

# THE ANALYSIS OF KNOWLEDGE-HOW

## *An Anti-Intellectualist Manifesto*

ABSTRACT: *Intellectualism*—*viz.*, the thesis that knowledge-how is a species of knowledge-that—bears straightforward relevance in epistemology and has received rigorous development in recent years (e.g., Stanley and Williamson 2001; Brogaard 2008, 2009, 2011; Stanley 2011; Pavese 2015, 2017). By contrast, *anti-intellectualism*—construed as a positive theory of knowledge-how—is hardly in a more developed state today than Ryle left it in the middle of the 20<sup>th</sup> century. We hope to change this trend, and to prepare the ground for a positive anti-intellectualist epistemology of knowledge-how, one that goes beyond the inchoate suggestion that knowledge-how is, or involves, abilities or dispositions. Our primary goal is to propose a tripartite analysis of knowledge-how that is broadly analogous to the JTB analysis of knowledge-that in that it offers a parallel set of conditions related to agents’ powers and capacities (*mastery*, *success* and *ability*). This objective is principally programmatic; we do not try here to solve but to map in a novel way a range of new epistemological problems such an analysis would raise, and to show thereby that anti-intellectualist epistemology could be as fruitful, engaging, and interestingly controversial as the epistemology of knowledge-that, even if it preserves the core Rylean idea that knowledge-how is non-representational, non-truth-directed and non-propositional.

**Keywords:** knowledge-how; knowledge-that; anti-intellectualism; the analysis of knowledge

## 1. Introduction

Around the middle of the 20<sup>th</sup> century, Gilbert Ryle influentially argued that knowledge-how is not a representational, truth-directed and propositional phenomenon—an anti-intellectualist view that interpreters have since glossed as the claim that knowledge-how is something akin to ‘ability knowledge’. As it’s happened—and perhaps precisely due to the prevalence of this view—the topic of knowledge-how has been absent altogether in influential standard epistemology textbooks, anthologies and readers from Ryle to the present day. The fact that know-how, on a Rylean model, seems to lack *intellectual properties* relegated the view to the outskirts of epistemology<sup>1</sup>.

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<sup>1</sup> The reader may find such a claim exaggerated. But here are just a few examples: Sosa, Kim, Fantl and McGrath’s (2008) collection of texts in their *Epistemology: an Anthology* has 60 chapters. None is devoted to knowledge-how, which is not even in the index. The same is the case with Greco & Sosa’s (1999) *Blackwell Guide to Epistemology* (17 chapters), or with Huemer’s (2002) selection of 51 classic and recent papers in his *Routledge Epistemology Contemporary Readings* and Bernecker and Pritchard’s (2011) *Routledge Companion to Epistemology* (78 chapters). The situation is similar in the case of introductory texts. For instance, neither Dancy (1985), Audi (2011) nor Pritchard (2016) mention knowledge-how. In the cases where knowledge-

But is such an exclusion fitting? If we take Ryle's assessment of knowledge-how at face value, then it is confessedly difficult to envisage how knowledge-how should ever be subject to typical forms of *epistemic* evaluation. It will not be answerable to norms governing rational and responsible belief. Nor will it be straightforwardly evaluable along, as Alvin Goldman (1999) puts it, the kind of 'truth-linked dimensions' that are often taken to distinguish *epistemological* from moral, aesthetic, political and other kinds of assessments<sup>2</sup>. Some may think that the only way to recover knowledge-how as a proper topic in epistemology is to simply challenge Ryle's point by defending intellectualism—and thus to link know-how with *truth* in a way that is epistemologically interesting. All the worse, then, for those who take Ryle to have been on the right track.

Prior to about the turn of the 21<sup>st</sup> century, there had been a few unstructured strands of challenge to Ryle's anti-intellectualism<sup>3</sup>. However, no systematic expression of a positive intellectualist alternative appeared until Stanley and Williamson (2001)'s landmark paper 'Knowing How'. That paper offered a programmatic agenda for intellectualists to pursue an account of knowledge-how in epistemologically friendly propositional terms. Soon after, many other intellectualist approaches to knowledge-how have been proposed (for instance, Bengson and Moffet 2011; Brogaard 2008; 2009; 2011; Snowdon 2004; Glick 2012; Stanley 2011; Pavese 2015; 2017; Stanley and Williamson 2017).

Although anti-intellectualists of various stripes (in different degrees of sympathy with Ryle) have put up a fight, mostly in response to Stanley and Williamson-style intellectualism, the current trend amongst anti-intellectualists has featured a greater enthusiasm in attacking their adversaries' views than in developing their own. In the rare cases where anti-intellectualists have submitted positive theses about the nature of knowledge how, these theses have (with the exception of Carr 1981 and Williams 2008, whose views we will return to) been at best vague—viz., that knowledge-how must be something like, or involve, or be grounded in, 'ability', or at least some relevant counterfactual success on the part of the agent (e.g., Hawley 2003). And such proposals have moreover made no case for inclusion in the theory of knowledge—epistemology—as opposed to merely the theory of action.

In sum, contemporary anti-intellectualism—as a positive alternative to intellectualism—is hardly in a more developed state than Ryle left it in the middle of the 20th century. Contemporary varieties of intellectualism, by contrast, offer clearly formulated accounts of knowledge-how with straightforward relevance in epistemology. We hope to change this trend, and to prepare the ground for a positive anti-intellectualist epistemology of knowledge-how, one that goes beyond the inchoate suggestion that knowledge-how is, or involves, ability or dispositions. In contrast with the post-Stanley and Williamson (2001) trend of *merely negative* anti-intellectualism (our own included), our aim in this paper is straightforwardly positive. That is: instead of challenging intellectualism, our objective is to advance a positive alternative proposal: a tripartite analysis of knowledge-how that is broadly analogous to the JTB analysis of knowledge-that, but where, in short, (i) *ability* stands for belief, (ii) *success* stands for truth and (iii) *mastery* stands for justification. The structure of the analysis would thus be analogous, in ways to be specified, to the classic tripartite analysis,

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how is mentioned in introductory texts, the context is simply to discard the topic as not falling within the proper scope of the textbook (e.g., Pritchard 2014, 4; Martin (2010, 3-4).

<sup>2</sup> See, for example, Pritchard (2017), David (2001) and Alston (2005).

<sup>3</sup> See, in particular, Ginet (1975) and Carr (1979).

and this analogy—as will be shown—will ensure that we are putting forward a genuinely epistemological proposal.

This objective is principally programmatic; we do not try here to solve but to map a range of new epistemological problems such an analysis would raise, and to show thereby that anti-intellectualist epistemology could be as fruitful, engaging, and interestingly controversial as the epistemology of knowledge-that, even if it preserves the Rylean idea that knowledge-how is non-representational, non-truth-directed and non-propositional.

## 2. The Structure of the Analysis

### 2.1. THE CLASSICAL TRIPARTITE ANALYSIS

Epistemologists traditionally take as a starting point when theorising about the nature of knowledge, the classical tripartite analysis:

JTB TRIPARTITE ANALYSIS OF KNOWLEDGE-THAT  
For all S, S knows some proposition, p, if and only if  
(1) S believes p,  
(2) S is justified in believing p, and  
(3) p is true.

We will here assume, for the sake of the argument, that this is a more or less (with some well-known caveats) an acceptable template account of propositional knowledge<sup>4</sup>. Of course, particular substantive JTB-style proposals have been notoriously fraught, and a recent trend, championed by Timothy Williamson (2000), notably regards JTB approaches as categorically beyond repair<sup>5</sup>—a point that remains controversial though, particularly in light of recent efforts since the publication of *Knowledge and its Limits* (2000) on behalf of various strands of virtue epistemology<sup>6</sup>. But setting aside the material adequacy of extant JTB accounts, there are good meta-theoretical reasons (which we will explore in some detail) for the anti-intellectualist to take as a starting point *the template structure* of the JTB analysis as a way to move past the inchoate claim that know-how is ‘ability knowledge’.

