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WISDOM AS AN EXPERT SKILL[*]

ABSTRACT: Practical wisdom is the intellectual virtue that enables a person to make reliably good decisions about how, all-things-considered, to live. As such, it is a lofty and important ideal to strive for. It is precisely this loftiness and importance that gives rise to important questions about wisdom: Can real people develop it? If so, how? What is the nature of wisdom as it manifests itself in real people? I argue that we can make headway answering these questions by modeling wisdom on expert skill. Presenting the main argument for this *expert skill model of wisdom* is the focus of this paper. More specifically, I'll argue that wisdom is primarily the same kind of epistemic achievement as expert decision-making skill in areas such as firefighting, and military tactics. Acknowledging this helps us see that, and how, real people can develop wisdom. It also helps to resolve philosophical debates about the nature of wisdom. For example, philosophers, including those who think virtue should be modeled on skills, disagree about the extent to which wise people make decisions using intuitions or principled deliberation and reflection. The expert skill model resolves this debate by showing that wisdom includes substantial intuitive *and* deliberative and reflective abilities.

ABBREVIATIONS: RPD Model – Recognition-Primed Decision Model of expert decision-making, according to which experts in areas like chess and firefighting can intuitively identify good courses of action because they recognize patterns previously encountered and stored in memory.

Wisdom may be compared to skillfulness. Sagacity may be compared to strength. It is like shooting an arrow from beyond a hundred paces: its making it there is due to your strength, but its hitting the bull's eye is not due to your strength.

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-Mengzi, Mengzi *5B1.7*

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1 INTRODUCTION

Making good decisions about how to live is difficult. To live virtuously, we have to be committed to the right things and express those commitments in the right ways. We have to, for instance, balance our concern for others' welfare with the maintenance of our own, decide what our commitments to honesty and loyalty require when our friend is mendacious, determine how best to show respect to an emotionally volatile co-worker, and so on. Even if we are generally well-adjusted, the complexity of decisions about how to conduct ourselves makes it difficult to do the right thing. The way to cope with this difficulty is to acquire wisdom, the intellectual virtue that enables a person to make reliably good decisions about how to live. Wisdom is the understanding that enables us to identify what should be done and how to pull it off: as Mengzi suggests, wisdom enables a person to shape and channel her commitments to produce right conduct, much as skill at archery enables a person to channel her strength into an amazing bullseye.

Wisdom is thus a valuable, though lofty, ideal. Because it is so important and elevated an ideal, we should wonder: what, more specifically, is wisdom? Can real people attain it? If so, how? I will argue that we can make headway answering these questions by modeling wisdom on expert skill. Presenting the main argument for this *expert skill model of*

wisdom is the focus of this paper. More specifically, I'll argue that wisdom is the same kind of epistemic achievement as expert decision-making skill in areas such as firefighting. Acknowledging this helps us see that, and how, real people can develop wisdom. It also helps to resolve philosophical debates about the nature of wisdom. For example, philosophers, including those who advocate modeling virtue on practical skills, disagree about the extent to which wise people make decisions using intuitions or principled deliberation.[1] The expert skill model resolves this debate by showing that wisdom includes substantial intuitive *and* deliberative and reflective abilities.

In making this argument, I'll deviate from Mengzi's simple skill analogy in important ways.[2] First, I'll be focusing on a specific type of skill: expert decision-making skill in domains requiring complex choices and challenging performance. By narrowing the range of skills used to model wisdom, I'll be able to make my argument for the expert skill model as cogent and specific as possible. Second, I'll be drawing on empirical psychological research to characterize expert skill. By starting with an account of expert skill that has been developed using rigorous empirical research on real experts, I'll be able to substantiate my account of wisdom without reliance on an error-prone folk psychology or armchair speculation. As I'll argue, a careful examination of the research on the nature and limits of intuitive expertise provides the basis for including intuition as a component of wisdom, though only in concert with substantial deliberative and reflective abilities.

I'll begin by making the argument for the expert skill model in §§2 – 3. The argument has two components: a philosophical argument and an empirical argument. In §2 I use philosophical argument to show that wisdom is a specific kind of understanding. In §3

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[1] I discuss this in more detail in §4 below.
[2] I should emphasize that I am not engaging in Mengzi interpretation. The quote from Mengzi is simply used to provide a vivid and historically important gesture at the expert skill model.

I analyze the relevant empirical literature to show that expert decision-making skill is the same kind of understanding. So wisdom is an expert skill: it is the same type of epistemic achievement as expert decision-making skill in areas like firefighting. In §4 I review the argument for the expert skill model in order to show how it tells us important things about the nature of wisdom. Finally, in §5, I address objections to the expert skill model.

