# Practical knowledge without practical expertise: the social cognitive extension via outsourcing

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## Abstract

Practical knowledge is discussed in close relation to practical expertise. For both anti-intellectualists and intellectualists, the knowledge of how to φ is widely assumed to entail the practical expertise in φ-ing. This paper refutes this assumption. I argue that non-experts can know how to φ via other experts' knowledge of φ-ing. Know-how can be 'outsourced'. I defend the outsourceability of know-how, and I refute the objections that reduce outsourced know-how to the knowledge of how to ask for help, of how to get things done, or of external contents. Interestingly, outsourcing differs from social cooperation, collective agency, testimonial transmission, and many other notions in social-epistemological debates. Thus, outsourcing provides not only a hitherto unconsidered form of know-how but also a novel way for knowledge to be social. Furthermore, outsourcing plausibly involves a 'social' cognitive extension that does not rest on EMT or HEC. Given the outsourceability of know-how, we must reconsider the nature of know-how and expertise, as well as the relation between non-experts and experts.

**Keywords** Outsourced know-how · Knowledge-how · Practical knowledge · Practical expertise · Social knowledge · Cognitive extension

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# 1 Introduction

Practical knowledge is closely related to practical expertise. Knowing how to swim involves grasping a method of swimming, and knowing how to fly a plane requires the skill of flying a plane. Mastering a swimming method or the skill of flying planes constitutes practical expertise. For anti-intellectualists, such expertise is the reliable ability to succeed (e.g., Cath 2011, Noë, 2005). For intellectualists, such expertise involves grasping the practical sense of the proposition that describes the method (e.g., Stanley and Williamson, 2001). Thicker notions of expertise require higher levels of conscious control (cf. Annas, 2011), and experts can also have further roles such as providing authentic information (e.g., Goldman 2001). Nevertheless, there is a thinner concept of expertise for know-how: knowing how to swim requires being able to swim or grasping the practical sense of a swimming method. This idea seems trivial – for how can we have know-how without such expertise?

However, know-how and expertise are not inseparable. Instead of expertise, we may know how to succeed via other people's skills. The following scenarios serve as illustrations:

> (Hospital) Simon suffers from a stomachache. Ignorant of what the disease is, he goes to a hospital. The doctor diagnoses Simon with gastric ulcers and competently treats the disease. Simon recovers quickly.

> (Travel) On her first trip to Paris, Rachel will arrive at the Gare du Nord station, and she plans to visit Sacré-Cœur. Without having ascertained where Sacré-Cœur is, Rachel confidently boards the train and expects to ask at the station centre. The information centre is open as usual, and Rachel will receive the correct instructions.

These agents are ignorant of how to succeed on their own. Simon lacks medical skill. Rachel is new to Paris. Nevertheless, they have know-how in a broader sense. They know how to cure the stomachache or reach Sacré-Cœur – it suffices to ask a doctor or inquire at the station. Asking for help does not display expertise, but it reliably leads to fulfilling practical aims. We can say that our agents possess *outsourced* know-how: their know-how is outsourced to experts.

This paper defends the outsourceability of know-how and examines its consequences. Sect. 2 shows that know-how is *prima facie* outsourceable with standard versions of both anti-intellectualism and intellectualism. Since outsourced know-how is often dismissed in current debates, I defend my view with two additional arguments. Sect. 3 refutes reductive objections: I argue that our agents know not only how to 'ask for help', 'get things done', or 'refer to external factors' but also how to 'fulfil their tasks'. To avoid trivializing know-how, Sect. 4 revisits expertise. As will be evidenced, outsourcing is a hitherto unconsidered form of know-how and a new way for knowledge to be social. For simplicity, I may use 'expertise' rather than 'practical expertise'. The terms 'know-how' and 'practical knowledge' are also used interchangeably.

## 2 Initial arguments for outsourced know-how

To establish the outsourceability of know-how, first note that our agents in (Hospital) and (Travel) satisfy basic anti-intellectualist and intellectualist conditions. On the one hand, they have know-how according to anti-intellectualism by being reliably able to achieve their aims. Simon knows that doctors have medical skills. He also knows where to find a hospital, how to describe his symptoms, etc. Hence, if Simon tries to cure the disease, he will normally succeed by going to the hospital. His recovery results from a reliable process that extends to his society. On the other hand, our agents also satisfy the intellectualist condition of knowing a proposition that describes the method. Simon knows that 'going to a hospital' is a way to cure his disease, and Rachel knows that 'inquiring at the station' is a way to reach Sacré-Cœur. Thus, both anti-intellectualists and intellectualists can ascribe know-how to our agents.

Will our non-expert agents fail other epistemic constraints? On closer inspection, our agents also satisfy more qualified accounts of know-how. I discuss four constraints.

First, do our agents have *de se* know-how? Intellectualists often analyse (A) as (B):

(A) Simon knows how to cure his stomachache.
(B) Simon knows [how PRO to cure his stomachache].

PRO refers to Simon as the subject of the main clause (cf. Stanley, 2011a). Hence, a person knows how to φ only by knowing how she *herself* φ-s; otherwise, she only has the generic knowledge of how *one* φ-s. Do our agents lack *de se* know-how? This criticism is faulty. To clarify, compare the following readings of (B):

(B*) Simon knows [how PRO to cure his stomachache *by himself via medical expertise*].
(B**) Simon knows [how PRO to cure his stomachache *via hospital treatment*].

Both (B*) and (B**) feature Simon, the pronoun PRO, the aim of curing the disease, and the respective methods of *by himself via medical expertise* and *via hospital treatment*. (B*) is false since Simon lacks medical skill. Nevertheless, (B**) is true. This is because consulting a doctor *is* a method to cure the disease and Simon knows how he *himself* will use this method. The formulations of (B*) and (B**) elucidate that the expression of 'a person fulfilling an aim *herself*' is ambiguous. It means either that she knows how she herself should use a method or that the method involves her own expertise. The former sense alone, however, is intended by the *de se* constraint. Intellectualists construe know-how as a cognitive relation with a proposition that describes a method. Thus, the *de se* constraint applicable to all such relations must concern *how* to use the method rather than *what* the method is. By featuring PRO in the right place, (B**) correctly ascribes know-how to Simon even if the method does not involve medical skill.