### 2.2 MATERIAL, FORMAL AND FINAL CONDITIONS: AN ARISTOTELIAN ANALOGY

Our first step will be to identify and sharpen the key questions to which ‘justification’, ‘truth’ and ‘belief’ may be understood as possible answers; this is because, as will be shown, each of

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<sup>4</sup> Of course, since Gettier (1963), the prospects of putting forward a materially adequate JTB analysis of knowledge have been appreciated as (at best) very difficult (see, for example, Shope (1983)). For an overview of the traditional project of analysing knowledge in terms of constitutive components such as justification, truth and belief, see Ichikawa and Steup (2014).

<sup>5</sup> One principal reason for doing so is Williamson’s ‘track record’ argument (see Ch. 1 of his 2000). Though the soundness of this line of reason has been disputed. For some recent critical attention to this point, see AuthorA & Co-Authors (eds.), (2017).

<sup>6</sup> For some recent proposed solutions to the Gettier Problem on behalf of virtue epistemologists, see Turri 2011; D. Pritchard 2012; Sosa 2009; Greco 2010; AuthorA 2014; Kelp 2012; AuthorB 2015; Zagzebski 1996).

the three tripartite conditions may be appreciated as distinct solutions to different challenges in the theory of knowledge<sup>7</sup>. This will be the objective of the remainder of §2.2. We will then explore in depth in §§3-5 how an anti-intellectualist epistemology of knowledge-how may respond to those same challenges in a different way.

An epistemological analogy with the Aristotelian model of causes will be a fruitful starting point. In *Physics* II 3 and *Metaphysics* V 2, Aristotle outlined four principal kinds of causes<sup>8</sup>: (i) efficient; (ii) material; (iii) formal; and (iv) final. Each, he thought, corresponded with a different *why* question. Take, for example, a bronze statue. We might seek an explanation as to whom or what produced the statue—its *efficient* cause—which is the bronze caster. But this explanation does not tell us everything about the statue. We might wonder what it is out of which the statue was made—its *material* cause—in this case, bronze. Likewise, we might inquire into the particulars of the shape in which the bronze was crafted, its *formal* cause. And lastly, we might want to know about its aim—that for the sake of which the statue was made, its *final* cause.

Our analogy is that, in the case of propositional knowledge, the JTB analysis provides answers to three of the four Aristotelian questions about the nature of knowledge: *material*, *formal* and *final*—setting for now the matter of the *efficient* cause aside<sup>9</sup>. Let us now look at this analogy more closely.

### 2.2.1 *The material condition*

The belief condition of the JTB analysis is, repositioned in Aristotle's terms, a *material condition*: a belief is what a thinker has, or the kind of state she is in, when it is true of her that she knows a proposition to be true. It is—at least, against a background supposition of some form of meta-epistemological realism<sup>10</sup>—a *metaphysical basis*; it is that out of which knowledge is made. Consider that, absent such a basis, knowledge-that attributions would be as they are understood by anti-realist error-theorists and fictionalists: there would not be on such construals something in the world that could serve to make it true that the agent knows that *p* when she does—namely, her state of belief that *p* is the case<sup>11</sup>.

### 2.2.2 *The formal condition*

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<sup>7</sup> For some helpful discussion on this point, see Butchvarov (1970, 44).

<sup>8</sup> For an overview, see Falcon (2015).

<sup>9</sup> We believe that the efficient cause may also be an interesting question, and will come back to this in the final section. If we think of knowledge as a production, the *efficient* cause of any instance of knowledge is arguably the knower herself, viz., the producer of the relevant knowledge, which motivates an analysis of knowledge in the vein of virtue epistemology (*Phys.* 195 a 6-8. Cf. *Metaph.* 1013 b 6-9).

<sup>10</sup> Following Miller (2012), we may suppose that meta-epistemological realism, like meta-ethical realism, involves a commitment to the existence of epistemic facts. And this involves a commitment to thinking that at least some paradigmatically epistemic properties are actually instantiated. An additional commitment of realism is that the instantiation of such properties is non-trivially mind-independent. See Author A (2016 Ch. 1). We are, in this paper, going to remain agnostic about the truth of meta-epistemological realism, since each of us have different views on the matter. It is at any rate a common background against which epistemological theorising takes place and one with reference to which we can naturally think about belief, within the JTB account, as a material condition along Aristotelian lines.

<sup>11</sup> For some recent challenges to the orthodox belief requirement on propositional knowledge, see Myers-Schulz and Schwitzgebel (2013) and Farkas (2015).

With respect to the ‘justification’ condition within the JTB account, it is, in Aristotle’s terms, a *formal condition*, in the sense that it indicates the *way* the state (belief) is held by the person, in light of some normative standard. For instance, as one traditional line of thinking goes, justification is ‘parasitical on certain logical relations among propositions’.<sup>12</sup> When understood specifically along internalist lines, justification would be a function of the way the belief is related to other states of the same kind (e.g., in relations of logical dependence); if certain versions of foundationalism are correct, at least some beliefs would not be justified by their logical relations to other beliefs but, perhaps, directly by their relation to other states that are not propositional, e.g., experiences.<sup>13</sup> But in any case, the status of being justified would emerge from internal relations with other aspects of the individual’s cognitive system. Or perhaps, along externalist lines, it is the way that beliefs are related to certain facts (i.e., facts about reliability, aetiology, etc.) that determine their status as justified. One way or the other, the property of being justified is *relational* in the sense that it indicates the way the state in question must be held by its possessor in relation to other states and properties. Being justified (the formal condition) is, in sum, a status a given belief, *qua* material condition, has or lacks, earns or loses, in virtue of how it is related to other elements, as opposed to a feature that affects the individuation of the belief itself.

### 2.2.3 *The final condition*

And finally, the ‘truth’ condition of the traditional JTB analysis is, to continue the Aristotelian analogy, a *final condition*; it indicates the goal or aim of the state, that to which the state aspires to and with reference to which the belief is said to be correct or incorrect. A certain movement of the arms and hands with a ball is a basketball shot—rather than a different kind of shot (say, a volleyball serve)—when its correctness is a matter of its going through the hoop. Belief is plausibly analogously related to truth—it is a kind of, as Sosa puts it, ‘epistemic performance’ (Sosa 2009; 2010; 2015, *passim*) with an aim that specifies its success conditions, even if we don’t explicitly reflect on this aim when believing. That truth is the aim of belief, its *goal*, distinguishes belief *as* a belief, rather than something else, such as a wish or a hope. At least, this is one gloss on the idea that belief aims at truth, one embraced by normativists, and one that we find plausible<sup>14</sup>. The Aristotelian analogy however doesn’t depend on normativism; the point that—in the JTB analysis at any rate—truth is that toward which a belief aims, its goal, may be defended even by those (such as Sosa) who lack any commitment to the stronger constitutive norm claim—*viz.*, that belief is distinguished from other attitudes by its admitting of this particular standard of correctness<sup>15</sup>.

To sum up: whatever else might be said for or against each component of the JTB analysis as a possible response to each of these requirements, our claim is that the structure of these requirements is fruitful and instructive with respect to understanding different theoretically important *aspects* of its analysans, namely:

- (i) its *material condition* (what the analysans is, its metaphysical nature or basis),

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<sup>12</sup> Sosa (1980, 8). Sosa is here describing what he calls the ‘Intellectualist Model of Justification’, a model that he takes to have been embraced by some kinds of foundationalism as well as their coherentist critics.

<sup>13</sup> For a notable expression of this point, see Sosa (1980, 20–23).

<sup>14</sup> See, for example, Shah & Velleman 2005; Shah 2003; Wedgwood 2002.

<sup>15</sup> Likewise, one might (within the framework of a JTB) account defend truth as the goal of belief along the lines that Marian David does (2014, 363-76). Cf., Kvanvig (2014).

- (ii) its *formal condition* (the way it ought to be held by the agent, in relation to her other states and/or experiences), and
- (iii) its *final condition* (what the state essentially or constitutively aims to, what its defining goal is)<sup>16</sup>.

Against this background, we now want to investigate analogous questions in the case of *knowledge-how*.