2 WISDOM IS UNDERSTANDING OF HOW TO CONDUCT ONESELF

Because wisdom is a normative ideal, we need philosophical argument to give an account of it.[3] Empirical research alone cannot tell us what this ideal looks like.[4] In this section I'll argue that wisdom is a specific type of understanding because of the role it plays in the virtuous life.[5]

2.1 REAL WORLD WISDOM VS. PERFECT WISDOM

But before investigating further what sort of ideal wisdom is, we should be careful to distinguish two distinct types of wisdom that could be considered ideals worth aspiring to: perfect wisdom and real-world wisdom. *Perfect wisdom* is manifested by the person who always conducts herself as excellently as possible. *Real-world wisdom* is the approximation of perfect wisdom that (at least some) real people have a hope of attaining.

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[3] See Haybron (2008) for a similar argument about the study of happiness. Haybron argues that philosophy provides "reconstructive analysis" of our folk concepts of happiness. The purpose of this reconstructive analysis "is not to explicate but to reconstruct: reworking rough-and-ready folk concepts to get something better suited to thinking clearly about the matters that concern us" (2008, 47).

[4] But see Tiberius and Swartwood (2011) for an argument that empirical research on folk concepts of wisdom can play a role in constructing a normative account of wisdom.

[5] I will be assuming that the good life, or the well-lived life, is the life of virtue. The *locus classicus* for this claim is Aristotle's argument that the good life is the life of virtue (Irwin 1999, bk. I.7). All subsequent references to Aristotle's *Nicomachean Ethics* (hereafter *NE*) will be to the Irwin translation.

The expert skill model is intended to tell us about the nature of real-world wisdom. By analyzing the type of epistemic achievement wisdom (both perfect and real-world) is, we find the general shape of the ideal we aspire to when seeking wisdom. We can then shed light on how this ideal manifests itself in real people – for example, what specific abilities it is composed of – by examining how the same type of achievement manifests itself in decision-making domains, such as firefighting, that are more commonplace than but nevertheless relevantly similar to the domain of wisdom. Thus, by considering the general nature of wisdom, we can see what real world wisdom will look like and how it compares to the perfect wisdom to which we ultimately aspire.

2.2 THE DOMAIN OF WISDOM: COMPLEX CHOICE AND CHALLENGING PERFORMANCE

To begin giving an account of wisdom we should note some features of the area of choice – or domain – of wisdom that will be important to my argument. Wisdom is an excellence that enables a person to make good choices about how to live. More specifically, wisdom involves choices about how to live all-things-considered: not how to live *if* such-and-such is your goal, but how to live *period.* The domain involving the task of making these choices – in short, the domain of wisdom – has two essential features: it requires complex choices that are challenging to carry out.

Take the first feature. The domain of wisdom is what I will call a *domain of complex choice:* it is an area where the factors governing good decisions are many, varied and interact in complex ways, and a person needs to identify what to do with limited time and psychological resources. This is plainly an uncontroversial claim no matter what ethical theory you favor. Virtue ethicists commonly make the claim that decisions about how to live are so complex that there is no set of moral rules or principles that could be

mechanically applied to a situation to determine how to live.[6] My claim here is similar but leaves out the talk of principles: making all-things-considered decisions is hard both because of the complexity of the subject matter and because of our cognitive limitations.[7]

Now take the second feature of the domain of wisdom. The domain of wisdom is a *domain of challenging performance*: it is an area where successfully carrying out what's to be done requires sustained coordination of behavior, affect, and motivation in a way that doesn't come naturally to people and requires significant practice to achieve. This is also an uncontroversial claim, since becoming virtuous, by all accounts, isn't easy. Being virtuous requires having the right feelings, motivations, and attitudes at the right times. Clearly then it is challenging to learn to conduct oneself virtuously. That is not to say that a person with virtue has a tough time doing what she should. Nor is it to say that being motivated to carry out the virtuous action is unconnected from the task of figuring out what to do.[8] For now all I hope to have shown is that, when it comes to wisdom, identifying what to do and actually doing it are both challenging.

2.3 WISDOM IS UNDERSTANDING HOW TO CONDUCT ONESELF

Wisdom (in both its real-world and perfect forms) is thus an ideal worth aspiring to requiring choices that are complex and challenging to carry out. But how should we characterize this ideal? Hursthouse, for instance, states that wisdom is "the knowledge or understanding that enables its possessor" to do the right thing (2010). A look at wisdom's role in a virtuous life shows that wisdom is a particular kind of understanding: understanding

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[6] See McDowell (1979, 336), Nussbaum (2001, 299), and Broadie (1993, 234). These authors all take their inspiration from statements made by Aristotle. See the *NE* 1094b15 – 1095a1, 1104a1 – 4.

