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Knowledge-How is the Norm of Intention

Skipper is having his French neighbours over for lunch. In order to impress them he decides to make Coq au Vin in a traditional French rustic style. He informs his neighbours about his plan, buys all the required ingredients, and gets up early to make the dish. But disaster strikes! Skipper realises that he does not *know how* to make coq au vin; let alone in the rustic style! In frustration he changes his plan, and cobbles together a cottage pie. His guests leave disappointed.

Skipper's plan is clearly criticisable, but why? Making Coq au Vin does not seem practically irrational. Making an authentic French dish is a good way to impress your French neighbours, meaning that Skipper's intention was supported by his reasons. Skipper might well also *know* his reasons, meaning that he cannot be criticised for his epistemic position regarding his practical reasoning. Coq au vin is also not a difficult dish to make – providing you know the recipe – meaning that the dish was within Skipper's power to make. Skipper didn't intend to do something beyond his physical capabilities.

In this paper, I want to make the case that Skipper's intention is criticisable because he didn't know how to do what he intended to do. I will be arguing that there is a normative connection between knowledge-how and intention, with something like the following form:

KNI: One must: intend to V, only if one knows how to V.

I will call this norm the *Knowledge-How Norm on Intention* (KNI).¹ KNI is intended to parallel the much-discussed knowledge norms on assertion, belief and practical action, which

¹KNI is related to the following necessity claim:

K: If A is doing V intentionally, then A knows how to V

(Anscombe 1957, p.83; Stanley & Williamson 2001, pp.442–3; Gibbons 2001, pp.597–8; Setiya 2008, p.404; Stanley 2011, pp.185–90; Hornsby 2016). KNI is distinct from K: K states a necessary conditions on

claim that knowledge is the condition on epistemically appropriate assertion, belief and action respectively (Williamson 2000; Hawthorne 2003; Sutton 2007; Hawthorne & Stanley 2008; Bach 2008; Fantl & McGrath 2009). However, I will think of KNI as a norm of rationality rather than a specifically *epistemic* norm. Because merely having knowledge-how is not sufficient for having a rational intention, I will also only be arguing only for the necessity direction of the norm.

This proposal is not entirely novel. Setiya claims that forming an intention to V is only epistemically justified when one knows how to V, because knowledge-how provides epistemic entitlement for the beliefs involved in intentional action (Setiya 2008: 406-9, 2012: 300-4).² Stanley also employs an analogy between acting unskillfully and acting on the basis of ignorance to explore similarities between the debate about the condition which is the norm of action and the conditions required for skill (Stanley 2011: 175-81), which suggests that he endorses a normative connection between knowledge-how and action.³ KNI is also connected to Buckwalter and Turri's proposal that knowledge-how is the norm of showing (Buckwalter and Turri 2014).⁴ Acknowledging that KNI has important relations to debates about the epistemology of intention, the nature of knowledge-how, and other epistemic norms, I want to put these issues to one side, and focus on making the case for KNI. I also want to bracket debates about the nature of knowledge-how and intention. The goal is to argue for the structural claim that whatever knowledge-how and intention turn out to be, they are connected by a norm of rationality.

acting, whereas KNI expresses a norm on *intending*. If we deny that there is a distinction between intending and acting (Thompson 2008; Moran and Stone 2011; Ferrero, MS.), KNI is incompatible with K. However, if intentional action starts soon as one forms an intention, K is implausible.

² See also (Paul 2009b; Setiya 2009; 2016).

³ Stanley suggests that *acting* without skill involves norm violation, and he takes it that skill requires know-how (2011, p.175) giving:

KNA: One must: V, only if one knows how to V.

Because KNA is a norm on acting rather than intending, it is incompatible with K (see footnote 1).

⁴ For criticism of the knowledge-how norm of showing, and discussion of the relation between the showing norm and KNI, see (Habgood-Coote 2017) (note that in this paper the acronym for the knowledge-how norm of intention is INT).

In the first section, I set out the case for KNI, showing that the arguments used for other knowledge norms can be adapted to the case of intention. In the second section, I clarify this norm, work through some problem cases in which it appears that agents can legitimately intend without having knowledge-how, and propose a tweak to KNI that connects the epistemic requirements on intention to the idea that intentions are partial plans. In the third section, I consider alternative conditions that might figure in a norm on intention and argue that they lead to unattractive norms.

1. The Case for KNI

In the case of other knowledge-norms, there are a battery of arguments that make the case that the relevant activity or state is governed by a knowledge requirement:

- i. The naturalness of using knowledge ascriptions to evaluate;
- ii. Conversational phenomena explained by the knowledge-norm;
- iii. The unacceptability of asserting, reasoning from, or believing lottery propositions.

In this section, I show that these arguments can be extended to the case of intending. The goal of this section is to establish a cumulative case for KNI based on a range of arguments, and not to offer a systematic defence of each these arguments. If you have worries about one or two of these phenomena, then there will hopefully be others which convince you. If you have worries about all of these arguments, then this section should show you that you have one more potential knowledge norm to worry about.

1.1. Evaluative Knowledge-how ascriptions

Knowledge-how ascriptions have various conversational functions. Saying that someone knows how can flag them up as a good teacher (Craig 1990, C13), or as a competent collaborator (Moore 1997, 173-4; Hawley 2011, 287–90). We also use knowledge-how

ascriptions to evaluate intentions. If Skipper explains his misadventure to a friend, it would be natural for them to say: ‘why did you plan to make Coq au Vin; *you don’t know how to make it!*’. This kind of evaluation also works prospectively. If I say that I’m planning to build a bike, you might ask me: ‘why are you planning to do that? *You don’t know how to make a bike!*’ Similarly for group actions: if Matti and Lisa express their plan to lift a piano up the stairs to their new apartment, it would be completely natural for their friends to say ‘that seems like a bad plan; *you guys don’t know how to safely lift a piano.*’ We can even read this kind of evaluative knowledge-how ascription into Hawthorne and Stanley’s restaurant case (2008, p.571). After Hannah leads Sarah down the wrong street, it would be natural for Sarah to say: ‘why did you offer to lead? *You don’t know how to get to the restaurant!*’

This use of knowledge-how ascriptions suggests that knowledge-how is bound up with the evaluation of intentions, just as the use of evaluative uses of knowledge-that ascriptions suggests a normative connection between knowledge and practical reason and assertion (Williamson 2000; Hawthorne & Stanley 2008, pp.572–4; Gerken 2015). This argument is suggestive, but I don’t want to place too much weight on it. Knowledge-how is just one of many conditions which can be used to evaluate intention.⁵ We can also appeal to the agent’s abilities, their skills, their competences, and so on. Another worry is that it is a bit murky exactly what is being evaluated in these ascriptions. On the face of it, these ascriptions negatively evaluate *intentions*. However, one might think that in these cases the evaluation targets *the acts* that the agents are intending to perform, the agents’ cognitive *habits*, or the *agents* themselves. In line with my general strategy in this section, I take the evidence from evaluative knowledge-how ascriptions to be merely suggestive, and won’t try to address these worries.