### 3. Our analysis

We have identified three epistemological questions any analysis of knowledge should attempt to answer: *what* kind of state is knowledge, *how* must that state be held by the agent and *to what end* does the agent have that state. Each corresponds with a request for a certain *condition* on knowledge—material, formal or final—that our account of knowledge-how will have to meet. Our challenge, then, is to answer the following: how should each of these requirements be met in the case of knowledge-how, for the anti-intellectualist who resists entirely the thesis that knowledge-how is a matter of possessing justified true beliefs? What kind of ‘conditions’ should we fill in as the material, formal and final conditions?

The structure of our proposed anti-intellectualist parallel to the JTB account is what we will call the *mastery/success/ability* (MSA) analysis, and it takes the following shape:

MASTERY-SUCCESS-ABILITY (MSA) ANALYSIS OF KNOWLEDGE-HOW:

For all S,  $\varphi$ , S knows how to  $\varphi$  if, and only if,

- (1) S has the ability to  $\varphi$ ,
- (2) S has mastery of  $\varphi$ -ing, and
- (3) S would be successful in  $\varphi$ -ing.

In the following three sections, we will develop our MSA tripartite account with respect to the material-condition, the formal-condition and the final-condition desiderata, respectively. In §8 we will contrast the whole proposal with some precedents and show why ours is better positioned than these precedents to foster future research in the epistemology of knowledge-how. We will conclude in §9 with some suggestions for new directions of research.

## 4. The Material Condition: Ability

### 4.1 ARTICULATING THE CONDITION

The *material condition* (as outlined in §3) in an analysis of a knowledge state involves some informative description of what that knowledge-state *is*. In contrast to the other conditions, which indicate either the way in which the state is held by the agent (formal condition) or the constitutive reason why the agent has it (final condition) the material condition is substantial, in the sense that it indicates what the knowledge-that state is *made of*, its metaphysical basis.

Our candidate condition in the case of knowledge-how is *ability*: whenever an agent knows how to  $\varphi$ , she must have an ability—viz., a capacity or a power—to  $\varphi$  by herself. We will

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<sup>16</sup> As was suggested previously, perhaps such an analysis should be complemented by a fourth requirement, related to its efficient cause (its aetiology in the virtues and faculties of the agent).

now qualify our view by embracing the following three claims: (i) *dispositionalism*, (ii) *non-representationalism* and (iii) *intentionalism*.

*Dispositionalism* is the view that, insofar as the metaphysical basis of knowledge-how states are abilities, and abilities are a particular kind of dispositional state, knowledge-how is itself a dispositional state. Interestingly, and perhaps despite initial impressions, this idea is not different in kind from what we find in traditional epistemology. It is almost entirely uncontroversial that the material condition of knowledge-that, belief, is also dispositional in character.<sup>17</sup> This is so even though belief admits of occurrent modes where one is engaging propositional content; likewise, abilities may be exercised, but they are in the default case non-occurrently exercised dispositional properties of agents. At any rate, the dispositional character of ability should not be distinctively problematic *qua* candidate for the material condition on knowledge-how any more than the dispositional character of belief is problematic when in this role in the theory of knowledge-that.

*Non-representationalism*, on the contrary, marks a difference with the parity condition in the analysis of knowledge-that because, in contrast to belief, ability is not a representational state. There is no intentionality, in the sense of *aboutness*, as there is with belief. Abilities are not contentful because, properly speaking, they are not *about* anything in particular. They are individuated with respect to what the agent is *able* to do and not by states of affairs the agent represents. It may be adduced that, in order to be able to perform some deed, the agent must somehow be capable of representing its outcome. However, it is important to realise that this idea results from a possible theoretical account of abilities, i.e., from an attempt to explain how they function, but not from a description of what they *are*. Being representational, or being capable of representing, is not a property that defines abilities themselves but, in any case, a trait some authors suppose agents must have in order to have abilities.<sup>18</sup>

Thirdly, *intentionalism* says that abilities—at least, the sort apposite to knowledge-how—must be satisfactorily situated within the agent’s command<sup>19</sup>. An ability to do something is an ability to perform not any old way, but to perform *intentionally*<sup>20</sup>. Intentionalism takes abilities to be rooted in the nature of agents. Thus, not just any disposition—the fragility of glass, the stomach’s disposition to digest, etc.—instantiates know-how; only agents who are able to do, and to do intentionally, may know how to do things.

Beyond dispositionalism, non-representationalism and intentionalism, deeper questions linger. How may abilities themselves be identified? Under what conditions, exactly, must the agent be able to succeed intentionally by herself? Answering such questions is relevant to saying, in a suitably informative way, what a given ability *is*. Just as, in a similar way, a specification of a given belief’s truth conditions is relevant to specifying of a given belief,

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<sup>17</sup> This dominant view has been contested by so-called *presentism*, according to which there are no dispositional beliefs and we can only believe, and thereby know, things in the present. For a recent defence of epistemic presentism, see Palermos (*forthcoming*).

<sup>18</sup> Perhaps not all intelligent behaviour must be supported by representational processes. For an account of basic cognition deprived of representations, see Hutto and Myin (2012). We expect our epistemology of knowledge-how to be compatible with such a possibility.

<sup>19</sup> See Hyman (2015, Ch. 4) for a helpful discussion on the issue of intention and voluntariness in connection with action.

<sup>20</sup> We are considering here “intentional” in the sense of intentional action, not in the sense of intentionality as *aboutness*. See AuthorB (2017) for this distinction.

that it is *that* belief. But still, the conditions for an agent's having a given belief are not coextensive with the conditions for that given belief's being true. By the same token, we may expect different conditions, in the theory of knowledge-how, for (i) a subject's having the ability; and (ii) that ability being successfully exercised.

Over the past fifteen years, the claim that agents' know-how consists in some relevant kind of ability possession has been contested, and in particular on the basis of various kinds of *disabled agent cases*. Such cases involve agents who apparently have both

- (i) lost previously possessed abilities; but
- (ii) retained their knowledge-how.

Intellectualists have made use of cases with the above structure in the service of arguing that knowledge-how may be retained through the possession of beliefs stored in memory even when the kinds of powers or capacities the anti-intellectualist adverts to are lost. Notable examples of such cases include Carl Ginet's (1975) unfortunate pianist who lost her hands in a tragic car accident but still intuitively knows how to play the piano; Paul Snowdon (2004)'s chef who still intuitively knows how to cook his famous omelette despite having lost his right arm; and Stanley and Williamson (2001)'s ski instructor who still intuitively knows how to ski despite debilitating arthritis.

Dispositionalism, intentionalism and non-representationalism do not by themselves offer the resources to handle such cases. Thus, further explanation is needed. We think that the most effective way to respond to these kinds of cases by the anti-intellectualist, who takes ability possession to be necessary for knowledge-how, will involve putting three ideas together<sup>21</sup>.

Firstly, that abilities, just like all dispositional states more generally, are always related to some conditions of manifestation that may—and oftentimes, do—differ from the conditions the agent is in at the time of the attribution. Secondly, disabling conditions may have very different origins, and they may affect the agent in very different ways, even permanently. And thirdly, in connection with this point, it will be helpful to review Ernest Sosa's (e.g., 2015) 'triple S' analysis of competences (which will help us to tie the previous two points together):

Competences are a special case of dispositions, that in which the host is disposed to succeed when she tries, or that in which the host seats a relevant skill, and is in the proper shape and situation, such that she tries in close enough worlds, and in the close enough worlds where she tries, she reliably enough succeeds. But this must be so in the right way (Sosa 2015, 23).

Pianists with no piano available, chefs fresh out of ingredients, and skiers in the Caribbean islands are not in the proper *situation* to manifest their abilities, but those who are amputated or have arthritis cannot manifest them because they are not—in Sosa's parlance—in proper *shape*. Nevertheless, it may be argued that all of them preserve the relevant skill provided it's true that, *if they were in proper shape and properly situated*, they would be able to manifest that skill. As Sosa (2015) puts it:

Drop the situation and you still have an inner SS competence. Drop both shape and situation and you still have an innermost S competence: that is, the basic driving skill

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<sup>21</sup> For additional discussion related to these points, see AuthorA & AuthorB (2017).

retained even when asleep (in unfortunate shape) in bed (in an inappropriate situation) (Sosa 2015: 26).