Second, can our agents present their propositions under a *practical mode*? We rarely learn to cycle by only watching others cycle and asserting '*that* is a way to cycle'. Intellectualists explain this by requiring that the proposition be presented under a *practical* rather than a *demonstrative* mode. Along Fregean lines, this involves grasping the practical sense of the method described in the proposition. Although the concept of practical sense is disputable, it is basically what guides people in practice. Our agents properly grasp the practical senses of their methods. Indeed, their methods are simply to appeal to experts. Simon knows how to find hospitals, make appointments, etc., and he grasps the practical senses of the methods of fulfilling all these tasks. Surely, the practical senses of the medical procedures outstep his mind, and I will discuss its consequence for the ontology of outsourced know-how further on in this paper. At any rate, one cannot object that our agents are unable to present the propositions under a practical mode. These agents are primarily asking for help. They fully grasp the practical sense of this method.

Third, our agents also act intentionally. Intellectualist objectors might allege that our agents do not *comprehend* why they succeed and thus lack the *cognitive* aspect of know-how (cf. Bengson and Moffett, 2007, Stanley, 2011b). This criticism misdescribes our cases. As social members, our agents have evidence for the *reliability* of experts. Simon knows that hospitals offer quality medical treatment. Instead of being fully ignorant, he is unfamiliar only with the *underlying mechanisms* of the medical process. This unfamiliarity does not preclude intentional acts. Doctors can be ignorant of the chemical mechanisms of the medicines they prescribe. They might know that such medicines are *statistically* proven to be efficient without grasping why they produce the intended effects. Although such ignorance affects theoretical expertise, doctors can remain skilful: they can still intentionally prescribe medicines to cure purported diseases. Since our agents are in a similar state vis-à-vis the reliability of their experts, they can also act intentionally. Our agents' conceptions of their successes might be vague, but those conceptions are *adequate*. Knowing the role of experts, they do not misconceive why they succeed.

Fourth, one might complain that outsourced know-how is grounded in experts, not in our agents. If the basis of know-how must be located in the person who knows, the possibility of outsourcing will be stillborn. This objection is problematic in two respects.

On the one hand, outsourced know-how *need not* exceed our agents. Simon's recovery basically relies on his *ability to consult doctors*, which lies entirely in himself. His propositional belief that 'going to the hospital is a way to cure my stomachache' is also located in his head. Moreover, this belief is apt for knowledge by all standards: it is evidentially justified, reliably produced, manifests epistemic abilities, etc. Hence, there is a reading of our cases wherein the ontological bases of outsourced know-how do not outreach our agents' skins and skulls.

On the other hand, the concept of know-how does not preclude cognitive extension. The literature on 'extended cognition' precisely shows that the *possession* and *location* of knowledge are independent issues (e.g. Bjerring and Pedersen, 2014, Brogaard, 2014, Carter, 2013, Menary, 2012, Wikforss, 2014). In Clark and Chalmers's (1998) classic example, Otto suffers from Alzheimer's disease and carries a notebook for information storage and retrieval. As the notebook is functionally iso-

morphic to Otto's biological memory, we may regard its entries as Otto's beliefs. This leads to the 'extended mind thesis' (EMT), according to which mental states can surpass organic shells. A weaker thesis, the 'hypothesis of extended cognition' (HEC), extends cognitive processes but not the resulting mental states: Otto's information retrieval from the notebook can be part of his memory process although the entries are not his beliefs. Combined with EMT, intellectualism can immediately extend propositional know-how beyond the agent's skins. Regarding anti-intellectualism, Carter and Czarnecki (2016) argued that HEC can interpret frequently used tools as extended parts of our abilities. In Sect. 3, I will argue that the extension of outsourced know-how, if present, differs from both EMT and HEC. For now, suffice it to note that the compatibility with EMT and HEC implies that locating know-how beyond the agent is an open possibility. Surely, one can deny the extension of outsourcing, but it requires arguments other than inherent constraints on know-how.

I have shown that know-how is outsourceable according to standard versions of both anti-intellectualism and intellectualism. However, this observation is not conclusive for my thesis. Epistemologists often revise their theories to deny non-expert know-how. This attitude is represented in their reactions to the following case from Bengson and Moffett (2011: 172-3):

> (Kytoon) Chris wants to build a kytoon, a lighter-than-air kite. Never having built a kytoon, Chris seeks information and finds a website with instructions. By following each step in the instructions, Chris succeeds in building a kytoon, one that can properly fly.

(Kytoon) resembles (Travel). Both involve achieving the task by learning from authentic sources. Rachel is unaware of where Sacré-Cœur is, but she knows how to reach it by inquiring at the station. Similarly, Chris is ignorant of the details about kytoon building, yet she reliably succeeds by surfing the internet. Hence, if Rachel knows how to reach Sacré-Cœur, Chris should also know how to build a kytoon: her know-how will be outsourced to expertise on the internet. However, epistemologists widely regard Chris as ignorant. Markie (2015) and Constantin (2018) consider Chris as lacking the complex ability to build kytoons. Bengson and Moffett (2011) concede that Chris is reliably able to act intentionally, but they deny that intentional acts suffice for know-how. Thus, outsourced know-how is commonly dismissed. Epistemologists would modify their theories simply to avoid outsourcing know-how. The *prima facie* outsourceability of know-how on standard anti-intellectualism and intellectualism does not conclude my thesis.

To counter these prevailing opinions, I offer two arguments in the remainder of this section.

My first argument suggests that outsourced *know*-how best explains the *rationality* of our agents. Simon is rational in going to the hospital. He is rational because he *knows* that doing so will cure his disease. To elucidate, imagine that appointment bookings are tedious, but Simon continues to try. Simon is rational in persevering given that obstacles in appointment bookings do not reduce the likelihood of recovery at hospitals. According to Williamson's (2000: 62) burglar case, the rationality of such persistence is not equally explained by epistemic states short of knowledge.