1.2. Conversational Dynamics

A second argument for KNI comes from conversational phenomena suggesting a connection between knowing how and intending. There are four phenomena which are central:

⁵ See (Brown 2008, p.571).

the uses of know-how ascriptions to *challenge* intentions, to *excuse* from requests, and to *solicit* action, as well as the existence of analogues to Moorean sentences for intention.

1.2.1. Challenges

Asserting opens the speaker up to epistemic challenges. If S asserts the proposition ‘p’, her interlocutors can ask ‘how do you know that p?’, or more directly ‘do you really know that p?’. (Unger 1975, pp.263–264; Slote 1979; Williamson 2000, p.252). Similarly, expressing an intention opens the agent up to questions about their know-how. If I say ‘I intend to make a bike from scratch’, you might ask me ‘how are you going to do that?’, or more directly ‘do you know how to make a bike?’ The same goes for other ways of expressing an intention, for example ‘I will make a bike’, or ‘I am making a bike’.⁶

Answering the challenges ‘how will you V?’ and ‘do you know how to V?’ involves employing knowledge-how. A positive answer to the direct question ‘do you know how to V?’ involves claiming knowledge how to V. Similarly, although the question ‘how will you V?’ targets an agent’s plan rather than their knowledge, one can only satisfactorily answer this question by *expressing* knowledge-how. In answering the question of how I will make a bike, I will be expressing — or at least purporting to express — my knowledge of how to make a bike. Saying that I’ve just made a guess does not answer the challenge; I need to know that my plan will be successful.

One might worry that there are ways of answering these challenges without either claiming or expressing knowledge-how. If you ask me how I am going to make a bike, I might respond by saying ‘I haven’t decided yet’ or ‘I’m going to work it out as I go along’.⁷ Both responses involve expressing complex plans which themselves rely on knowledge-how. If I say ‘I

⁶ Taking a lead from Anscombe we might suggest that intentions are the kinds of things to which the question ‘how are you going to do that?’ has application. On the relation between ‘how?’ and ‘why?’ questions, see (Hornsby 2005)

⁷ Thanks to Ginger Schultheis for this point.

haven't decided yet', I claim that there are several options for making a bike, and that I have know-how relating to each of them. If I say 'I am going to work it out as I go along', then I am expressing a plan to pick up knowledge as I go along. If I make this response, it would be legitimate to raise the further complaint: 'but you don't know anything about bikes!' which challenges whether I possess sufficient knowledge to know how to work it out as I go along. This suggests that this kind of plan will only be legitimate if I know *how to work it out as I go along*. (I will return to plans to learn in 2.2.)

If knowledge-how is the norm of intention we can nicely explain the felicity of responding to expressions of intention with questions that target knowledge-how. If KNI is correct, in expressing an intention to V, one represents oneself as having the requisite knowledge-how for that intention to be rationally adequate. Asking questions about what one's plans are, or asking directly about knowledge-how can thereby function as challenges to this intention, challenging whether it is normatively adequate.

Interestingly, directive speech acts – such as commanding, offering, and advising – also open up questions about knowledge-how. If you tell me to make you a macchiato, I can respond by asking how to make one, or by observing that I don't know how to make one.⁸ The same goes for non-commanding directives. If I'm at a dinner party, and you say 'have an oyster' (meaning to offer me one, not to command: it's a *polite* dinner party), I could respond 'I'm sorry, but I don't know how to eat an oyster'. The standard function of a directive speech act is to get someone else to form an intention, which suggests that we can challenge a directive by challenge the appropriateness of the intention it aims at. If knowledge-how is the norm of intention, then questions about knowledge-how challenge the appropriateness of the directive in this way. If the target does not knowledge-how, then the intention which the directive aims at is inappropriate, and the directive itself inherits that inappropriateness.⁹

⁸ Strictly speaking the parallel question would be 'do I know how to make a macchiato?'. However, most people know what they know how to do, making it more normal to simply deny knowledge.

⁹ Directives are typically associated with an asymmetry of power, and it may be that the person issuing the directive responds to the challenge by simply ignoring the challenge and reissuing the directive. I

If assertoric and directive speech acts play analogous conversational roles — namely: of adding propositions to the common ground, and adding tasks to the to-do list (Portner 2007) — we get a neat symmetry between the knowledge norms of intention, and assertion. Just as the norm of assertion checks updates to the common ground, the norm of intention checks updates to the to-do list.

1.2.2. Excuses

One can excuse oneself from a request to answer a question by claiming that one doesn't *know* the answer: if you ask me how long naked mole rats live, I can respond by saying 'I don't know how long naked mole rats live' (Turri 2011, p.38). Rather than answering the question, this kind of response functions as a kind of excuse from the request to assert. The knowledge norm of assertion can nicely explain this kind of excuse, since if an assertion would be epistemically inappropriate without knowledge, claiming to not know implies that the assertion requested would be inappropriate. We find a similar phenomenon in the case of requests to do stuff. If Tariq asks Joan whether she would mow lines into his lawn with her lawnmower, Joan could legitimately respond by saying 'I don't know how to mow lines into a lawn.' According to the supporter of KNI, Joan's response functions as an excuse by claiming that she is not in a position to form an appropriate intention to mow lines into Tariq's lawn.

1.2.3. Soliciting

Questions about knowledge can also function as indirect requests to perform certain kinds of action. The question 'do you know what the capital of Mali is?' can function as a request to make an assertion addressing the question of what the capital of Mali is (Turri 2011,

don't think that this detracts from the inappropriateness of the intention which may be formed. Just as someone in a position of power can use their authority to override moral norms, they can use this authority to override rules of rationality. Cases of knowingly overriding KNI raise the tricky issue of whether it is possible to knowingly flout KNI, or whether knowing that you don't know how to do something makes it impossible to form a full intention (as opposed to an intention to *try*).

p.38). This phenomenon fits into a wider phenomenon in which asking a question about normative or necessary conditions for some action can function as an indirect request to perform that action (Searle 1979; McGlynn 2014, p.93).

We also find cases in which a question about knowledge-how functions as a request to form an intention. We are interested in cases of *requests to intend*, rather than requests *to do*, because KNI is a norm on intending, not on acting.¹⁰ If Baird and Jana are going on a drive, and Baird is worried that he might get a migraine, making him unable to drive, he might ask Jana ‘do you know how to drive a manual?’. In this case, this question functions not as a request *to drive* — Baird wouldn’t expect Jana to get in on the driver’s side straight away— but rather as a request to form the intention to drive *if* he gets a migraine. Similarly, if Hailey is looking for someone to climb with when she’s recovered from an injury in six months time, she might ask Daman ‘do you know how to climb?’ meaning not to ask him to climb, but rather to form the intention to go climbing with her once she has recovered. If knowledge-how is the norm of intending, then these requests to form intentions fit nicely into the wider phenomenon of indirect requests based on questions about normative conditions.