The limits between skill, shape and situation are anything but clear, and philosophers working on situated cognition would have valuable input here. Perhaps the skill is extended to the limbs of the agent (embodiment)<sup>22</sup>, or perhaps some aspects of the situation are part of the agent's cognitive system (extended cognition)<sup>23</sup>, but, in any case, it's evident that attributions of abilities or competences are always made with a working idea of right circumstances of manifestation in mind, where SSS conditions are met.

Against this background, let's return now to our specific disabling cases offered by Ginet, Snowdon and Williamson & Stanley, respectively: it is *still true* about the subjects in these cases that, if they were in the right situation, that is, if they had their arms or limbs, or they were not affected by arthritis, they would then be able to play the piano, cook the omelette or ski the mountain. These counterfactual claims are true of each of these agents even in the disabling conditions described. Accordingly, not having a piano available, not having eggs in the fridge, or being in the middle of the summer is not *essentially* different from having had one's hands amputated, or being affected by arthritis, no matter how dramatic the latter situations may be.

We may now refine our position: we propose that dispositions, as—in Sosa's sense—the *innermost seat* of the agent's skills, are retained even when one is not in the right conditions to manifest them, which makes a dispositional state (*viz.*, ability) a good candidate for the material condition of knowledge-how. Note that such a condition is still met in Ginet's, Snowdon's and Williamson & Stanley's disabled agent cases. Moreover, we hold that the notion of ability, as a particular kind of disposition, satisfactorily fills this role in that it fulfils the requirement of *intentionalism* without implying *representationalism* (which is just a particular way of accounting for our capacity for intentional action).

#### 4.2. HAWLEY ON ABILITY AND COUNTERFACTUAL SUCCESS

Our account has much in common with Katherine Hawley's (2003) defence of counterfactual success as the essential feature of knowledge-how, although she is reluctant to express her own proposal in terms of abilities. We think her reasons for scepticism on this score can, after some careful consideration, be defused.

Hawley's argument against abilities draws from several connected ideas. Firstly, abilities are (or involve) dispositions<sup>24</sup> (*i.e.*, *dispositionalism*). Secondly, in some circumstances, dispositions can be 'finkish'—*viz.*, like an otherwise fragile vase that is caused to not be fragile just when being dropped (this is why straight counterfactual analyses of dispositions are typically thought to fail<sup>25</sup>). Thirdly, we needn't accept that knowledge-how is *ever* finkish. With these three ideas in play, Hawley offers the following case:

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<sup>22</sup> See Noë (2005) for similar claims.

<sup>23</sup> For the classic defence of this view, see Clark and Chalmers (1998). Cf., Carter and Czarnecki (2015) for a limited defence of extended abilities, as relevant to knowledge-how on an anti-intellectualist construal.

<sup>24</sup> A straightforward defence of this claim is advanced by Michael Fara (2008, 848).

<sup>25</sup> For the classic presentation of finkish dispositions, see (Maier 2010). The issues raised involving finks apply *mutatis mutandis* for mimics and masks. See Choi (2008) for discussion.

SYLVIA: Silvia is ordinarily able to get home from the city centre, a journey she has made hundreds of times. But, due to strange social and psychological features of the city centre's crowd which are currently present, if Silvia were actually to go to the city centre, she would have a panic attack and the panic attack would cause her to forget how to get home<sup>26</sup>.

The key question here is whether Silvia knows how to get home from the city centre. Hawley thinks her own favoured account—which appeals to a counterfactual success condition but *not* a disposition condition—is in a better position to answer the question without incurring unwanted theoretical costs. The reason is that a counterfactual success account is (unlike a dispositional account in terms of abilities) not at all pressured to diagnose Silvia as having ‘finkish’ knowledge-how, which would plausibly be the case were dispositions or abilities to be what is identified as the material condition of knowledge-how. As Hawley (2003) writes:

It is uncontentious that ordinary dispositions may be finkish and thus that straight counterfactual analyses of dispositions fail. But we need not accept that knowledge how may be finkish. Silvia's knowledge-how matches her counterfactual success. Silvia does not know how to get home from the city center under the circumstances of being prone to panic attacks. She does know how to get home from the city center under circumstances which are normal for most people, but she also satisfies the counterfactual success condition for this task: if she were to try under such circumstances, she would succeed in getting home (2003, 25).

Hawley then adds:

[...] replacing the straight counterfactual success condition with a dispositional success condition does not seem to offer any advantages, and it raises additional questions about the nature of disposition (2003, 25).

Of course, if knowledge-how could really be under some circumstances finkish, then it is no theoretical cost to be committed to this possibility. And furthermore, there would be no reason to think, on the basis of cases such as that of Silvia, that a straight counterfactual success account fares better than one that identifies an ability or disposition as the material condition of knowledge-how.

We want to respond to Hawley's line of argument by showing that it is very plausibly a virtue, not a vice, of our account that it allows for the possibility that knowledge-how, at least in certain kinds of cases, may be finkish; correlatively, we suggest that this is a feature that know-how would share with knowledge-that, given some relatively uncontroversial assumptions about the mechanisms of epistemic defeat<sup>27</sup>.

Here is an example of finked knowledge-that: suppose Moddy knows that he is modest (he has, suppose, reliable testimony from many trusted peers on this point, and no reason to think they are mistaken). But whenever Moddy thinks that he is modest, this generates for him, at least temporarily, a psychological (or, alternatively, a mental-state) defeater—viz., suppose Moddy believes (whether rightly or wrongly) that modest people do not believe they are modest—and this defeater suffices to temporarily defeat his previous knowledge that he

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<sup>26</sup> This is an adapted version of Hawley's case, as outlined in Hawley (2003, 25).

<sup>27</sup> For a detailed account of defeaters for knowledge-how, see AuthorA & AuthorB (2017).

is modest. The defeater can be neutralised however by Moddy's refraining from occurrently entertaining this thought<sup>28</sup>.

We believe that (in light of examples like the modesty case just described) any viable account of knowledge-that should not foreclose the possibility that knowledge-that might, at least in certain situations, be finkish. But if that's right, then the presumption should be in favour of supposing that it's a virtue of an account of knowledge-how that it be open to such an analogous possibility (i.e., as in the case of Sylvia) rather than to be, as Hawley's straight counterfactual account is, closed to such a possibility.

If we were to assume that it is a vice of an account of knowledge-how that it avails itself to dispositions which can themselves be finkish (as well as subject to mimics and masks<sup>29</sup>), then this objection would overgeneralise so as to apply also to beliefs in the epistemology of knowledge-that, beliefs which are also dispositional in character.

## 5. The Final Condition: Success

What stands in relation to ability as truth stands in relation to belief? The most obvious way to fill in the blank here is 'success'<sup>30</sup>. This point can be made with reference to (i) the constitutive aim of these *state types*; and relatedly with reference to (ii) the identity conditions for the relevant *state tokens*. In the former case, with respect to knowledge-that, we might say—as the normativists do—that what distinguishes beliefs from other kinds of propositional states is its constitutive aim; belief, as such, aims at truth, and that's what makes it, *qua* attitude, a belief rather than something else (e.g., a hope or a desire). As Velleman (2000) puts it:

The concept of belief just is the concept of an attitude for which there is such a thing as correctness or incorrectness, consisting in truth or falsity. For a propositional attitude to be a belief just is, in part, for it to be capable of going right or wrong by being true or false (Velleman, 2000, 16)

Likewise, we might say that the concept of ability just is the concept of a *success-aimed* dispositional state. It seems paradoxical to assert: "I have an ability but there is nothing I have an ability *to do successfully*." Just as (*à la* Velleman) for a propositional attitude to be a belief just is, in part, for it to be capable of going right or wrong by being true or false with a *mind-to-world* direction of fit, to be an ability is to be capable of going right or wrong by being successful or unsuccessful, with a *world-to-mind* direction of fit.