If Simon justifiably believed but did not know that hospital treatment is a way to recover, he would be less rational in persisting against the frustrating booking experiences. His persistence would arise more out of wishful thinking than an adequate grasp of his society. Here, one might object that Simon can be rational insofar as he knows hospital treatment to be his *best* method available, which is not necessarily *reliable*. Thus, he can fail the reliability condition of know-how despite his rationality. This description of my case is incorrect. Simon knows hospital treatment to be *reliable*: stomachache is not a rare illness, and it can often be swiftly cured. The remote possibility that his symptom is caused by an incurable disease does not undercut his knowledge unless we subscribe to the sceptical denial of knowledge. Overall, outsourced know-how best explains the rationality of Simon's repeated attempts. In the original scenario where appointments are easy to obtain, we can reach the same conclusion with a counterfactual account of rationality: Simon is rational as he will persist *if* appointments are tedious. Again, know-how best explains such rationality.

My second argument observes that ascribing outsourced know-how could be adequate in contexts interested in the agent's *practical aim*. Questions about know-how are often directed at expertise. Answering 'Yes' to the question 'Do you know how to φ?' implies that one has expertise about φ-ing. However, this relation of implication is not an entailment. In Braun's (2006) term, 'Going to the hospital is a way to cure the disease' can be a *semantic answer* to the question of 'How to cure the disease?' The answer is correct even if it disappoints curious inquirers. More importantly, *there are* contexts wherein know-how questions do not imply expertise. Simon's mother can be more concerned about Simon's health than about his medical skills. By asking whether he knows 'how to cure the disease', the mother is afraid that her son will make bad decisions and end up with worse health conditions. Any reliable method Simon knows to recover, including 'consulting a doctor', will adequately alleviate her concern. Likewise, Rachel's friend can be interested in her travel experience rather than the location of Sacré-Cœur. If the friend asks, 'Do you know how to reach Sacré-Cœur', Rachel's appeal to station staff will be pertinent. Usually, when the inquirer is concerned with the agent's *aim* instead of her *general skill*, it is adequate to ascribe outsourced know-how. This result is sufficient for outsourcing know-how. More precisely, if we adopt contextualism and permit knowledge-ascribing sentences to vary in truth-value, then ascriptions of outsourced know-how can be correct in contexts where they are adequate. If we instead side with invariantists, these sentences are also likely to be invariably true because they not only semantically answer know-how questions but are also adequate in many contexts.

## 3 Reductive objections: other knowledge states?

Despite my arguments, objectors could insist that our agents only have other knowledge states. Perhaps they know only 'how to ask for help', 'how to get things done', or 'how to use external factors'. This section alleviates these concerns. I concede that our agents have these states, but they *also* know how to fulfil their aims.

For a fruitful discussion of these issues, a definition of outsourced know-how is helpful. Roughly, a person outsources knows-how if she knows how to succeed via

another's expertise. This condition might determine whether an instance of know-how is outsourced. To better characterize outsourced know-how, I adopt the following account:

(OKH) S's knowledge of how to φ is outsourced if it is constituted by another's expert knowledge of how to φ, to which S knows how to successfully resort in order to φ.

Albeit rudimentary, OKH captures three features of outsourcing.

The first facet is that outsourced know-how is based on resorting to expert aid. Simon consults the doctor, and Rachel inquires at the station. They both succeed by resorting to experts. Resort has many forms. Our agents are 'asking for help', but one can also resort via command or manipulation. While a theory of resort is beyond our scope, we may say that a person A resorts to a person B for φ-ing when A acts in a way that would let B help complete the task of φ-ing. Thus, the notion of resort is fairly weak. When resorting, A might not (i) appeal to experts, (ii) receive B's response, or (iii) know that B is an expert willing to cooperate, etc. To remedy such deficiencies, OKH makes additional requirements. With respect to (i), the outsourcee must have 'expert knowledge'. Regarding (ii), the outsourcer must know 'how to successfully resort', i.e., she must know how to reliably receive the expert's positive response. Vis-à-vis (iii), the outsourcer must know how to resort 'in order to φ', that is, she must grasp the causal link between the resort and her eventual success. To satisfy this condition, the outsourcer must be able to evaluate the outsourcee. This does not amount to expert knowledge – e.g., Simon can identify skilful doctors by checking their track-records, titles, and other criteria (cf. Goldman, 2001) without becoming a doctor himself. Through all these qualifications, OKH reinforces resort into an advanced state that permits the outsourcer to reliably succeed. To be clear, the outsourcee need not be an individual: the instructions on the internet about making kytoons are not in an individual mind, but there is a broad sense in which Chris seeks socially available expertise. Note also that outsourcing need not involve the actual *act* of resort. The *knowledge* of how to resort is not always exercised. Before going to a hospital, Simon already knows how to recover.

The second point of OKH is that the knowledge of how to φ is outsourced only if the expert knows how to complete φ rather than other φ-related tasks. Simon knows how to cure his stomachache because the doctor knows how to *do so*. The doctor's ability to perform other medical tasks is irrelevant to Simon. Let us call this the *identity requirement*: the outsourcer and outsourcee know how to fulfil the same task. Naturally, outsourcers and outsourcees have different epistemic states. Simon employs social resources, whereas the doctor uses medical skills. The identity requirement is more precisely that they must know how to fulfil the same task, not that they use the same method. Meanwhile, as outsourcing is only one method among others, experts can also outsource, e.g., competent doctors may resort to others to cure a disease. Because of the identity requirement, outsourcing differs from many prominent forms of social cooperation. For instance, conducting a symphony is a social act, but the conductor's know-how is not outsourced. Orchestra members know how to play their parts and coordinate with others, but they do not conduct the symphony. Outsourcing

also differs from 'collective' social states. Recent theories contend that a group of individuals can stand on its own and have political opinions, scientific knowledge, or practical expertise (e.g., Birch 2019, Gilbert, 2004, Huebner, 2011, Palermos and Tollefsen, 2018, Rolin, 2010). Outsourcing involves social systems, but it need not be a collective state. It is primarily the doctor – not some larger group – who knows how to cure Simon. Thus, outsourced know-how is not a derivative of group know-how.

The third point of OKH is that the outsourcee's expertise is a *constituent* of outsourced know-how. In Sect. 2, I argued that outsourcing need *not* extend know-how. Nevertheless, stronger views better characterize outsourcing. We can motivate the constitutive view by observing the doctor's critical role – *if* no doctor were present, Simon would lose his know-how. Here, the doctor has more than a *causal* role, as effects may endure when the cause is no longer present. Similarly, the doctor is not merely the *primary explanans* of Simon's knowledge. Of course, Simon knows primarily because the doctor knows, but this condition equally applies to weaker relations, e.g., a person may know how to change light bulbs primarily because she has read a guide, but her testimonial know-how can remain even when no copy of the guide is left. For the stronger relation of outsourcing, the constitutive view is thus pertinent. Since theories such as EMT already extend cognition beyond our skins, the constitutive view in OKH is a viable option.