1.2.4. Moorean Sentences

Moorean sentences for knowledge provides another argument for the knowledge norm of assertion (Williamson 2000, pp.254–5). The sentence ‘p, but I don’t know that p’ seems bizarre to assert. According to the supporter of the knowledge-norm of assertion, this is because employing this sentence involves asserting a proposition, whilst claiming that one is not in an adequate epistemic position to assert it.

There are various candidates for a Moorean sentence for intention:

¹⁰ See footnote 3. Questions about know-how functioning as requests to act can also be explained by the hypothesis that knowledge-how is necessary for action, making these cases less useful in arguing for KNI. Thanks to Marissa Wallin for this point.

1. I intend to V, but I don't know how to V.
2. I will V, but I don't know how to V.
3. I am V-ing, but I don't know how to V.

Some of these sentences seem bad:

4. I intend to find a hyacinth on my walk today, but I don't know how to recognise one.
5. I will perform a salchow tomorrow, but I don't know how to do a salchow
6. I am making a computer program for finding nth roots, but I don't know how to code

However, others seem acceptable:

7. I intend to make a bike, but I don't know how to make one.
8. I will prune your apple tree, but I don't know how to prune.
9. I am taking us to the restaurant, but I don't know how to get there.

It seems to me that the difference in acceptability comes down to whether it is possible to learn how as one goes along. It isn't possible to learn how to recognise hyacinths simply by looking at plants, but it is possible to learn to make a bike from scratch by muddling through exercising general problem solving skills. Sentences 8 and 9 also seem to carry the implicature that the agent intends to learn how to do the relevant activity, inviting a parenthetical 'yet' on the end of each sentence. In response to an utterance of any of these sentences, it would be natural to ask 'so when do you intend to learn?' The hypothesis that knowledge-how is the norm of intention is nicely placed to explain the baldness of sentences 4, 5, and 6. Cases in which an agent's plan includes the intention to learn remain puzzling, but I will postpone discussion until 2.2..

1.3. Lottery Intentions

A final argument for knowledge norms stems from the unacceptability of asserting, believing, or reasoning from lottery propositions. (We'll focus on assertion). It is no surprise that it is epistemically amiss to assert that you have won a fair lottery, if the result has been drawn but not announced. If there are a reasonable number of tickets then winning a fair lottery is unlikely, meaning that a belief that you have won is unjustified, and most likely false. However, the interesting case is the fact that there is something amiss in asserting that you have *lost* a fair lottery. With enough tickets, the probability of losing may be rather high, which means that it is possible to have a justified belief that one has lost. However, one cannot *know* that one has lost (plausibly because the belief that one has lost is unsafe). The supporter of a knowledge norm can explain the inappropriateness of asserting that one has lost, whereas the supporter of other norms – such as truth, belief or justification norms – cannot, meaning that Lottery propositions give the knowledge norm one up on its competitors (Williamson 2000, C11; Hawthorne 2003, 21–36; Hawthorne and Stanley 2008, 572).

We find the same pattern with intentions related to lotteries. An intention to *win* a lottery is inappropriate. One can explain this by appealing to knowledge-how — since one cannot know how *to win* a fair lottery (Gibbons 2001, pp.287–9; Setiya 2012, pp.286–7). However, there are various alternative explanations for the badness of this intention: buying the winning ticket in a large fair lottery is overwhelmingly unlikely, meaning that one ought to have low credence in the proposition that one will win.¹¹ As with assertion, the interesting case is the intention to *lose* the lottery. An intention to lose will be overwhelmingly likely to be successful, and one ought to have a high degree of credence in the proposition that one has lost. Nonetheless, there is something extremely strange about intending to lose the lottery. In normal cases, intending to lose is strange because the outcome of one's ticket being a loser has negative value. However, it is easy to set up cases where losing the lottery has *positive* value:

¹¹ Furthermore, in most real-world lotteries buying a lottery ticket has negative expected value because the cost of a ticket is larger than the value of the prize divided by the number of tickets. In a case where the value of the prize is sufficiently large, *buying a lottery ticket* can be practically rational.

say if a losing lottery ticket functions as an entry pass to the Lottery Losers party, the value of which outweighs the cost of a lottery ticket.

To see the inappropriateness of an intention to lose in the case where losing has positive value, consider the following argument:

If I lose the Lottery, I'll be invited to the special Lottery Losers party
The Losers party will be a lot of fun
So, I'll lose the Lottery

The premises of this argument are true, and it is an instance of a valid schema. These premises might also be known, avoiding violations of the knowledge-that norm of practical reasoning. Nonetheless, forming the intention expressed by the conclusion of this syllogism is obviously inappropriate.¹² We cannot explain the inappropriateness of this intention by appealing to the low chance of losing the lottery, or a low credence in the proposition that one will lose, since I know that it is very likely that I will lose. However, we can explain it by appealing to the knowledge-how norm. Despite the overwhelming likelihood of losing one cannot know how to lose a fair lottery, because it's just not something one has any control over. Hence, even when one employs a sound argument, and the value of having a losing ticket is positive, lack of knowledge how makes an intention to lose the lottery inappropriate.

In this section, we have seen that the phenomena which supporters of knowledge norms of belief, assertion, and action appeal to also occur in the case of intention. Although there is considerably more to be said about each of these phenomena, the combination of these phenomena provides a plausible cumulative argument for the knowledge-how norm of intention.

2 The Knowledge-How Norm of Intention

¹² Although it would be appropriate to intend *to buy a ticket*.

The phenomena in the previous section support the simple norm stated in the introduction:

KNI: One must: intend to V, only if one knows how to V.

In this section I will address some problem cases for this norm, including cases of intending to work things out as one goes along. I will consider a number of fixes for these cases, and offer a revised account of the knowledge-how requirements on intention which appeals to partial plans.

Before we consider the problems cases, I will make some observations about the normative significance of KNI, and distinguish it from some related principles relating to intention.

2.1. Clarifications

KNI claims that at any time at which one is in the state of intending to V, one better also be in the state of knowing how to V. KNI evaluates intentions prospectively: one violates this norm if one forms an intention to V without knowing how to V even if one picks up this knowledge before the time of action. If one intends to V and only later learn how to V, then the intention becomes appropriate at the time of learning, but it remains inappropriate before this time. KNI can seem overly conservative, requiring considerable knowledge before one intends.

