilitarian that acts only if her action is optimific. She may have de se knowledge that she is cold and hungry but this does not dispose her at all to clothe or feed herself as such. Rather she has the disposition to clothe and feed a person only if she judges that act to be the best.

This possibility shows that the connection between a first-person way of thinking and a first-person regarding disposition is contingent. In contrast, though, the connection between knowing how to ride a bike and having a certain complex bike riding disposition is not contingent. Whether or not a person has the ability to ride (perhaps all the bikes are annihilated), anyone who knows how to ride has a complex disposition regarding bike riding.

The second difference between de se knowledge and practical knowledge lies in the fact that it is impossible to transfer de se knowledge. De se knowledge is not simply difficult to transfer by testimony because it involves a complex disposition whose acquisition normally requires practice. Rather it falls out of the account of de se knowledge that it cannot be shared. A subject has de se knowledge only if it

³²(Stanley 2011, 109)

is about that very subject. A distinct subject cannot have another subject's de se knowledge. In contrast, practical knowledge can be shared. I know how to determine whether two formula of first-order predicate logic are equivalent. I can teach this to my students so that they too know how to do this. While it requires practice on their part, once they acquire this skill we have the same practical knowledge. It ought not fall out of the account of practical knowledge that it cannot be shared.

The third difference between de se knowledge and practical knowledge concerns the metaphysics of knowledge. De se knowledge is a kind of knowledge that only involves a single subject; it cannot be had by a plural subject. Two distinct individuals cannot both host a single first person way of thinking. It is perfectly sensible to say 'John has de se knowledge that he is married.' Yet it does not make sense to say that 'John and Jane have de se knowledge that they are married.' Each may know in the de se way that he/she is married, but there is no plural de se way of knowing. That there isn't this way falls out of the nature of de se knowledge.

In contrast, practical knowledge can have plural subjects. The New York Giants know how to win football games. Fred and Kelly know how to throw a good party. The Ivy League colleges know how to educate their students. In these cases each member of the group knows something that contributes to unique group knowledge. For example, Fred knows something about hosting a good party and Kelly knows the rest. If each organized a party on their own it would be mundane. But together they host an extraordinary soirée. That is why Fred and Kelly know how to throw a party without each individual possessing this practical knowledge. Examples of practical knowledge had by plural subjects are easily multiplied. Indeed, Alexander Bird considers the following sentence a common example of de-personalized knowledge: 'North Korea knows how to make an atomic bomb.'³³ Bird argues that there is group knowledge, including group know-how, that is not irreducible to the members of the group.

Why is it common to attribute know-how to groups? It appears to reside in the fact that groups have complex dispositions, among which are dispositions to achieve certain goals. The Giants are disposed to win a football game, Fred and Kelly (together) have a complex disposition to throw a good party, and The Ivy League colleges have the disposition to educate their students. Groups achieve ends that are not achieved by their members.³⁴ When the Giants defeat the Broncos, Eli Manning doesn't defeat the Broncos. The Giants may win in spite of Eli. What is probative is the fact that groups exhibit goal directed complex dispositions in virtue of which we attribute practical knowledge. If these attributions are true, practical

³³(Bird 2010, 25)

³⁴See (Pettit and List 2011)

knowledge cannot be de se knowledge. Given the widespread use and naturalness of such attributions together with the fact that groups have goal directed dispositions, an account of practical knowledge should not rule out that such attributions are true.

We have examined three reasons for thinking that practical knowledge is different than de se knowledge. Thus, Stanley's attempt to explain how (†) is compatible with (INT) doesn't succeed. We are left with the original cases as examples in which practical knowledge has a distinct causal profile from both knowledge-that and knowledge-wh. Consequently, there is a firm basis for thinking that practical knowledge is non-propositional.

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