Meanwhile, although the constitutive view can be welcomed via the general possibility of cognitive extension, it does not presume EMT or HEC. If outsourcing extends knowledge, it is a novel form of extension. Champions of EMT and HEC normally adopt the 'glue and trust' criteria: to integrate a source into our cognitive system via EMT or HEC, it must be (a) reliably available and typically invoked, (b) easily accessible, (c) automatically accepted, and (d) previously endorsed (cf. Clark, 2008: 79, 2010: 46); otherwise, there would be an implausible explosion of knowledge and cognition (Allen-Hermanson, 2013, Rupert, 2009). Outsourcing, however, may rest on looser relations. Simon can distance himself from hospitals and prefer self-healing. Nevertheless, he can still know how to recover at a hospital; people can know how to resort even if they rarely use such methods. The 'glue and trust' relation, essential for EMT and HEC, is unnecessary for outsourcing. Interestingly, being distinct from EMT and HEC, outsourcing does *not* extend *mental states* or *cognitive processes*. The doctor's expertise is not an extended part of Simon's mind or cognitive process; otherwise, it would blur the distinction between experts and non-experts. Rather, outsourcees function as *social* resources. Being social, they substantially outstep the outsourcer's biological or extended shell. Instead of letting experts extend our agents' individual states, outsourcing directly recruits expertise as external social factors to compose the outsourced states. Such extension, if present, is both weak and strong. It is weak as it drops the 'glue and trust' criteria; it is strong as it exhibits an essentially social form of extension.

To cast out the constitutive view, anti-intellectualists may locate the basis of the outsourced ability partly in the outsourcee's expertise. Simon's ability to recover will partially rest on the doctor's skill. This proposal is not contentious. After all, it is one thing to ascribe ability to a person because she 'will reliably succeed if she tries', and quite another to locate the basis of this counterfactual 'in the person herself'. For intellectualists, the constitutive view is less straightforward. Which part of

Simon's propositional knowledge is constituted by the doctor's expertise? While several options are available, I suggest that intellectualists refer to the practical senses of the *entire* process. Simon does not grasp all the practical senses in his recovery. He grasps how to resort, but his recovery also depends on the doctor's performance. We can conceptualize this state with 'complete know-how':

> (CKH) S completely knows how to φ via method *m* only if S grasps the practical senses of all the methods in the process starting with the use of *m*.

Although Simon *adequately* grasps his success, his know-how is incomplete without grasping the practical senses of the medical procedure. For ordinary tasks such as swimming, know-how is always complete. A capable swimmer using the method *m* to swim usually grasps all related practical senses: no further method is left in the swimming process that starts with *m*. The swimmer can be ignorant of the physical laws that allow her to float in the water, but such mechanisms are not what *guide* her swimming. By contrast, if a person grasps only the method of how to jump into the water and hold her breath, but not of how to move her arms, she does not know how to swim. Thus clarified, the notion of complete know-how is at work for many ordinary tasks. Outsourcers, however, do not grasp the practical senses of the experts' methods. Their know-how is incomplete. This creates the logical space to extend their practical knowledge. More specifically, Simon's know-how will be complete if constituted by the doctor's grasped practical senses of medical performance. Available expertise 'completes' the outsourcer's know-how. Notably, this operation does not relocate Simon's mental states. His belief that 'going to the hospital is a way to recover' remains in his head. The extension, rather, enriches only *what makes his belief an instance of complete know-how*. While surprising at first glance, the idea of extending what qualifies a belief as knowledge is not unusual. The combination of HEC with reliabilism is an example. According to reliabilism, a reliable process qualifies a belief as knowledge although the process is not the locus of knowledge. HEC extends such processes beyond the agent's shell. For an example that does not involve EMT or HEC, Sosa (2007: 93−4) suggested that epistemic abilities, which are essential for knowledge, can be socially distributed in cases of testimony. Hence, for both anti-intellectualists and intellectualists, outsourcing can extend know-how without EMT or HEC.

Admittedly, the constitutive view evokes more objections than weaker views. One might allege that if know-how must be complete, we should regard Simon as ignorant rather than extending his know-how. Such challenges are not insurmountable. On the one hand, even if the constitutive view fails, know-how can still be outsourced once we switch to weaker accounts, such as the *primary explanans* view. On the other hand, the constitutive view is *ceteris paribus* more elucidating. It neatly distinguishes outsourcing from other social cooperation and exhibits a new pattern of extension. Since other forms of cognitive extension are already on the table, OKH is not *per se* unacceptable.

Having sketched outsourced know-how, we can better address reductive objections. Three questions will be answered. Is outsourced know-how only the knowl-

edge of how to ask for help? Is it knowing how to get things done? Is it merely knowledge of external contents?

### 3.1 Objection I: is outsourcing merely resorting?

Objectors might contend that our agents know only 'how to ask for help'. I agree that outsourcing is based on resorting, but the outsourced state is not thereby illusory.

An epistemic state can have several metaphysical layers but still retain a composed reality. Consider your knowledge of how to book a flight. You know how to book a flight because, say, you know how to type on a keyboard when browsing an airline website. Your knowledge of how to type is in turn based on knowing how to move your fingers. Through this chain of grounding, your knowledge of how to book a flight eventually rests on your knowledge of how to move your fingers. However, we do not dismiss your knowledge of how to book a flight as illusory. You know more than how to move your fingers: when combined with other factors, this basic knowledge amounts to knowing how to book a flight. Similarly, outsourced know-how relies on knowing how to resort, but not only so. When integrated with social resources, the knowledge of how to resort amounts to knowing how to fulfil complex tasks. Clearly, this integration is not a simple combination of basic know-how with external factors. Knowing how to move fingers constitutes knowing how to book a flight only when you *understand* how airline websites work; otherwise, you would not type on the keyboard to book the flight. Outsourcers satisfy such cognitive constraints, e.g., we argued that Simon grasps how his search for a hospital leads to recovery. Thus, available expertise may contribute to outsourced know-how just as keyboards and websites contribute to the knowledge of how to book a flight.