KNI is not violated if one merely intends to *try* to V. *Trying to V* is just another of activity which can be substituted into KNI, meaning that an intention to try to V requires knowing *how to try to V*, rather than knowing *how to V*. I might know how to *try* to dress fashionably, without knowing how to dress fashionably, meaning that by the lights of KNI I ought only form the intention to *try* to dress fashionably.

KNI can also be overridden by other kinds of considerations. In a case in which an intention not accompanied by know-how is morally required, the supporter of KNI is committed to saying that there is *something* rationally inappropriate about that intention, although it is all things considered rational.¹³ In the case of other knowledge-norms, it is common to fix in on the evaluation given by the knowledge norm by considering a distinctively *epistemic* sense of evaluation. I find it difficult to isolate an epistemic sense of evaluation of intentions, and will stick with the claim that KNI is a norm of rationality. I will also remain neutral on whether KNI is a constitutive norm of intention, since resolving this issue would require making substantive commitments about the nature of intention.

2.1. Situating KNI

KNI has close relations to several other principles relating to intending: the ought-implies-can principle, principles of instrumental rationality, and the knowledge norm of practical reasoning. Although it is tempting to think that KNI can be reduced to one or other of these norms, it is distinct from each of them.

The ought-implies-can principle claims that the actions which we ought to perform are ones which we can perform, meaning that it connects ought facts to facts about an agent's practical situation. However, the ought implies can principle is a necessity claim about ought-facts, and not a norm on intending. KNI is also a principle about intentions in general, not just acts which we ought to perform. If I form the intention to break a promise not to ride a bike – something I ought not do – and do not *know how* to ride a bike, according to KNI my intention is rationally deficient. This is a case on which the ought-implies-can principle is silent. Furthermore, the literature on the relationship between knowledge-how and ability provides us

¹³ KNI can also be overridden by practical considerations. If I don't know how to climb a 6c rated climb, but want to get halfway up, the best way to buttress my resolve might be to form the intention to climb the whole way up. This is a case involving practical reasons to break a norm of rationality. Thanks to Michael Wheeler and Philip Ebert for this point.

with a plethora of examples in which knowledge-how and ability come apart (Bengson and Moffett 2011), suggesting that know-how and ability requirements are distinct (see 3.5. below).

The principle of Instrumental Rationality claims when we intend an end, we must also intend what we believe to be the necessary means to that end.¹⁴ It is true that exercising knowledge-how is an important source of means-ends beliefs. Nonetheless, Instrumental Rationality comes apart from KNI. One can have knowledge-how, have beliefs about the necessary means to one's ends, but still not form the appropriate intentions concerning those means, fulfilling KNI whilst being means-ends incoherent. One can also be means-ends coherent whilst lacking knowledge-how. I might lack knowledge how to achieve some end, have a false belief about how to achieve this end, and intend to pursue this (false) means. Alternatively, I might lack knowledge how, guess about how to achieve the end, luckily get it right, and form a true intention which is in line with that luckily true belief.

The knowledge norm of practical reasoning (KNPR for short) claims that we must know the premises of our practical reasoning:

KNPR: One must: employ *p* as a premise in practical reasoning, only if one knows that *p*.¹⁵

This norm does entail that practical reasoning requires some know-how. If one employs a means-ends premise in practical reasoning, KNPR claims that one must *know* that means-ends proposition. On the assumption that knowledge of a means-end proposition can suffice for knowledge-how,¹⁶ this means that KNPR requires knowledge-how relating to the premises of practical reasoning. Consider the following piece of practical reasoning:

¹⁴ (Broome 1999, 2005, 2013; Bratman 1987; Bratman 2009a; 2009b; Setiya 2007; Schroeder 2009).

¹⁵ (Hawthorne 2003; Williamson 2005; Hawthorne & Stanley 2008). On the distinction between norms concerning treating as a reason versus employing as a premise, see (McGlynn 2014, p.132).

¹⁶ This claim is compatible with Anti-Intellectualism, see (Hornsby 2005, especially 113)

Maia needs cheering up
Making Maia a hot chocolate will cheer her up
So, I'll make Maia a hot chocolate

KNPR requires that I know that making Maia a hot chocolate is a way to cheer her up meaning that in order to engage in this practical reasoning I must know *how to cheer Maia up*. However, the requirement made by KNPR is distinct to that made by KNI. In the above case, KNI requires knowing *how to make a hot chocolate*, rather than one knowing *how to cheer Maia up*. Whereas KNPR requires that one have knowledge-how relating to the *premises* of practical reasoning, KNI requires that one have knowledge-how relating to the *conclusion* of practical reasoning.¹⁷

2.2. Problem Cases for KNI

There are a number of cases that cause problems for KNI: i) intentions to work out how to do something as you go along, ii) intentions to practice, and iii) intentions concerning life plans.

The prospective character of the knowledge-how norm of intention means that it demands that if we intend to do something, we know how to do it when we form that intention. As suggested by our discussion of excuses and Moorean sentences above, one might think that there is an easy way to get out of this demand. When one forms the intention to do something, one can simply form the additional intention to acquire the requisite know-how before the time of action. If Kieran does not know how to dance the Tango, and forms the

¹⁷ Another way to attempt to reduce KNI to KNPR is via the idea that knowledge how to V is an *enabler* (Dancy 2004, 38–43). If enablers are among the premises of practical reasoning, and knowledge-how is an enabler, then KNPR predicts that practical reasoning requires knowing that one knows how (see 3.6 below), which entails the knowledge-how norm since second-order knowledge of knowledge entails knowledge. However, the claim that knowledge how to V is an enabler for reasons for V-ing is implausible. Consider the case of learning to dance the tango (given below in 2.2.). In this case Kieran has reasons to dance the Tango despite not knowing how to dance the Tango. Thanks to Kieran Setiya for discussion.

intention to dance the Tango at his wedding in six months time, we might think that he can avoid inappropriateness by forming the supplementary intention to *learn* how to dance the Tango before his wedding (Setiya 2008, p.406).¹⁸ Appropriate intentions to V which are accompanied by ignorance about how to V, and an intention to learn how to V are counterexamples to KNI.¹⁹

A second kind of problem case concerns practicing. Knowledge-how is associated with various distinctive kinds of learning (Ryle 2009: 30-1) including *practicing*, whereby one engages in an activity to learn how to do it. According to KNI, when one intends to practice V-ing, that intention is inappropriate, since the point of practice is to gain knowledge-how.²⁰ This is a strange result, meaning that for activities that require practice, the only way to get oneself in a position where one's intentions are appropriate according to KNI is to repeatedly form intentions that break that very norm. This would be bad enough if practicing was just a brief stage at the beginning of the life-cycle of a skill. However, the importance of *continuous improvement* to skilful activity (Ericsson 2006; Montero 2016, C6) means that practicing is an important part of all levels of skill, meaning that KNI predicts a host of norm violations associated with any level of skilled activity.