[7] It is worth noting that even Utilitarians and Kantians acknowledge that experience and judgment, rather than the mere memorization and application of principles, is required for making good moral decisions. For a Rule-Utilitarian example, see Hooker (2000, 131 – 134). For a Kantian example, see O'Neill (1986).

[8] For a thorough critical defense of this claim, see Little (1997).

of how, all-things-considered, to conduct oneself. Furthermore, this understanding is best described as an ability.[9]

The understanding that's relevant for my purposes is *understanding how to conduct oneself.* A person understands how to conduct herself in a domain D when, for a broad range of situations in D, she grasps reasons for action relevant to responding successfully in those situations. The metaphor of grasping is supposed to pick out a cognitive accomplishment: grasping reasons is an ability to identify them accurately and non-accidentally across a wide range of situations in a domain.[10] A person who understands how, for example, to train dogs can identify what to do when she's tasked with altering Fido's (and Fifi's, and Rover's, etc.) behavior, and she does so not by accident or luck but by homing in on the relevant aspects of the situation and drawing the right conclusions about what actions they necessitate.[11]

There are two main types of reasons that can be grasped in situations. The first type is what I'll call *a success reason.* A success reason is a reason to perform an action because performing that action in that situation would achieve, or contribute to achieving, a goal (or goals) that constitute success in the domain in question. For instance, a person who understands how to train dogs grasps when to use positive reinforcement to shape a dog's behavior. This grasp can be described as an ability: the trainer is able to see that the dog's

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[9] See Pritchard (2007) for a review of recent work in epistemology on the different types of understanding and their value. There are a variety of types of understanding: understanding that something is the case, understanding a phenomenon or topic, understanding why something is the case, etc. Epistemologists tend to characterize these different types of understanding in similar ways: they involve a grasp of things that can in turn be described as an ability. See e.g. Zagzebski (2001), Grimm (2006), and Hills (2009). Stephen Grimm, for example, suggests that, following James Woodward, we should characterize understanding as "an ability to answer 'what-if-things-had-been-different?' questions" (2006, 532). A person understands how a car engine works when she can tell you how (and if) it would run if it had no oil, was missing a belt, or whatever.

[10] I am indebted here to Alison Hills' (2009, 98–106) very insightful account of "moral understanding." According to Hills, moral understanding is understanding why a moral proposition is true. This understanding "involves a number of abilities," such as the ability to follow an explanation of why the claim is true, an ability to explain why it is true in your own words, and an ability to arrive at the claim from the relevant facts (2009, 102).

[11] On the epistemic importance of non-accidental belief, see Hills (2009, 102), Sosa (2007, 185 – 8), and Sayre-McCord (1996, 143).

reticence to make eye contact with humans requires rewarding eye contact with treats so that the dog will be more responsive to its human companion. We can give a general characterization of the grasp of success reasons in a domain D: this grasp is an ability to identify what features of a situation in D require what response (where a response constitutes or directly contributes to achievement of domain-specific goals).

Understanding how to conduct oneself in a domain will always require this ability to identify success reasons, regardless of the domain. After all, understanding how to conduct oneself in a domain is a grasp of reasons for action relevant to successful performance in that domain. Understanding how to conduct oneself in a domain D is thus an ability to identify (accurately, non-accidentally, and in a wide range of situations in D) what features of a situation in D require what response.

However, understanding how to conduct oneself sometimes requires more than this. After all, grasping how to conduct oneself successfully often requires more than identifying what response to a situation constitutes or contributes to success. Often, we have *self-regulative reasons* for action: reasons to take some action in order to overcome internal obstacles to doing what needs to be done. For instance, an expert dog-trainer can see when fear and fatigue will be an issue and sees how to successfully manage them when training an especially testy canine. Importantly, this isn't necessary in every domain. In chess, for example, once a good move is identified, it isn't hard to reach out and make it. In other areas, the internal obstacles that challenge most people won't be present for all. An expert dog-trainer may be able, through practice, to train herself so that fear and fatigue don't ever get in the way of successfully training even the most fractious or frustrating dogs. But when there are internal obstacles to carrying out the successful response, understanding how to

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conduct oneself is not only an ability to identify success reasons but also self-regulative reasons.