To appreciate why the reductive proposal is unsatisfactory, consider scenarios wherein the knowledge of how to resort does *not* produce outsourced know-how:

> (The Unknown Disease) Sam suffers from insomnia, a loss of appetite, and several other issues. He visits a hospital, but the doctors are unable to identify his problem. Unbeknownst to all, Sam's disease is unknown to the medical world. It will take at least two months of research to identify the disease and more than five years to find a cure.

Sam knows how to ask for help – it suffices to consult doctors as usual. However, he lacks competent experts. No doctor can fulfil Sam's aim, so he does not know how to recover. Now, if Simon only knows how to ask for help, he would be in the same epistemic state as Sam. Intuitively, however, Simon knows more. Both agents know how to resort, but only Simon knows how to succeed. Can objectors explain away this disparity in non-epistemic terms? Can we say that both agents know how to resort while Simon is only *lucky* to have available experts? The answer is 'no' because the presence or absence of competent experts affects whether the agent is *locally reliable* in fulfilling the task. Accordingly, anti-intellectualists may ascribe reliable ability to Simon but not to Sam. Intellectualists can also regard Simon, but not Sam, as knowing a reliable method to succeed. Either way, Simon remains in a superior knowledge state.

### 3.2 Objection II: do our agents simply know how to get things done?

Another objection regards our agents as knowing only 'how to get things done'. These agents might have *de se* know-how by knowing how *they* fulfil their aims. The trouble, rather, concerns the *content* of what they know. Here are two readings of (B**):

> (B**$_I$) Simon knows [how PRO to 'get his stomachache cured' *via hospital treatment*].
> (B**$_{II}$) Simon knows [how PRO to 'cure his stomachache by himself' *via hospital treatment*].

According to the objection, (B**$_I$) is true but (B**$_{II}$) is false. When we specify the task content, resorting only amounts to getting one's aim achieved by others, not performing it oneself. Thus, the knowledge of how to φ is not outsourceable. When the aim is to φ by oneself, know-how is non-outsourceable. When the aim is to get φ done by others, our agents already have expertise. Because Simon knows only how PRO to 'get his stomachache cured', not how PRO to 'cure the stomachache', he lacks know-how.

Even if cogent, this objection works only on (Hospital). In (Travel), Rachel will arrive at Sacré-Cœur herself. The state to be realized by asking at the station features Rachel reaching the basilica. No one else reaches that location in her place. The objection does not undermine all instances of outsourced know-how.

On closer inspection, (Hospital) is also safe. The reason, I shall argue, is that the object of know-how can be generally construed as a task to fulfil, and that the difference between 'φ' and 'get φ done' is no longer essential when know-how concerns the fulfilment of tasks. To clarify, 'φ' and 'get φ done' are often mutually exclusive when φ refers to an *act* to be performed. For instance, 'doing one's homework' is an act, and a student is not 'doing her homework' if she is only 'getting her homework done' by others. Likewise, if 'curing the disease' is a medical *act*, Simon will not know how to perform it. Fortunately, 'act' is not the best category with which to characterize know-how. Know-how more generally concerns *tasks* to fulfil. Epistemologists typically use 'act' and 'task' interchangeably for know-how. To 'swim', for instance, can be seen both as an act to perform and as a task to fulfil. A more specific account, which Habgood-Coote (2018: 252) formulated and attributed to Hawley (2003) and Cath (2015), regards the object of know-how as a task that is *redirected* to the performance of an act. Thus, knowing how to swim is knowing how to fulfil the task to perform the act of swimming. The problem, however, is that not all tasks consist in performing acts. To 'win a war' is a task, but it is not an act to perform. Winning a war is achievable via a series of acts, such as making strategies, spreading misinformation, and pushing buttons. This entire series is itself too complex to be recognized as an act. Meanwhile, winning a war is a legitimate object of know-how. A marshal can know how to win a war. She can know what to do – such as making a plan and spreading misinformation – to prevail on the battlefield. Obviously, her knowledge of how to win is not identical to knowing how to perform these acts. One might know how to perform all these acts but still be ignorant of how to win a war.

Knowing how to win a war necessitates remarkable practical wisdom beyond the acts involved. Therefore, although simple tasks such as swimming are redirectable at acts, this is not true of complex tasks. To uniformly characterize know-how, 'task' is preferable to 'act' as the basic category: knowing how to φ is knowing how to fulfil a task, which need not be knowing how to perform an act.

What is it to fulfil a task? While tasks are adaptable to various ontological accounts, I construe tasks as about the realization of states of affairs. On this view, to fulfil a task is basically to realize a state of affairs. This leads to the following pair of theses:

(TS) To fulfil a task is to realize a purported state of affairs.

(KHS) 'S knows how to φ' is true if and only if S knows how to fulfil the task of realizing the state of affairs of φ.

TS is about fulfilling tasks. KHS is the related notion of know-how. By TS, to win a war is to realize the state such that the war is won by a given party. With KHS, the knowledge of how to complete this task may accordingly involve either the ability to realize this state or the understanding of a proposition that describes a method of doing so. To accommodate simple tasks of performing acts, it suffices to specify the performer, e.g., S knows how to 'swim' if she knows how PRO to realize the state of 'S swims'. Albeit wordy, such explanations are more accurate regarding what we truly know. Note also that KHS does not require possession of a clear mental picture of the precise state of affairs beforehand for each occasion. A musician can know how to improvise jazz on saxophone, but she may not be aware of what melodies or chords she will play before she improvises. KHS does not rule out such know-how. We can regard the musician – let us call her M – as knowing how PRO to realize the state of 'M competently improvises jazz on saxophone'. The musician, if competent, should have a rough idea of this state: such a basic conception is at least required by intellectualism. Beyond that, she need not hold a detailed picture of her eventual performance. Here, the state such that 'M competently improvises jazz' is vague: it covers various situations and even has borderline cases regarding whether a performance is competent. Such vagueness in states of affairs is innocuous. For instance, on the premise that states of affairs have properties as components (e.g. Armstrong 1997: 118-9), the vagueness of 'M competently improvises jazz on saxophone' is explainable by the vagueness of the property of 'competently improvise jazz on saxophone'. To focus on our topic, I leave aside the issue of which theory of states of affairs best fits know-how.