A final problem concerns life-plans. Many life-plans will involve such complex and long-term plans that no-one can properly claim to know how to pull them off when they form the plan.²¹ A new parent cannot claim to know how to cope with the many and varied challenges which can occur during the course of ten or twenty years of a child's life, but it seems appropriate for them to intend to bring up their child to be a happy, flourishing person. It is easy to multiply examples of this kind: staying faithful to a partner for a lifetime, living a

¹⁸ See (Hawley 2003, pp.9–20; Setiya 2012, p.297)

¹⁹ Setiya suggests that in this case the agent really intends *to learn to dance the tango* meaning that their intentions are consistent with KNI (if they know how to learn the Tango). Paul points out (2009b, p.556) this description of Kieran's intentions is rather strained: it seems much more plausible that Kieran *both* intends to learn, and to dance the Tango, and that he has the first intention because he has the second.

²⁰ (Setiya 2009, n.23)

²¹ Thanks to Jessica Brown for raising this worry.

worthwhile and fulfilling life, or taking care of another human being are all activities which no-one – except perhaps people at the end of their lives – has a claim to know how to do. KNI seems committed to saying that many life-structuring intentions are inappropriate, which seems like a bad result.

2.3. Potential Fixes for KNI

There are several possible responses to these cases.

A hard-nosed option is to stick with the evaluations given by KNI, and say that in the above cases our intuitive judgements are tracking a different dimension of evaluation of intentions. For example, perhaps intentions to practice are always inappropriate, as KNI predicts, it's just that we allow this inappropriateness because it is in pursuit of the epistemically worthwhile goal of gaining more knowledge-how. Although there is something to be said for this line, it would be a considerable cost of KNI if the kinds of intentions in the previous section have something inappropriate about them.

A slightly more concessive response is to say that in the above cases full intentions are inappropriate, although intentions to *try* are appropriate. This seems like a plausible line for intentions to practice. When a novice in some activity is practicing some activity for the first time, she should be open to the possibility that she will fail. It would be strange to be practicing giving a philosophy talk perfectly, and to make plans based on the assumption that one will perform it perfectly first time. One should intend to *merely try*, and form back-up plans conditional on messing up. We might say something similar about experts who are practicing new skills. However, this line is less plausible in some of the other problem cases: it seems strange to say that Kieran is intending to only try to dance the Tango at his wedding, or that we only form intentions to try to achieve our life goals.²²

²² Another related move is to endorse a graded norm, which claims that the strength of one's intention ought to match one's degree of knowledge-how. For example, we might connect Holton's notion of partial intention (2008), to *partial* knowledge-how (Pavese 2017) giving us:

Another option is to appeal to contextual dependence in the condition involved in the norm to yield a theory where the appropriateness of intention varies depending on contextual features. There are a number of possible contextualist theses about knowledge-how,²³ but one view that can do some interesting work is the task-indexed contextualism suggested by Hawley (2003, pp.21–22). Hawley suggests that knowledge-how ascriptions are made relative to a contextually supplied set of tasks, the idea being that for ‘S know how to V’ to be true in some context, S needs to know how to perform the set of V-related tasks salient in that context. This allows us to say in some contexts – ones where *learning* is a salient task – merely knowing *how to learn* is sufficient to count as knowing how to do. If *learning how to speak Russian* is a salient task in a particular context, someone who knows that one can speak Russian by taking a class, can be truthfully said to know *how to speak Russian*, (Hawley 2003, pp.19–20).

Putting this contextualist view of knowledge-how together with KNI gives us a view according to which the conditions on appropriate intention vary by context. If the salient tasks are easy or few in number, it doesn’t take much knowledge to have an appropriate intention, but if the salient tasks are hard or numerous, one needs more knowledge. And if *learning* is a salient task, then knowing how to learn is sufficient to know how, and thus to appropriately intend. Although this line promises to get the right result about the appropriateness of Kieran’s intentions, it faces a number of problems. The contextualist explanation of the Tango case relies on learning the Tango being a salient task in our conversational context. But, it is difficult to see why all of the contexts in which we say Kieran’s intention is appropriate should have this feature. In fact, when I introduced the Tango example above, I did *not* make learning to dance the Tango salient, meaning that we made the judgement that Kieran did *not* know how to dance the Tango. However, we still judged that Kieran’s intention was appropriate, suggesting that our judgements about the appropriateness of his intention was not tracking the

PKNI: One must: have a partial intention to V, only if one knows at least in part how to V.

Setiya also alludes to a graded norm (2016, pp.12–13) involving degrees of belief.

²³ (Hawley 2003; Bhatt 2006; Braun 2006; 2011; Parent 2014)

contextually salient tasks. Although it is plausible that knowledge-how ascriptions are context-sensitive, this context-sensitivity does not solve the problems for KNI.

2.4. Knowledge-how and Partial Plans

I think appealing to intentions to try nicely explains intentions to practice. However, to explain the appropriateness intending to work things out, and intentions regarding life-plans I will connect KNI with Bratman's idea that intentions are *partial plans*.²⁴

Bratman points out that when we form intentions, our plans are typically rather coarse-grained and *partial*, leaving various practical issues open to be decided later on (Bratman 1987). When I form the intention to make lasagne for dinner, I leave open what kind of lasagne to make, how to cook the different parts of the dish, and what time to start cooking. I will fill in these holes in my plan when I have enough situational knowledge to make an informed judgement about which more fine-grained plan to pursue. The idea of filling in helps to understand Kieran's plan: his initial coarse-grained plan which leaves open how he will dance the tango gets filled in by an intention concerning how to get himself in a position to dance the Tango.

It is plausible that the epistemic requirements on an intention vary depending on how filled in one's intention is.²⁵ Consider the way in which plans for making a lasagne vary depending on the cook's culinary know-how. An experienced cook can plan to make a lasagne without needing to plan ahead, leaving open a host of practical issues to be filled in later, whereas a more inexperienced cook will need to make a detailed plan which fills in the details of her plan. I suggest that the experienced cook's know-how puts her in a position to fluidly fill in a coarse-grained plan by exercising her knowledge how to perform various culinary tasks,

²⁴ Thanks to Justin Snedegar for discussion.

²⁵ We can find this idea in Bratman: "Of course, means-end coherence does not require that my plans specify what I am to do down to the last physical detail. Rather, my plans will typically be at a level of abstraction appropriate to my habits and skills." (Bratman 1987, 31)

whereas the inexperienced cook's knowledge does not put her in a position to fill out her plans as she goes along, meaning that she needs to make a detailed plan ahead of time which goes down to the level of her knowledge-how.

To explain this idea, we can build a connection between know-how and partial plans into the know-how norm, relativising the know-how norm to the open issues in an agent's plan.²⁶ This gives us the following norm:

KNI-PP: One must: intend to V, leaving open a set of how-to issues {how to V1, how to V2, ... how to Vn} only if for all of the open how-to issues in that set one knows how to perform those tasks.²⁷

This revised norm is able to explain both the cases of intending to work things out as one goes along, and the cases of intentions relating to life plans.