Moreover, the analogy that belief is to truth as ability is to success also gains support from considerations to do with the identity conditions for the relevant *state tokens*. The belief <The well is dry> is a different belief token from the belief <A tiger is in the brush> because the *truth* conditions of the two belief tokens are different. Analogously, the ability to ride a bike is different from the ability to rule a company because they aim at different kinds of outcomes

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<sup>28</sup> For a discussion of the difference between psychological and normative defeaters, see for example Sudduth (2008), Pollock (1986) Lackey (1999) and AuthorA ↔ AuthorB (2017).

<sup>29</sup> See Choi and Fara (2016) for an overview.

<sup>30</sup> See Sosa (2015, Ch. 1) and Williamson (2015) for some related analogies between belief, ability and action and their related success conditions.

that count as successful manifestations of each. Riding a bike is different from ruling a company.

Interestingly, for our purposes, Aristotle defines ‘final cause’ twice over (e.g., *Physics* II 3,8 and *Metaphysics* V 2), in terms of *aim* or end, and in terms of that *for the sake of which* something was done. The preceding considerations speak to the belief/ability parallel (*vis-à-vis* the final condition on knowledge-how) with truth/success, with respect to respective *aims*. And we may also develop this analogy in terms of that for the sake of which each is done: by connecting belief and truth in the context of seeking knowledge-that *for its own sake*, and ability and success in the context of seeking knowledge-how *for its own sake*.

First, a clarificatory point. We are sympathetic with those who claim that inquiry itself (and not merely the state of belief) aims at truth—viz., that the practice of believing should be pursued out of a love of truth<sup>31</sup>. Hilary Kornblith (1983, 34), for instance, captures this point in terms of epistemic responsibility: ‘An epistemically responsible agent desires to have true beliefs, and thus desires to have his beliefs produced by processes which lead to true beliefs; his actions are guided by these desires’. Likewise, James Montmarquet (1993) connects intellectual virtue possession with the desire for truth, claiming that such virtues are qualities a person who wants the truth would want to acquire. However, as Zagzebski (1996, §4.2.1) has suggested, the core thrust of these proposals can be captured in terms of desire for *knowledge*<sup>32</sup>. And indeed, the knowledge view has additional considerations to recommend it (not least because, as we’ll explain further, being aimed at truth may not be characteristic of all kinds of knowledge.)

This point has been captured helpfully in Sosa’s (2015, e.g., Ch. 3) recent work on the epistemology of judgment: in *judging* something to be so, we are (unless we are simply guessing) affirming in a way that is not merely aimed at truth, an aim we might hit when (for example) we affirm with no concern for risk, as we do when guessing the lower letters in an eye exam (2015, 74-5). Our typical judgments, unlike guesses, are not so riskily aimed, but aimed at acquiring the truth in a way that delimits risk. In this respect, our epistemic aim in affirming, *knowledge*, is more like the aim of a basketball player who takes a shot under conditions of good risk management than the aim of a basketball player who aims at the basket while disregarding risk altogether while nonetheless trying to get the ball in the hoop<sup>33</sup>.

Unless we already assume intellectualism, achieving the truth of our beliefs—viz., gaining the *truth* in the right way—would be just *one way*, of potentially multifarious ways, of achieving a given knowledge state. If such a pluralist view is correct, then we may envisage genuinely epistemic goals for knowledge-*how*, even constitutive or, at least, necessary ones, other than truth. For example, one may want to know how to  $\varphi$  without any particular interest in  $\varphi$ -ing beyond attaining this knowledge—viz., with no interest in obtaining any benefits from this knowledge: *just for the sake of knowledge*. In such a case, one’s goal is genuinely epistemic, but not because one wants to know how to  $\varphi$  *just for the sake of truth*, but because one wants to know how to  $\varphi$  *just for the sake of knowledge* (viz., one wants to know how to  $\varphi$  just because one

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<sup>31</sup> This point, of course, may complement an appreciation of a plurality of kinds of knowledge, including kinds not reducible to knowledge-that.

<sup>32</sup> See for example, Kappel 2010, Kelp 2011;2017 2014; Rysiew 2012; Engel 2009.

<sup>33</sup> For further discussion on this point, see Carter (2016) and Kelp et al. (2017).

want to learn, for curiosity, how to do it, but not for any particular non-epistemic benefit—not even *doing it itself*)<sup>34</sup>.

Conversely, non-genuinely epistemic goals ought to be distinguished from non-knowledge conducive motivations. For instance: we may be interested in a certain proposition's *being true*, without any corresponding interest in holding a corresponding true belief (we would then have a practical, but not epistemological interest in *p*)<sup>35</sup>. By the same token, for knowledge-how, it could be the case that one is interested in obtaining the products or practical benefits of  $\varphi$ -ing without being really interested in knowing how to  $\varphi$  oneself. We would have then a practical, but not particularly epistemological interest in knowing how to perform the activity in question—an interest that could in fact be satisfied simply by having the activity in question done by somebody else.

In connection with this point, it will be helpful to consider following case:

FIGHTER PILOT: Will is an 80-year-old war pilot who flew a twin-engined torpedo bomber in World War II. He has, in the twilight of his life, acquired a keen interest in modern fighter aircrafts and wants to learn as much as he can about them. Will develops not only an interest for facts related to those modern aircrafts (i.e., size, manufacturer, capabilities, etc.) but for how one could actually pilot them. For example, he wants to understand the differences between the kinds of abilities he developed back in the 1940s and which he would have to employ today in order to pilot the brand-new fighter planes.

We may imagine that Will—appreciating his own limitations—does not intend to become a pilot in the future, and he could hardly have an interest to impress others with his abilities. At his age, his interest is just in learning how to pilot those aircrafts *for the sake of knowledge*, out of pure epistemic interest, even while conceding that he will never have again the opportunity to sit in a cockpit, or earn anything from this knowledge besides knowledge itself.

Just like the genuinely epistemological goal that drives traditional epistemology, concerned with knowledge-that, is (arguably) knowledge (for its own sake), the genuinely epistemological goal within a promising anti-intellectualist theory of knowledge-how is likewise knowledge (for its own sake). When that goal is achieved for knowledge-that, the agent who knows that her belief that *p* has reached *the truth* of *p*. Similarly, when that goal is achieved for knowledge-how, the agent who learns how to  $\varphi$  has acquired the ability to  $\varphi$  herself successfully, i.e. the power to achieve the occurrence of that act of  $\varphi$ -ing—if *only she were in the right (in Sosa's terms) shape and situation*, (and even the relevant shape and situational aspects are presently inaccessible), and, what is more, even if she does not have—and may never actually have—the desire to obtain that outcome. Put another way: the strictly

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<sup>34</sup> Compare here with Kvanvig's (2014) characterisation of epistemology: 'In slogan form, my characterization of epistemology is that it is the study of purely theoretical cognitive success, where the notion of what is purely theoretical is understood [...] *in terms of abstraction from the causal consequences of the success in question*' (2014, 353). In a similar vein, purely theoretical knowledge-how would be a kind of knowledge abstracted from the consequences of the success in question.

<sup>35</sup> For example, concern about the future suffering of a loved one is best articulated in terms of an interest *that* the individual's suffering subsides, not necessarily connected to any salient concern about one's own epistemic standings, which is obvious because this sort of concern typically extends beyond the agent's own life.

epistemological goal of knowledge-how is to acquire potentially reliable creditable success for its own sake—viz., *just for the sake of knowledge*.

## 6. The Formal Condition: Mastery

The problem of the value of knowledge is, in short, to uncover what kind of cognitive gain one makes when one moves from mere true belief to knowledge, so as to account for why the value of the latter exceeds the value of the former<sup>36</sup>. As we know from Plato's *Meno*, this problem is initially at least a perplexing one; mere true beliefs, as Meno and Socrates agree (§§96-100), seems to aid us in our practical objectives as well as knowing; a person with a true belief about how to get to Larissa is as good a guide as one who knows the way.