Before further developing TS and KHS, let us return to the objection that outsourced know-how is merely knowledge of how to get things done. Why can 'task' fend off this objection? It is because compared to acts, tasks are compatible with more methods. Whereas the *act* of curing Simon's disease necessitates medical skill, the *task* of curing the disease is fulfilled insofar as Simon realizes this result regardless of his method. Similarly, the task of winning a war can be achieved by spreading misinformation or implementing economic sanctions: there is no constraint on the method. Of course, this contrast between act and task is not absolute. On the one hand, acts are performable in many ways, e.g., we can 'swim' via breaststroke or butterfly. On

the other hand, there is a fine-grained notion of tasks that specifies the method, e.g., 'winning a war by dropping a bomb' will be a different task from 'winning a war by spreading misinformation' (cf. Pavese, 2017: 368). My point, rather, is that tasks are *usually* individuated with less constraints on methods. While a person can perform the act of swimming via breaststroke or butterfly, she can also achieve the task of swimming by learning from an instructor and then performing the act of swimming. For Simon, he knows how to complete the task of 'curing the stomachache' – which is to realize 'Simon's stomachache is cured' – because resorting is a means of doing so. Thus, instead of (B\*\*$_I$) or (B\*\*$_{II}$), my view rests on the following sentence:

(B\*\*$_{III}$) Simon knows [how PRO to realize the state of affairs that 'Simon's stomachache is cured' *via hospital treatment*].

(B\*\*$_{III}$) is true, and it ascribes know-how to Simon per KHS. For tasks, the difference between 'φ' and 'get φ done' is non-essential: if φ refers to fulfilling a task, then 'get φ done' by resorting is *a* viable method. On a general level where know-how concerns tasks, our agents have know-how as they know how to realize the purported states of affairs. Their know-how also remains outsourced because their primary method is to resort.

It is noteworthy that by focusing on tasks, KHS prevents outsourcing from a certain form of cognitive bloat. Intuitively, a novice chess player does not know how to defeat Kasparov. Suppose that X is a chess master who can defeat Kasparov, and Y is new to chess but can make X defeat Kasparov. Does Y know how to defeat Kasparov? The answer is 'no' if 'defeat Kasparov' refers to an act of chess playing: Y cannot realize the state of 'Y defeats Kasparov at chess'. Meanwhile, Y knows how PRO to realize 'Kasparov is defeated at chess'. It suffices to let X do so. Thus, when we specify the content of the task, outsourcing does not ascribe implausible instances of know-how.

To reinforce my position, consider the objection that whereas KHS prevents certain cognitive bloats, it is overly permissive in other aspects. For instance, agents who reliably succeed by guessing do not seem to have know-how. An amateur locksmith does not know how to pick a complicated lock if he only knows about randomly jiggling the key. Nevertheless, randomly jiggling the key for days would reliably place the key in the right way, and the amateur knows that it would realize the state of the lock being open. We also rarely ascribe know-how to those who need extensive training, e.g., a novice pianist does not seem to know how to play the minute waltz in 55 s, even if she knows that learning from an excellent teacher for decades would realize the state of her playing it in 55 s. KHS could mistakenly ascribe know-how to these agents. Obviously, outsourcing is not responsible for this trouble: while the pianist resorts to experts, the locksmith does not. Nor does the problem arise out of aiming know-how at tasks. After all, there is an equally clear sense in which the locksmith does *not* know how to fulfil the task of picking the lock – especially if he has only 20 min to do so. Ordinary contexts set various standards for tasks, such as using a particular method or achieving a certain level of efficiency. These standards are in turn determined by further practical needs of the agent or society. TS seems deficient by ignoring such standards.

**Table 1** Task and Know-How

| | Content of T | Success condition of T | Adequate success | Know-How |
|---|---|---|---|---|
| **TS** | Realize φ | Realize φ | Realize φ under C | KHS |
| **TSC**$_{\text{Coarse-Grained}}$ | Realize φ | Realize φ under C | Realize φ under C | KHSC |
| **TSC**$_{\text{Fine-Grained}}$ | Realize φ under C | Realize φ under C | Realize φ under C | KHSC |

How to understand the fulfilment of a task? My response to the objection is two-fold. On the one hand, TS can be preserved via an invariantist approach. According to this approach, a person fulfils a task insofar as she realizes the purported state of affairs. Further standards such as efficiency concern only the pertinence, not the truth, of assertions about the task being fulfilled. Plausibly, we can regard the locksmith as nonetheless completing the task of picking the lock even if he has done so only by randomly jiggling the key – he fails only to complete the task *in the appropriate way*. With KHS, it is thereby correct to ascribe know-how to the locksmith, except that the ascription inadequately ignores additional norms. This position coheres with the invariantist view of know-how, noted in Sect. 2, according to which knowledge-ascribing sentences can be inadequate but true. Particularly, the assertion that the amateur knows how to pick the lock is correct because 'randomly jiggling the key for days on end is a reliable method to open the lock' is a semantic answer, which he knows, to the question 'how to pick the lock'. On the other hand, via a contextualist approach, sentences about tasks can vary in truth-value depending on other factors. The assertion that the amateur fulfils the task of picking the lock might be true in some contexts but false in others with additional standards, such as skilfully using a particular method. For this contextualist approach, we can qualify TS and KHS:

> (TSC) To fulfil a task is to realize a state of affairs according to the standards in the context.

> (KHSC) 'S knows how to φ' is true if and only if S knows how to fulfil the task of realizing the state of affairs of φ according to the standards in the context.

TSC is compatible with both a coarse-grained and a fine-grained notion of a task. The coarse-grained notion regards the *content* of a task as simply realizing a state of affairs. It is the *success conditions* that pose further standards. This coarse-grained notion is viable because not all conditions about whether a task is fulfilled must be parameters in assertions about what the task is. To 'pick the lock' is a properly individuated task, but we can still regard the amateur as failing if he does so only by randomly jiggling the key. The fine-grained notion, in contrast, interprets a task as having the complex content of realizing a state by certain standards: e.g., the amateur has not fulfilled the task of 'skilfully picking the lock in 20 minutes'. Let φ be the state of affairs for task T and let C be the other conditions. We can summarize the foregoing with Table 1.