In the case of intending to V when one forms the intention to work out how to V whilst ignorant about how to V, I suggest we should think of the supplementary intention as *filling in* the partial plan. The initial coarse-grained plan – to V – gets filled in by some more complex plan – learn to V, then exercise this knowledge. This more complex plan does not leave open the issue of *how to V*, but rather the issue of *how to learn to V*, so requires knowledge *how to learn to V*, rather than knowledge *how to V*. This is the result that we want in these cases: an intention to work it out as you go along requires *less* know-how, but it still requires some knowledge.

²⁶ This idea is even more attractive if we think of partial plans as question-relative (Snedegar MS), since if we think of a partial plan as leaving open practical questions the knowledge-how requirements will be knowledge of the answers to those practical questions.

²⁷ Coarse-grained plans will also involve open issues involving other wh-questions. If I am cooking lasagne I might leave open *when* to start cooking. Many of these will be closely related to *how* issues. If I leave open *when* to start cooking, I better know *how* to plan my cooking to finish by dinner-time.

In the case of life plans, I suggest that we should think of a plan to bring up a happy child not as extraordinarily coarse-grained plan — which would require a great deal of know-how — but rather as a *policy* (Bratman 1987, 56–57).²⁸ Policies have a conditional structure which allow us to affect our future behaviour in predictable ways without knowing much about future circumstances. For example, a policy to give up smoking will involve a plan like: *if there is an opportunity to smoke, then I won't take it*. A parent's plan to bring up a happy child involves a bundle of conditional intentions: *if I have a decision to make, I'll put my child first; if there's an opportunity to find out about how to bring up my child, I'll take it; and if my child isn't happy, I'll review my parenting practices*.²⁹ The crucial point is that these conditional plans leave open smaller issues than a coarse grained plan to bring up a happy child, requiring only knowing how to follow the conditional plans, rather than how to bring up a child.

One might worry that allowing agents to avoid negative evaluation by learning how to V makes the knowledge-how norm overly permissive.³⁰ Although it is true that KNI-PP is more lenient than KNI in evaluating cases involving policies and intentions to learn, this norm is still fairly stringent. KNI-PP allows that if one does not know how to V, it is still possible to intend to V in accordance with the knowledge-how norm supposing that: one fills out one's intention with a more fine-grained plan to learn to V, then V, and that one knows how to learn to V. However, it remains possible to flout this norm either: i) by not forming the more fine-grained plan, or ii) by being ignorant about how to learn to V. These restrictions are not trivial. In many cases, forming the more fine-grained plan will not be a realistic option, because learning to V is either impossible has practical costs, or would simply take up too much time. Knowing how to learn to do something is also not automatic. It is true that I know how to learn to do a great many things, but there are also many things which I do not know how to learn to do. For example, I know how to learn how to run a sub 4.00 hour marathon – find any running coach, and ask them how to do it – but I don't know how to learn how to run a sub 2.30 hour

²⁸ Thanks to Caroline Touborg for this suggestion.

²⁹ For simplicity, I focus on policies suited to single parenting. The two parent case will involve more complex policies.

³⁰ Thanks to an anonymous reviewer for raising this issue.

marathon, because I don't know how to distinguish coaches with a sufficient level of teaching skill to teach me how to train to run that quickly (independently of whether I have the physical capacities to do run that quickly).³¹

The overall lesson of this section is that to tell what the epistemic conditions on intention are, we need to know quite a bit about the structure of intentions. I suggested that practicing ought to involve merely intending *to try* to succeed, meaning that one can intend to practice, without know how to succeed, as long as one knows how to try. I have claimed that intentions to work out how to do something involve forming fine-grained intentions to fill in one's partial plan, and offered a tweaked norm (KNI-PP) which makes the epistemic requirements on intention relative to the open issues in the partial plan. I have claimed that intentions to pursue life-plans plans are policies, and suggested that policies require knowing how to follow a bundle of simple conditional plans rather than how to resolve an extremely complex practical issue.

3 Alternative Norms on Intention

In the debates about the norm of belief, assertion, and practical reasoning — which I will call for ease *the propositional case* — the knowledge norm is not the only possible norm on intention. In the propositional case, the standard alternative conditions are: truth (Weiner 2005), safe success (Pelling 2013), belief (Bach and Harnish 1979; Bach 2008), justification, (Douven 2006; Lackey 2008; Kvanvig 2011), or various higher-order conditions (Williamson

³¹ Perhaps I know *how to learn* how to learn how to run a 2.30 marathon — i.e. I know *how to learn* how to distinguish good and bad running coaches — which would mean that I could legitimately intend to learn how to learn how to run a 2.30 marathon. The possibility of iterated learning means that it is possible to intend to V, despite not knowing how to learn to V, provided that one knows how to learn how to learn to V (where V might itself be learning how to do something). Although the possibility of iterated learning means that we need to extend the range of activities which are in principle possible to intend appropriately, the practical costs of carrying out an iterated intention to learn will be fairly high. There might also be activities which are impossible to learn how to do either for particular agents or in general. I cannot learn how to train a dragon (or learn how to learn) because there aren't any dragons.

2000, pp.260–3). In this section I develop analogies to each of these conditions, and show that the alternatives to a knowledge-how norm on intention face problems.³²

3.1. Success

The analogy to a *truth* norm in the case of intention would be a success norm of intention (SNI):

SNI: One must: Intend to V, only if one Vs

We need to restrict the variable to intentional actions, otherwise the norm would positively evaluate success down to deviant causal chains. Even with this restriction, SNI makes some rather strange predictions. If I form the intention to make a cup of tea, but change my mind and have a coffee, then SNI claims that my initial intention is inappropriate. Similarly, if I start to make a cup of tea, but get prevented by a sudden intruder, SNI claims my intention was inappropriate.³³ SNI also does poorly in evaluating the effects of luck. If I form the intention to win a fair lottery, and happen to actually win, then SNI claims my initial intention is appropriate, which seems like the wrong result. The underlying problem with SNI is that it evaluates intentions retrospectively with regards to success, whereas we want our evaluation of the appropriateness of intention to function *prospectively*, so that we can know whether an intention was appropriate before we know how things turn out.³⁴

3.2. Safety

³² As in the case of knowledge-that, some of these conditions are entailed by others, meaning that someone who endorses a particular norm also endorses all of the logically weaker norms (so the supporter of a knowledge norm is also committed to a truth norm). When I say that someone supports an X norm of intention, I mean that they claim that X is the *strongest* normative condition on intention.

³³ One way to avoid these problems would be to switch to a no-failures norm, where changing one's mind, and outside interference do not count as failures.