In an analogous vein, we may ask: what it is that makes knowledge-how more valuable than mere successful ability; Meno might have suggested, by parity of reasoning, that a successful ability to get to Larissa gets us there just the same as know-how. So why then should we prefer the latter to the former?

Plato's analogy in the *Meno* of the statues of Daedalus may be of help here: just as we want not merely to possess the truth any old way, but to have it safely tethered down, we do not want merely to succeed, but to have the capacity for such success at our command<sup>37</sup>. We want to attain *mastery*, to be good at what we do (and not just to do good)—to achieve *excellence*.

Justification and mastery are thus, in our view, the formal conditions on knowledge-that and knowledge-how respectively. They are formal conditions because they say something essential about the way in which the relevant state (belief, ability) must be held by the agent. The formal condition may be satisfied when the state is properly connected to other states of the agent, of the same or different kinds, but won't be satisfied simply by adding more states—viz., by the provision of additional material conditions (e.g., more beliefs into the belief system, or more abilities and powers). Consider that if a thinker possesses or acquires additional beliefs that remain inferentially detached from one other (as happens in Lewis Carroll's (1895) famous paradox of Achilles and the Tortoise), we do not say that the agent is thereby more justified in believing the target proposition, simply in virtue of possessing such additional inferentially detached beliefs<sup>38</sup>. By the same token, an agent may come to possess additional abilities or powers, but such abilities may themselves be disconnected from one another, in such a way that, in general, she is a poor or at best lucky performer. (This, at any rate, seems to be what we find in Bengson and Moffett's (2011a) well-known case of 'Irina', whose figure skating abilities are disintegrated from the neurological abnormality that causes her to perform a salchow).

What this formal condition requires thus is not merely *more* states, *more* material bases, but rather that those states be connected in the right way. It requires them to be held by the agent in the right manner, by the lights of a plausibly specified normative standard. We

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<sup>36</sup> See, for example, Kvanvig 2003; Pritchard 2011; Haddock, Millar, and Pritchard 2010. For an overview, see AuthorA & Co-Authors (2017).

<sup>37</sup> For a more contemporary expression of the Daedalus metaphor in terms of stability, see Olsson (2007).

<sup>38</sup> Compare: we do not elevate one's doxastic justification by simply increasing the level to which an individual is propositionally justified.

submit that the fact that genuine knowledge-how requires mastery, or at least some level of it, accounts for its normative character, as a state subjected to standards of normative evaluation. This feature (which was crucial in Ryle's original approach to the topic) has been obscured in the debate about the nature of knowledge-how, which too often focuses on simple and easy tasks, such as opening a door or breaking a glass, activities with respect to which there is not much difference between (i) having a mere ability to successfully execute the task and (ii) really *knowing how* to do it.

However, the concept of knowledge-how is revealed to be much richer—and comparatively more epistemologically interesting—when applied to activities that are complex, multifaceted and demanding—viz., activities which require longer learning processes, where performances may be criticised and assessed from different perspectives, that require intelligence and refinement, from cooking to driving, from designing a missile to giving a lecture, from dancing flamenco to raising a child. When complex activities such as these are under consideration, normative constraints and sophisticated and often demanding criteria of assessment come to the foreground. It is (for instance) when assessing who knows how to play tennis better, Federer or Nadal, that the concept of knowledge-how really comes apart from *mere* ability possession, or when we wonder whether it was Russell or Heidegger who knew how to better approach a philosophical problem<sup>39</sup>. It is complex practices of this sort that in the main attracted Ryle's attention to the topic of knowledge-how—viz., activities that require intelligence, prudence, and wisdom, where the component of mastery comes to the fore. In a similar vein, in the epistemology of knowledge-that, justification is rarely—or perhaps, pointlessly—requested when the propositional knowledge at issue is simple and intellectually undemanding—viz., that one's hand is in front of one's face<sup>40</sup>. More epistemologically interesting are our justifications for complex claims, where balancing the relevant evidence requires some intellectual sophistication. In such cases, the gap between mere true opinions and justified true opinions, or knowledge-that, is comparatively more intellectually striking.

The topic of mastery makes salient one well known difference between knowledge-that and knowledge-how, which we have not yet discussed: the *gradability* of the latter. In contrast to knowledge-that, which is almost unanimously taken to be an 'on/off' attitude<sup>41</sup> (either you know that *p* or you don't), the possession of knowledge-how is paradigmatically a matter of degree. Some people know-how to  $\phi$  much better than others, which does not mean that those that are less knowledgeable do not know anything at all—viz., that they don't *at all* know how to  $\phi$ . In contrast, we do not say that some people know-that *p* better than others, or for that matter that one know *that p* 'less' when in the possession of some undefeated epistemic defeater<sup>42</sup>. The gradability of knowledge-how is best explained, in our view, as a feature of mastery: we become better performers by means of education and practice, in so

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<sup>39</sup> For an account of philosophical practices in terms of knowledge-how, see AuthorB (2017 ch. 8 and *passim*).

<sup>40</sup> It is among Wittgenstein's (1969) central objectives in *On Certainty* to call into doubt the rationality of the practice of requesting justification in such circumstances. See, for example, OC §77, §93, §111, §125, §138, §210, §243, §250, §282, §307.

<sup>41</sup> For a dissenting view, see Hetherington (2011).

<sup>42</sup> On the relationship between the gradability of knowledge-how, on an anti-intellectualist construal, and defeasibility, see AuthorA & AuthorB (2017). For a recent voice of opposition on this point, see Pavese (2017).

far as we perform better (or at least would do better if we actually intended to perform, or were in the right SSS conditions)<sup>43</sup>.

On such a scale, the highest peaks of knowledge-how are those attained by masters. They achieve excellence, which is not merely success resulting from the exercise of specific abilities, but in general when performing in activities that include the exercise of multiple inter-connected abilities. Success in the exercise of basic abilities may be sufficiently explained by strength or good reflexes; the mastery dimension of knowledge-how is idle in such cases. However, in cases where agents have to exhibit fine-grained integration between multiple capacities and powers, their abilities cannot be detached from each other, but must be integrated, nested, available on demand, sensible to features of a changing environment, and so on. That is the point at which know-how plays a distinctive function in the social assessment of performances. Think about an excellent tennis player, and how a multitude of physical capacities (to run, to hit a drive or a backhand, to turn around oneself) are integrated with further psychological capacities (to remain motivated, focussed, aware of the strategy chosen) in such a way that elevates the subject's skill. Or think about what a good business administrator does to run her company. Just as justification leads intelligent agents to truth, and helps to, as Socrates says, keep that truth well-fastened and tethered down, mastery leads prudent agents to success, making them ever more capable and better equipped to deal with practical challenges and adversity.

There is a further and important point about mastery which should be clarified. It would perhaps be natural to suppose that the achievement of mastery, in some domain of performance, is something one attains by first securing in some way an excellent method, replete with a diverse and rich set of regulatory rules or algorithms, and then by consulting this method, algorithm or set of rules in a reliable and effective way when executing the relevant kinds of performances. In our view, such an approach would be utterly misguided. Mastery is attained by agents, and assessed by critics, with respect to normative standards of success, not by the fact of following procedures, recipes or regulative propositions. The latter are *clues*, tips or advice we try to *extract* from excellent practice, not necessarily what governs it. The master chef, for instance, is not the one that follows complex recipes perfectly, but the one that can *create* them, who can in the right circumstances skilfully break the kinds of rules and conventions that others must consult when attempting to ameliorate their capacities. Likewise, the magnificent tennis player is not the one that has learnt by heart tennis manuals, but the one on whom those manuals are based, and who *doesn't need* anymore to think about the kinds of rules and guidance that are indispensable to *learning* tennis, and to improving once one has learned. In short, the standards of mastery are ruled by excellence in performance, not the other way around. Let's not confound *mastery itself* with pieces of advice we may extract from the observation of masters, advice masters themselves need not rely on. We believe that was one of Ryle's original intuitions that should be guiding future research in the epistemology of knowledge-how<sup>44</sup>.