For the present purpose, we need not defend any particular account of task. Some tasks are more adaptable to TS; others better fit TSC$_{\text{Coarse–Grained}}$. Determining which account is true or most widely applicable is beyond our scope. Nor do we have to choose between KHS and KHSC. As argued in Sect. 2, both invariantist and contextualist accounts permit outsourcing. According to KHS, Simon possesses outsourced know-how as he invariably knows how to realize 'Simon's disease is cured'. According to KHSC, Simon has know-how in contexts that do not require the use of medical skills, such as when his mother is worried about his health.

### 3.3 Objection III: is outsourcing only referring to external contents?

Are our cases explainable by knowledge of *external contents*? Suppose that Simon's doctor learned how to cure gastric ulcers from a textbook. She points to the textbook and says, 'It describes a way to cure gastric ulcers.' Thus, her expertise is explainable by referring to this content. Meanwhile, her knowledge is not 'outsourced' in any interesting sense. Why do we need outsourcing in addition to external referrals? Rather than denying the reality of outsourced know-how, this objection attacks its value. We may still ascribe outsourced know-how, but it will not motivate the constitutive view in OKH.

I agree that outsourcing does not necessitate the constitutive view. Moderate construals are available and subject to fewer objections. Nevertheless, 'external content' is too impoverished to explain our cases. Outsourcing is interesting even on weaker accounts.

For anti-intellectualists, the present objection implies that our agents are only using external tools. However, this description is defective. In tool use, the performer's expertise is *the most salient explanans* of success. When a skilful archer hits a target, she succeeds mainly due to her ability, not to the presence of bows and arrows. Of course, if bows and arrows are rare, her success might be saliently explainable by her available tools, but this is not the case for normal archery conditions. For outsourcing, the opposite is true. Simon recovers mainly because of the *doctor*'s skill. Even if his society has abundant medical resources, the doctor still saliently explains his recovery. Therefore, according to anti-intellectualism, 'external referral' is even explanatorily inferior to the 'primary explanans' reading of our cases.

For intellectualists, the objection alleges that our agents have propositional knowledge, while propositional knowledge is not constituted by its content. The knowledge that P is typically constituted by the *belief* that P, not the *fact* that P. As a first reply, the constitutive construal of propositional knowledge is not denied by all. Bengson (2015) analysed disjunctivism with a constitutive view: a successful perception can differ from the corresponding illusion by being constituted by the perceived fact. Furthermore, OKH need *not* recruit the propositional content as a constituent. We suggested that the constitutive view can refer to 'complete know-how', e.g., the doctor's expertise *completes* Simon's know-how. The extension of what qualifies a state as knowledge is observed in the combination of reliabilism with HEC as well as Sosa's virtue account of testimony. It is not a *per se* implausible approach to propositional knowledge.

**Table 2** External referrals

|  | Knowing-How | Not Knowing-How |
|---|---|---|
| **Non-Practical Mode of Referral** | e.g., the doctor's referral to the textbook | e.g., Simon's referral to the textbook |
| **Practical Mode of Referral** | e.g., the student's referral to the textbook | e.g., the student's referral to a mistaken textbook |

To further refute the intellectualist version of the objection, let us see why 'external referral' is uninformative. Recall that the doctor learned how to cure gastric ulcers from a textbook, to which she points and says 'It describes a way to cure gastric ulcers'. Let Simon point to the same book and assert 'It describes a way to cure gastric ulcers'. This referral does not create know-how. Simon does not know the contents of the book, nor does he *a fortiori* grasp their practical senses. Hence, 'external referral' cannot separate know-how from ignorance. Now, imagine further that a novice medical student asserts that the book 'describes a way to cure gastric ulcers'. As in (Travel) and (Kytoon), the student knows how to cure gastric ulcers. She knows a method, i.e., to learn from the book, by which she will reliably cure gastric ulcers. Why is Simon ignorant whereas the student has know-how? A plausible explanation is that Simon is not presenting 'learning from the book' under a practical mode. His reference is demonstrative, involving merely the statement '*that* describes a way to cure gastric ulcers'. The student, instead, refers to the book under a mode that guides her future practice. Thus, 'external referral' can be analysed with at least two parameters, i.e., the subject's know-how and the mode of presentation, as presented in Table 2.

The doctor refers to the book under a non-practical mode since she no longer uses the book as a guide, but she retains expert know-how. The student refers under a practical mode because she is to learn from the book. Her referral produces outsourced know-how, but only if the book has no mistakes. For Simon, he neither refers under a practical mode nor has expertise. These four situations are distinct, but they all refer to external contents. The concept of external referral is accordingly uninformative with regard to the variety of epistemic-practical states.

## 4 Revisiting expertise and credit

Having defended the outsourceability of know-how, let us revisit the relation with expertise. Know-how is closely linked to expertise. The popular reading of (Kytoon) precisely presumes this connection. Outsourcing dissociates know-how from expertise, but it preserves an essential role for expertise: outsourced know-how is constituted by expertise or at least primarily explained by it. Rather than denying the value of expertise for know-how, outsourcing assumes this value. The resultant picture of the social division of labour elucidates not only the importance of experts but also the relief of ordinary know-how from the constraint of expertise.

Nevertheless, one might still worry that outsourcing blurs the boundary between experts and non-experts. How can we tell experts from non-experts if they all can fulfil the same tasks? I address this issue by answering two related questions. How

can non-outsourced expertise be defined? Does outsourcing violate the creditability requirement for knowledge?

## 4.1 Objection IV: what is non-outsourced expertise?

What is practical expertise? Due to outsourcing, the usual characterizations of know-how no longer capture expertise. We cannot define expertise as reliable ability or grasped practical sense since outsourcers also have these qualities. Surely, when proposing KHSC, I noted that know-how and tasks can be relative to methods: KHSC directly identifies some instances of know-how as expert and others as outsourced. Nevertheless, this contextualist approach does not offer a *principled* account of expertise. It presupposes expertise. We also cannot define experts as those who quantitatively know *more*. Experts often know how to φ via skills in addition to resorting, whereas non-experts know only how to φ by resorting, but this disparity does not always hold. Simon's doctor could suffer from social communication disorder. She might know only how to treat patients but not how to resort to other doctors. Worse still, she might be the only competent doctor in her society. In such situations, she knows only *one* way to cure gastric ulcers, i.e., via medical skill. Experts do not always know more.