³⁴ This is not to say that success is irrelevant to the normative evaluation of intentions. Plausibly success is the constitutive *aim* of intention, meaning that only a successful intention will meet its constitutive aim.

The analogy to a *safety* norm on assertion (Pelling 2013) would be a safe success norm of intention (SSNI):

SSNI: One must: intend to V, only if one could not easily fail to V

SSNI does much better than SNI on cases of lucky success: SSNI predicts that a lucky lottery win involves an inappropriate intention, because the success will not be safe. It also gets the right result about intentions to lose the lottery: although these intentions are overwhelmingly likely to be successful the success will not be safe, because there is a close world in which the ticket wins.

However, SSNI is an implausible standard on intentions. There are many ordinary intentions which are unsafe (Hawley 2003, pp.23–24). Kayetan is a skilled baker, and knows how to bake a perfect loaf of bread, but that does not mean that he always produces a perfect loaf — there are just too many variables to get it right every time. This means that even when Kayetan bakes a perfect loaf, there is a close world in which something goes wrong, and his intention fails.³⁵ Nonetheless, his intention seems appropriate. Although in this case the number of failure worlds is fairly small, we might think that we can appropriately intend when there are many close failures. Consider cases of *difficult* action (Marušić 2012; 2015): quitting smoking, staying faithful to a partner for a lifetime, or running a first marathon. Plausibly these are acts which we can at least sometimes appropriately intend to perform, but involve great many close worlds in which we fail because these tasks are extremely challenging.³⁶

3.3. Belief

³⁵ One way to avoid this problem is to tweak the safety condition to allow some error possibilities in close worlds (Pritchard 2005). However, allowing *any* errors in close worlds means that SSNI loses its explanation of the inappropriateness of intending to lose the lottery.

³⁶ Since we can know how to perform difficult actions, although our success in them will be unsafe, these cases provide counterexamples to the claim that knowing how to V entails safe success in V-ing.

The analogous norm to the belief norm is a norm that one believes that one will succeed (BNI):

BNI: One must: Intend to V, only if one believes that one will succeed in V-ing

The supporter of BNI can appeal to many of the conversational arguments which support KNI; for example, saying ‘do you think that you will succeed in making a soufflé?’ can function as a challenge to someone who has just expressed an intention to make a soufflé.

An initial problem for BNI comes from cases in which an agent intends to do something without believing that she will. These cases are familiar from the debate about Cognitivism about Intention (Bratman 1987: 38-9), (Holton 2008: 28-9). Michael might intend to take a book back to the library, but in light of his general absent-mindedness suspend on the question of whether he will take the book back, forming a back-up plan to renew the book online if he cycles past the library. There seems nothing inappropriate about his intention to take his book to the library, although it is not accompanied by the belief that he will succeed.³⁷

Another issue concerns why we should think that mere belief in success is an interesting condition for determining the appropriateness of intentions. BNI makes no restrictions on the epistemic status of the belief in success, meaning that it predicts that unjustified beliefs based on wishful thinking or guesses can render intentions appropriate. I do not appropriately intend to climb a difficult bouldering problem just because I wishfully think that I will climb it.

3.4. Justification

³⁷ To explain these cases, Holton floats the suggestion of a *partial belief* norm on intention (Holton 2008, pp.56–58) where the notion of partial belief that p is a doxastic state which takes both p and not-p as live possibilities. This yields the following norm:

PBNI: One must: intend to V, only if one partially believes that one will succeed at V-ing

We might think that the condition for appropriate intention is having justification for believing that will succeed (I'll run with a doxastic justification norm, but one could also work with propositional justification, see (Lackey 2008)). This gives us the analogue to a justification norm for the case of intention (JBNI):

JBNI: One must: intend to V, only if one has a justified belief that one will succeed in V-ing

JNBI seems attractive – we might think that there is something seriously amiss with an intention to do something which is not accompanied by a justified belief that one will succeed (Marušić 2015, C2). However, the question of how we gain epistemic justification for believing that we will succeed in our intentions is a hugely controversial one, intersecting with the debate about our knowledge of our own actions.³⁸ This means that the predictions of JBNI will depend on the account of the justification for believing that one's intentions will succeed.³⁹ The available views of this justification vary drastically in their predictions. On the one hand, there are sceptics about practical knowledge, who claim that belief in success is only justified when properly based on prior empirical evidence.⁴⁰ If scepticism turns out to be correct, then JBNI is a pretty restrictive norm, claiming that intending to perform difficult action is inappropriate, because one will not have sufficient prior empirical evidence to believe in success. On the other hand, there are permissivists about practical knowledge, who claim that merely forming an intention is sufficient to grant justification to believe that one will succeed, so long as one knows that this belief will be true and justified once formed.⁴¹ If permissivism is correct, then a majority of intentions will be accompanied by justified belief appropriate according to JBNI.

Which view of the justification for belief in success we take also determines whether JBNI is a genuine alternative to KNI. Setiya suggests something rather close to KNI, on the basis of the thought that knowledge-how grants an epistemic entitlement to the beliefs which are

³⁸ See (Anscombe 1957; Velleman 1989; Moran 2004; Ford et al. 2011).

³⁹ My discussion here closely follows (Setiya 2016: 12-13)

⁴⁰ (Grice 1972; Langton 2004; Paul 2009a)

⁴¹ (Harman 1976, n. 8; Velleman 1989:56–64)

tied up with intentional action, including the belief that one's intention will be successful (Setiya 2008, pp.206–8; 2012, pp.300–304). On Setiya's view, having a justified belief that one will V requires knowing how to V, meaning that if Setiya's view is right, then JBNI entails KNI and is not an alternative to it.

These considerations do not constitute a direct criticism of JBNI, but they do show that the supporter of JBNI needs to make commitments in a contentious debate to fill their account out.

3.5. Ability

If knowledge-how and ability come apart, one might think that it is ability which is the condition on appropriate intention, giving us an ability norm on intention (ANI):⁴²

ANI: One must: intend to V, only if one is able to V.

The supporter of ANI can also appeal to conversational phenomena in support of their norm: 'can you V?' is a reasonable challenge to the expression of intention.

One problem concerns how to understand the notion of ability in ANI. In ordinary language 'can', 'is able to', and 'could' are extremely context-sensitive (Kratzer 1977; Lewis 1996). This means that the states picked out by ordinary language ascriptions will not provide a plausible general standard on intention, unless the appropriateness of intention tracks the contextual features which determine the meaning of phrases like 'is able to', which seems unlikely.