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<sup>43</sup> Justification is also a gradable property, which is also a good motivation to propose mastery as the requirement that mirrors it as a formal condition. And just as the degree of justification required for knowledge-that may be sensible to practical features of the environment, as contextualists hold, so may be the degree of mastery that is required for knowledge-how.

<sup>44</sup> This point stands in stark contrast with the over-regulated and utterly counter-productive tendency that we find nowadays in many professional activities (education being one of them), where bureaucratically driven performance assessment standards have *de facto* usurped other ways of assessing performances, and with devastating consequences.

## 7. Precedents

We are not the first to propose an anti-intellectualist tripartite analysis for knowledge-how. We are aware of at least two such precedents, one due to David Carr (1981) and the other to John N. Williams (2008). These proposals can be summarised as follows:

CARR'S (1981) ACCOUNT:

For all  $S$ ,  $\varphi$ ,  $S$  knows how to  $\varphi$  if, and only if

- (i)  $S$  may entertain  $\varphi$ -ing as a purpose.
- (ii)  $S$  is acquainted with a set of practical procedures necessary for successful  $\varphi$ -ing.
- (iii)  $S$  exhibits recognizable success at  $\varphi$ -ing.

WILLIAMS' (2008) ACCOUNT:

For all  $S$ ,  $\varphi$ ,  $C$ ,  $S$  knows how to  $\varphi$  in  $C$  only if<sup>45</sup>

- (i) If  $S$  were to try to  $\varphi$ , under  $C$ , then  $S$  would usually succeed in  $\varphi$ -ing because
- (ii)  $S$  has a reliable method of  $\varphi$ -ing, under  $C$ , that
- (iii)  $S$  is entitled to believe will usually result in  $\varphi$ -ing.

Carr's and Williams' analyses are not explicitly related to each other<sup>46</sup>. Interestingly enough, both of the above two analyses are introduced as *non*-Rylean anti-intellectualist accounts of knowledge-how. They purport to be non-Rylean because neither introduces abilities in their analysans, in contrast with our own proposal. In the case of Williams, reluctance to introduce abilities in the analysans is explained by arguments introduced by Hawley (2003), which we have addressed in §4.2, where we argued that certain principled considerations against positing ability as the material condition of knowledge-how are unmotivated. Our proposal, we want to now suggest, fares favourably in comparison with each of these precedents.

### 7.1. CARR'S TRIPARTITE ANALYSIS

Carr's first condition faces (as a necessary requirement on knowledge-how) some troubling counterexamples. In short: there are many things agents plausibly know how to do even if they may *never* entertain them as purposes. For example, a master locksmith, 'Alex', may plausibly count as knowing how to pick a warded lock even though he may never entertain doing this as a purpose *precisely because it is too easy*. He nonetheless easily would be able to easily pick the lock if he tried. We may have powers we may never exercise, but that does not mean that we don't have them. Most everyone knows how to jump from a dangerously steep cliff, but few would entertain that as a purpose. In short, lack of motivation or pragmatic constraints needn't limit our powers. Carr's first condition misses this point.

Carr's second condition is, recall, that  $S$  is acquainted with a set of practical procedures necessary for successful  $\varphi$ -ing. This condition contrasts with our requirement of mastery, as a (gradual) condition on knowledge-how. As we've suggested in §6, mastery is to be determined by excellence in performance, not by the act of following procedures, recipes or regulative propositions of the sort we are likely to derive by observing the skilled performer. We do not assess know-how by the way agents follow recipes, but by the excellence in their

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<sup>45</sup> Williams' analysis aims to offer strong necessary conditions which he does not claim are jointly sufficient, thus, he does not maintain 'if, and only if' in his formulation.

<sup>46</sup> Williams (2008) does not make any reference to Carr (1981), but just to Carr (1979) wherein the above analysis had not yet been proposed.

outcomes. Recipes may be useful as an attempt to imitate mastery, or to attain it when we are at lower levels of excellence, but are not such that the consultation of them is *in any way* constitutive of the mastery itself. Carr’s second requirement inverses the cause and the effect, and considers as a condition of knowledge-how what should better be understood as its consequence or by-product.

As to Carr’s third condition, “(iii) *S* exhibits recognizable success at  $\varphi$ -ing”, it is very similar to our final condition, but it errs in requiring the agent to *actually exhibit* that success, which is not a viable necessary condition for knowing how. As we argued in §5, abilities are—and this was a point that has been developed in detail in Sosa’s work—always related to relevant conditions of manifestation (recall Sosa’s ‘shape’ and ‘situation’ conditions), which may be unreachable for the agent, even in an irretrievable way. Our imagined fighter pilot Will, for instance, may learn how to fly a modern fighter plane full well, even if, given his age and associated practical limitations, he will never be able to *actually* do so successfully. Carr’s third condition is in the right direction towards the correct formulation of a final condition, but it is too strong in that respect.

## 7.2. WILLIAMS’S TRIPARTITE ANALYSE

Let’s consider now Williams’ (2008) proposal, according to which *S* knows how to  $\varphi$  in circumstance *C* only if (i) If *S* were to try to  $\varphi$ , under *C*, then *S* would usually succeed in  $\varphi$ -ing because (ii) *S* has a reliable method of  $\varphi$ -ing, under *C*, that (iii) *S* is entitled to believe will usually result in  $\varphi$ -ing. We submit that Williams’ first condition is a correct formulation of the final condition, i.e. success. However, the problem is that the account lacks anything like a material condition, which is needed to explain why the relevant success is actually *due to the agent’s own abilities*.

Williams’ first condition actually sounds a lot like a standard ability condition. After all, it bears close similarities to some prominent variations on the conditional analyses of abilities (e.g., Davidson 1980; Peacocke 1999)<sup>47</sup>. However, Williams cautions us that we should avoid positing an ability condition for two reasons.

- (i) The first reason is that, as Williams puts it, ‘it is possible that *S* still knows how to perform a task she is newly unable ever again to perform’ (2008, 109).
- (ii) The second reason Williams adduces has to do with the opacity of knowledge-how.

Neither of these reasons is convincing. Williams’ first point is made with reference to a standard disabled agent case—though we’ve shown in §4.1 that such cases don’t pose a problem for the kind of ability condition we are advancing.

Williams’ second line of reasoning, which has to do with the opacity of ability and knowledge-how respectively, is more interesting. The argument proceeds as follows:

### WILLIAMS’ ARGUMENT FROM OPACITY

- (1) Knowledge-how is opaque.
- (2) Abilities are not opaque.
- (3) Therefore, knowledge-how is not ability.

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<sup>47</sup> The conditional analysis probably owes, originally, to Hume. For discussion of this analysis, and responses to objections, see Maier (2010 §3).

Williams defends (1) by appealing to the case of Stan:

STAN: ‘Stan’s job involves selecting three equal lengths of wood and then gluing them together to make equilateral triangles. Stan, who is not very bright, has the concept of equal length but has no clue what an angle is. He may know how to make equilateral triangles (by following the method above) yet not know how to make equiangular triangles (he has no idea what these are), despite the fact that making equilateral triangles is necessarily making equiangular triangles’ (2008, §2).

It’s at least controversial whether Stan does *not* know how to make equilateral triangles. It could be argued, for instance, that what Stan lacks is knowledge that he knows how to make them. And the requirement that one may only know how to  $\varphi$  if one knows that one knows how to  $\varphi$  is anything but evident<sup>48</sup>.

But let’s set this point aside. The problem with (1) of the argument from opacity is that even if we grant Williams’ diagnosis of the case of Stan, this is insufficient evidence for accepting the conclusion. It might after all be that some cases of knowledge-how are not opaque, even if others are, and thus that knowledge-how is not uniform with respect to whether it is opaque.

It is at any rate incumbent on Williams to establish that if some cases of knowledge-how are opaque, then *all* must be. Furthermore, it’s not clear why the anti-intellectualist cannot make a similar move in the course of rejecting (2). Even if some abilities are not opaque, the burden remains with Williams to account for why all abilities are not opaque.