The difficulty of defining expertise is not a *problem* of my thesis. It is an independent challenge that follows from outsourced know-how: *if* know-how is outsourceable, we will indeed need a concept of expertise other than 'reliability' or 'grasped practical senses'. While we lack the space for a principled theory of expertise, two alternative approaches are noteworthy.

*The enumerative approach*: One way to capture expertise is to enumerate basic skills. We may refer to what the doctor knows as 'the medical expertise to treat gastric ulcers' and what the Gare du Nord station staff has as 'the expertise to reach Sacré-Cœur'. When such skills are exhaustively covered, we will have reproduced 'practical expertise'. Although tedious, this approach respects the full range of non-outsourced expertise.

*The social approach*: A more intriguing approach is to understand expertise in social-relational terms. The quest for a principled account of expertise assumes that expertise is primitive and foundationally sustains social states such as outsourcing: e.g., outsourcees have expertise; outsourcers resort to expertise. However, we can *reverse* this explanatory order. Expertise might be special only by virtue of its fundamental place in a *social structure*. Perhaps an individual has expertise only because she is socially independent, and our agents are non-experts only because they are dependent. Rather than derivative, social properties could be primary in explaining expertise. The result is an *essentially social* account of know-how and expertise. For the defence of outsourced know-how, I need not rule out this social approach.

## 4.2 Objection V: non-creditable knowledge?

Does outsourcing violate the requirement that knowledge be creditable (e.g. Pritchard 2010)? The following scenario illustrates this concern:

(Cheat) During a history test, Chloe does not know the answer to the question 'Which is Queen Elizabeth's death year?' However, Chloe is a skilled cheater. She secretly sends a text to her friend and receives the message '1603'.

Before cheating, does Chloe know how to answer the question? My view implies that she does. Chloe knows a way, i.e., cheating, to realize the state of 'Chloe answers the question'. However, Chloe deserves little credit. It is her friend who genuinely knows how to answer the question.

In response, I concede that Chloe possesses outsourced know-how. I offer two remarks to explain away the opposing intuition.

First, the objection partly employs the idea that knowing how to answer a question implies knowing what the answer is. As Chloe does not know the answer, she lacks know-how. However, on standard intellectualist accounts, knowing how to answer a question entails only knowing, of a method $w$, 'that $w$ is a way to answer the question'. It does not entail knowing what the answer is. By knowing a way to answer the question, i.e., cheating, Chloe has practical knowledge.

Second, Chloe's know-how is compatible with the creditability requirement. In light of discussions of testimony, knowledge does not need full creditability. Travellers may know where a place is by receiving information from a local guide. Meanwhile, travellers do not deserve as much credit as the guide for such knowledge. Virtue reliabilists have explained this by regarding travellers as *partially creditable* for using their ability of information access (Greco, 2007) or by *socially distributing* the credit (Sosa, 2007: 93−4). Both solutions analogously protect outsourced know-how. We can qualify outsourcers as partially creditable by knowing how to resort, or we can socially distribute the major credit of outsourced know-how to the experts. Either way, outsourcing is on par with testimony vis-à-vis epistemic credit.

## 5 Concluding remarks

I have argued that know-how does not require practical expertise due to the possibility of outsourcing. Albeit rooted in social life, outsourcing differs from the most discussed cases of social cooperation, including collective agency and testimony. Therefore, outsourcing is a novel pattern for knowledge to be social. With the constitutive view, outsourcing also reveals a new form of social cognitive extension that does not presume EMT or HEC.

Many features of outsourced know-how await further exploration. Here, I make two remarks on know-how, know-that, and know-wh.

First, some epistemologists regard know-that as outsourceable. In light of Otto's case, know-that is outsourceable to smartphones and computers (Lynch, 2014: 300); our semantic knowledge of technical terms can also be outsourced to experts (O'Madagain, 2018). However, such outsourcing necessitates EMT. Since we are *prima facie* unaware of what the internet archives before surfing its contents, such outsourcing calls for an unusual extension of our minds. In contrast, know-how is smoothly outsourceable because knowing how to resort for the purpose of φ already

is a way to φ. Notwithstanding my preferred constitutive view, outsourced know-how itself requires no surprising philosophical engine.

Second, intellectualists often emphasize the linguistic similarity between know-how and know-where, know-when, know-who, etc. Are these states also outsource-able? The answer is negative. Rachel knows *how* to reach Sacré-Cœur by outsourcing but does not yet know *where* Sacré-Cœur is. She knows its location only *after* receiving the information. Ascribing know-where to Rachel must extend her mind to the station staff, which requires EMT instead of outsourcing in our sense. This disparity between know-how and know-wh can be explained by the fact that methods alone are composable. Two methods can compose a complex method that remains a legitimate object of know-how. Simon's method is *resorting to the doctor*. This is combined with the doctor's expert method *to treat stomachache*. The two methods compose the method of *resorting to the doctor's method to treat stomachache*, which is precisely the method of Simon's 'complete' know-how. Other categories such as place are not equally composable. Rachel knows *where* to ask about Sacré-Cœur, i.e., the Gare du Nord station, and the station staff knows *where* Sacré-Cœur is. However, these two places do not compose a single location. To reinforce this conclusion, consider another person, Rebecca, who has been to Paris. Rebecca knows that Sacré-Cœur is in Montmartre but cannot remember how to reach it from Anvers, a nearby Metro stop. Meanwhile, she recalls that a map on the wall at Anvers shows the location of the basilica. Does Rebecca possess outsourced know-where about Sacré-Cœur? She does not. On the one hand, Rebecca *vaguely* knows where Sacré-Cœur is – in Montmartre – but this know-where is not outsourced. On the other hand, she knows that the map indicates the location, but following the map is a *method* for travel, not a *place*. One way or another, Rebecca's know-where is not outsourced. Outsourcing her know-where would extend her mind to the map, which again requires EMT rather than our sense of outsourcing. Intellectualists might be vexed about this disparity in outsourceability between know-how and know-wh. Nevertheless, since outsourced know-how is adaptable to intellectualism, it does not pose a substantial threat to the intellectualist project.

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