The supporter of ANI therefore needs to offer an independent account of the kind of ability they are interested in. They have a number of options here, ranging from reliable ability

⁴² This norm has not been defended in the propositional case, but it behaves something like an objective probability norm.

to mere physical capacity. All of these options face problems explaining lottery intentions. In order to explain the inappropriateness of intending to win the lottery, the supporter of ANI will need to plump for something considerably stronger than mere physical capacity, because plausibly we do have the physical capacity to win the lottery. However, even a reliable ability condition will have trouble explaining the inappropriateness of intending to *lose* the lottery. With a fair lottery, anyone who can buy a ticket has a reliable ability to lose it, but it remains inappropriate to intend to lose.

3.6. Higher-order Conditions

In section 1 I argued that the possession of knowledge how is significant for the normative status of intention. One way to go along with this idea while resisting KNI is to claim that it is our epistemic status regarding our knowledge-how which is the norm on intending. One might endorse a higher-order norm, such as a belief that one knows how norm (BKNI),⁴³ or a knowledge that one knows how norm (KKNI):

KKNI: One must: intend to V, only if one knows that one knows how to V.

Our epistemic standing with respect to our knowledge-how does seem significant to the evaluation of intentions. Someone who does know how to do something but has strong but misleading evidence that they do not seems poorly placed to intend, and someone who does not know to do something, but has misleading evidence that they do seems well placed to intend. These kinds of worries have also arisen in the propositional case, where they support the move from a first-order knowledge norm to a second-order norm (Williamson 2000, pp.258–263).

In the propositional case, there are a family of moves available to the supporter of a first order norm which allow them to explain the normative significance of the higher order

⁴³ This norm is suggested by Paul, see (Paul 2009, 555). BKNI shares with BNI the problem is that it does not distinguish whether the belief is well-supported or not.

conditions, without moving to a higher-order norm. These views endorse *Separabilism* (Boyd 2015), the view that any norm involves two separate dimensions of evaluation – one concerning whether the agent fulfilled or violated the norm, and another concerning whether the agent was epistemically well placed with respect to whether they fulfilled the norm. There are a number of views about the normative significance of one’s epistemic position with respect to having fulfilled an epistemic norm: one might appeal to the idea of excusable norm violation (Williamson 2000; Hawthorne & Stanley 2008; Littlejohn 2009), the distinction between agent and state or activity evaluation (Lasonen-Aarnio 2014; Williamson forthcoming), or the distinction between primary and secondary propriety (DeRose 2002). Endorsing any of these Separabilist views allows the supporter of KNI to claim that in cases of misleading higher-order evidence, these two dimensions of evaluation come apart. One might think that in a case where an agent intended to do something innocently thinking that they did know how to do it, they violated the knowledge-how norm, but did so excusably, with secondary propriety, or whilst exercising a good cognitive habit.

With Separabilism on the table the supporter of KNI can explain the importance of second-order evidence without endorsing a second-order norm. Given that KNI and KKNi on par with respect to the relevance of higher-order evidence, I think that we ought to prefer the simpler norm – KNI – on the grounds that it is more likely that this is the norm governing our ordinary interactions of intentions. It is also worth pointing out that endorsing KKNi doesn’t release us from the need to appeal to the distinction between norm violation and excusable norm violation: just as one can have misleading evidence that one knows-how, one can also have misleading evidence that one knows that one knows how.⁴⁴

Conclusion

I have explored the normative role of knowledge-how in the mental economy, arguing that knowledge-how is the norm of intention. I have developed a strong cumulative case for this

⁴⁴ Another worry is that higher-order knowledge of competence is rare (Kruger & Dunning 1999).

norm based on extensions of arguments for other knowledge-norms. Although the simple version of the norm (KNI) faces some problems, I have shown that situating this norm within the framework of partial plans leads to a more plausible norm (KNI-PP) which is more sensitive to the complex structure of intentions. I have also argued that the alternatives to a knowledge-how norm are unattractive: either facing serious problems, or requiring philosophical development to count as a genuine alternative to the knowledge-norm.

This discussion has several interesting upshots:

First, the idea that knowledge-how is the norm of intention illuminates the relation between knowledge-how and intentional action. Whereas some writers have stressed the role of knowledge-how in guiding intentional action (Kumar 2011), (Cath 2015), and others have pushed the idea that knowledge-how is a necessary condition for intentional action (see footnote 1), I have suggested that the relation between knowledge-how and intentional action is a normative one, and that in order to understand the functional role of knowledge-how we need to pay attention to its role in practical reasoning.

Secondly, the knowledge-how norm of intention has potential for illuminating the relation between knowledge-that and knowledge-how. Just as according to the knowledge norm of practical reasoning, we must know the premises of our practical reasoning, according to the knowledge-how norm of intention, we must know *how* to enact the conclusions of practical reasoning. The package of both norms both gives unifying explanation of the relation between knowledge and practical reasoning,⁴⁵ and provides a helpful corrective to literature which has stressed the differences between knowledge-how and knowledge-that. If knowledge-how and knowledge-that both play roles in norms governing practical reasoning, this gives us a reason for thinking of both states as species of knowledge, despite the apparent differences in their epistemic properties.

⁴⁵ This idea mirrors Buckwalter and Turri's picture of the relation between the knowledge-how norm of showing and the knowledge-that norm of assertion (Buckwalter and Turri 2014).

Thirdly, the idea that knowledge-how has a normative role to play in practical reasoning has some interesting decision-theoretic applications. One way to understand the normative role of knowledge in practical reasoning in a decision-theoretic framework is by saying that knowledge constrains what states and outcomes we can write in our decision table, and which we can leave off (see Weatherson 2012). The knowledge-how norm of intention raises the possibility that knowledge-how also has a role to play in constructing our decision tables. The natural analogy would be to suggest that just as propositional knowledge constrains the states and outcomes that we write a decision table, knowledge-how constrains the *options* which we write in a table.⁴⁶ Although this idea is distinct from the knowledge-how norm of intention, and is not obviously entailed by that norm, it is an intriguing option for developing the role of knowledge-how in practical reasoning.

Fourthly, the claim that knowledge-how is the norm of intention can feed into our first-order discussions of knowledge-how. I have not discussed the question of whether knowledge-how is a species of propositional knowledge, since I take it that the question of the propositionality of knowledge-how is orthogonal to the question of what normative role it plays. However, if knowledge-how is the norm of intention, then it is a plausible constraint on an account of knowledge-how that it pick out a state which is a plausible candidate for the norm on intention.

Finally, the cumulative case for the knowledge-how is the norm of intention provides an indirect argument for Setiya's claim that knowledge-how has a role to play in the dynamic epistemology of intention (Setiya 2008, 2009). Although I have remained neutral about the normative grounding of the knowledge-how nor (and on the question of whether it is a constitutive norm of intending), one way to explain why knowledge-how is the norm of

⁴⁶ For more on the norms of treating something as an option, see (Hedden 2012; 2015). Thanks to Nilanjan Das and Abby Jacques for raising this idea.

intention is to appeal to the idea that knowledge-how is a necessary condition on intending to V with epistemic propriety.⁴⁷

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