The second condition in Williams’ analysis is misguided for some kinds of reasons as Carr’s second condition was. Whereas Carr included as a requirement being acquainted with a set of practical procedures, Williams requires the agent to “have a reliable method of  $\varphi$ -ing, under *C*”. However, as we have shown, methods, regulative propositions and practical procedures are not utilised by those who have sufficiently mastered their activities. We may try to imitate masters by means of such methods which we infer by observing their performances, but masters are not those who follow methods, even if they inadvertently *develop* them. If anything, possessing and following a reliable method is the way we may try to achieve success precisely when we do *not* know how to do what we attempt to do.

Williams’ third condition is based on his second condition: the agent, according to this condition, must be “entitled to believe” that her method “will usually result in  $\varphi$ -ing”. Setting aside the reasons to reject that condition that are already implied by our reasons just noted for rejecting the second condition, we also submit that the addition of *belief* in this condition leaves Williams’ himself with a view that embraces an aspect of the very kind of intellectualist view his proposal was meant to be an alternative to.

In sum, both Carr’s and Williams’ proposals fails to provide a defensible material condition in their respective analyses of knowledge-how. Their reluctance to introduce abilities leads them to advert to conditionals and possibilities, but not to the kinds of dispositions that could be grounded in the agent’s nature. We grant that both accounts include success in their conditions, which puts them in the right direction to meet a final condition (although Carr formulates the requirement too strongly, requiring actual success). However, above all, both accounts fail to locate the normativity of knowledge-how, which is not to do with procedures or methods, but in the mastery of the task, as when the agent’s capacities and powers are related in the right way, with fluency and flexibility. *Normativity, in short, is parasitic on excellence*

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<sup>48</sup> See AuthorA ↔ AuthorB (2017) for discussion.

*in practice, not on whatever conscientiousness may be exercised in the application of previously determined regulations.* Norms, regulations, methods, manuals and recipes are instruments that allow us to imitate excellence, but following them is not what makes those results valuable. Carr and Williams, thus, are not in a position to satisfactorily respond to the *Meno* question, repositioned as a question about knowledge-how: why should we prefer knowledge-that to mere true opinion, knowing how to do something to merely being able to successfully do it?

## 8. Concluding remarks and further applications

The principal problem we've attempted to address in this paper is this: if know-how is afforded the traditional anti-intellectualist spin of 'ability knowledge', it's not especially clear where the epistemology of knowledge-how is to begin, and it is perhaps even less clear how traditional epistemological problems that have exercised those who think about the nature and value of knowledge-that should be reconceived as problems apposite to knowledge-how. Our goal has been accordingly to advance the prospects of an anti-intellectualist approach to knowledge-how in epistemology by offering a positive anti-intellectualist view that goes beyond mere 'ability possession'. We've tried to show that the very questions which undergird the JTB analysis in the epistemology of propositional knowledge have viable analogues in the case of knowledge-how, and that this is so even when approached from within the anti-intellectualist tradition. To this end, we've proposed and defended specific candidate conditions: ability, mastery and success.

A benefit of the structure outlined is that traditional problems of knowledge-that may be reconceived straightforwardly as problems we may explore for an anti-intellectualist account of knowledge-how. We have shown this to be so in several respects thus far, and we will conclude by sketching some additional examples that may foster some future research.

Firstly, we may ask whether knowledge-how, on an anti-intellectualist construal may be Gettierized, and what an 'anti-Gettier' condition might look like. To be clear, there are already extant discussions of knowledge-how and Gettier cases. However, such discussions have categorically focused on *intellectualist* accounts of knowledge how<sup>49</sup>, accounts on which Gettier cases for know-how would inherit the structure of Gettier cases for knowledge-that. On our tripartite anti-intellectualist account, the form is clear enough: such cases would feature agents whose mastery of an activity is disconnected from the success such that the success is lucky. In order to deal with such cases, perhaps we will need a fourth condition, which would be equivalent to an Aristotelian *efficient cause*—one that remained unused in our analogy. Something like this is what—in the epistemology of propositional knowledge—robust virtue epistemology (e.g., Zagzebski 1996; Greco 2010, 2012; Sosa 2009) offers to effect, at least in some of its versions: knowledge-that is justified true belief *that results from the agent's aptness* (as a performance where the agent is sufficiently creditable for the relevant success). We may be inclined to impose on knowledge-how some equivalent further requirement, in the sense that it must be to the credit of the subject of knowledge-how that her success manifests her mastery.

Secondly, a promising line of research would be to model sceptical worries with respect to know-how along anti-intellectualist lines, including radical sceptical worries engendered by those who doubt whether we know how to do anything, or almost anything, despite being apparently successful in many things we intend to do. Of course, at least one general version

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<sup>49</sup> See, for example, Poston (2009); Cath (2011); AuthorA & Co-Author (2015).

of radical scepticism for anti-intellectualism may trivially follow from a BIV scenario, one that deprives us of propositional knowledge and knowledge-how alike (by causing not only our beliefs to be false, but more relevantly for our purposes, our abilities to be illusory). However, even so, the matter of how know-how might be vindicated in the face of such challenges, remains to be spelled out. Moreover, there are additional kinds of sceptical worries that would be endemic to knowledge-how and which our proposal can clearly represent. Take, for example, Jonathan Schaffer's (2010) 'Debasing Demon' which causes beliefs to be produced on an improper basis and later for it to seem to one that they are properly based. Analogously, we can envisage a demon that causes successes to be a matter of luck, and later makes it seem to us that our success manifested a mastery creditable to us. Furthermore, just as Pyrrhonian scepticism maintains that we could have true beliefs, or even knowledge, but still never know if this is the case, perhaps along similar lines we may investigate whether, if we do have knowledge-how, how are we even in a position to tell that we do.

Yet another auspicious topic concerns the extent to which knowledge-how may be socially distributed and extended into the environment. Once we have a principled understanding of the structure of knowledge-how, we may ask: to what extent may agents be said to know how to do things when they systematically and actively rely on external scaffolding, or on the capacities of others? Theorising about the extension of knowledge-how into the environment, on our view, will not be simply a matter of theorising about whether abilities may supervene on extraorganismic features of the world. It would in addition involve inquiring into the matter of whether and to what extent mastery itself may be outsourced and offloaded systematically via the reliance and trust that we manifest in the capacities of others. In fact, the social function of the concept of know-how, as label for reliable performers that manifest mastery, may help shed light on the very content of such concept—in a similar vein to how Craig (1990) famously claimed that the social function of knowledge-that is to track reliable testifiers.

Finally, further topics for future research concern the mechanisms involved in the acquisition and transmission of knowledge-how. For example:

- Are there specific sources of knowledge-how, besides those canonically identified as sources of knowledge-that (i.e., memory, testimony, inference, perception)? For instance: trial and error, active mimicking, praise and criticism, and so on.
- Are any such sources *basic*? If so, are we default entitled to trust such 'basic abilities' that would issue from such sources in action in a way that is broadly analogous to the way we are plausibly default entitled to trust the deliverances of basic sources (e.g., perception, memory) in the epistemology of knowledge-that?
- How limited is the know-how we may acquire by sheer testimony, in contrast to knowledge-that, which could in principle be acquired by such means without loss in value?
- Do transmission principles that plausibly govern the transmission of knowledge-that hold, *mutatis mutandis* to knowledge-how? For example, if as Burge, McDowell and others maintain, one cannot acquire knowledge-that from a speaker who lacks it<sup>50</sup>, we may ask: can one acquire knowledge-how (replete with the mastery requirement) from a teacher who lacks it? Nothing guarantees a priori that the answer here must be the same.

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<sup>50</sup> For a notable counterexample to this kind of principle, see Lackey's (2008) 'creationist teacher' case.

The questions and problems that arise with our style of account in play are both new and worthy of engagement. Our goal has not been to offer definitive solutions to any of these problems. Rather, we hope to have shown that the epistemologically interesting character of know-how is not parasitic upon, or derivative from, knowledge-how's belonging to the category of knowledge-that. There is room for an epistemology of knowledge-how that does not traffic in justified true beliefs, but which may nonetheless face the same kinds of challenges that that have *de facto* set the agenda in the theory of knowledge-that, and probably still will for a long time yet.

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