These considerations yield the following account of understanding how to conduct oneself. Understanding how to conduct oneself in a domain D is (a) an ability to identify (accurately, non-accidentally, and in a wide range of situations in D) what features in a situation require what response in order to achieve the goals of D, and, when there are internal obstacles to carrying out that response, (b) an ability to identify how to overcome those internal obstacles.

Understanding how to conduct oneself can thus be described as an ability. What remains is to show that wisdom is understanding how to conduct oneself. Wisdom is understanding how to conduct oneself just in case it can be analyzed as the relevant kind of ability in the domain of all-things-considered decisions.

Wisdom has to be this kind of ability given the role it plays in a virtuous life. Recall that wisdom is required to turn the right general commitments into right conduct. A person who has the right general commitments cares about the right things, but she doesn't direct this care as she ought to when it comes to her thoughts, feelings, and actions in particular situations. What she needs to develop in order to live virtuously is an ability to identify correctly what matters and what she should do as a result. When Tamika's friend lies to her, Tamika, being wise, is able to recognize that maintaining honest communication is what matters and that gentle but straightforward confrontation is called for. She recognizes that confrontation is the thing to do, or perhaps, more specifically, the honest thing to do, in response to the relevant features of the situation. Indeed, Tamika is reliably able to identify what to do in response to situations, and she gets things right because of her ability rather than because of luck. So wisdom includes the ability to identify, reliably and accurately, what

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feature of the situation calls for what response in order to satisfy the relevant commitment. This ability is essential for living virtuously even if someone has the right general commitments, since in any particular situation there are numerous commitments one could pursue in numerous different ways, and the virtuous person has to figure out which commitment is most important in that situation and how best to pursue it.

This is sufficient to show that wisdom is an ability to identify success reasons and thus that wisdom is understanding how to conduct oneself in the domain of all-things-considered decisions. But we might wonder if wisdom also includes an ability to identify self-regulative reasons. In other words, wisdom is an ability to identify the virtuous thing to do, but is it also an ability to identify how to overcome internal obstacles to doing the virtuous thing?

When attempting to answer this question, we should be careful to specify whether we are concerned with perfect wisdom or real-world wisdom. We should be clear, in other words, whether we are asking if a perfectly virtuous person would have internal obstacles to acting virtuously, or whether we are asking if a person who has the degree of virtue possible for real people would have internal obstacles to acting virtuously.

For familiar reasons, I would answer the first question negatively: perfect wisdom does not include an ability to recognize self-regulative reasons. John McDowell argues that a fully virtuous person who has wisdom sees what to do without being tempted to do otherwise (1979, 334 – 5). Unlike the merely continent person, who does what she ought to after struggling with a desire to do otherwise, a virtuous person sees what to do in a way that "silences" less virtuous – or just plain vicious – alternatives (1979, 335). Someone who refrains from making a racist joke at a party only after suppressing a desire to tell it has worse character than someone who doesn't even see racist joke-making as a tempting

option. If this distinction between continence and virtue holds, then we have to conclude that a person with perfect wisdom will not have to overcome internal obstacles to doing what should be done.

Of course, this leaves it open that our answer to the second question, about real-world wisdom, is an affirmative. I will argue later (in §4) that there is in fact reason to conclude that the degree of wisdom possible for real people will include an ability to identify self-regulative reasons. But this argument is partly an empirical one, since it relies crucially on claims about the observable limitations and capacities of real people. As such, it cannot be undertaken until we move from the present philosophical analysis of wisdom to an analysis of the empirical research on expert decision-making skill. Conducting the latter analysis is the task of the next section.

3 EXPERT SKILL IS UNDERSTANDING OF HOW TO CONDUCT ONESELF

Expert skill in an area is skill that enables a person to perform reliably well and reliably better than non-experts. This is true regardless of whether we're talking about expert skill at chess, firefighting, jazz piano or anything else. But different domains present different challenges. I'll begin by examining the decades long program of empirical research on expert skills. I'll be focusing on domains that have both these features: they require complex choices[12] that are challenging to carry out.[13] I'll argue that expert decision-making

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[12] See Zsambok (1997, 5) for a description of how the psychological study of expert decision-making in real-world situations ("naturalistic decision-making") seeks to explain how experts deal with a variety of factors influencing decisions: e.g. "[i]ll-structured problems," "[u]ncertain, dynamic environments," "[s]hifting, ill-defined, or competing goals," "[a]ction/feedback loops," "[t]ime stress," "[h]igh stakes," "[m]ultiple players," "[o]rganizational goals and norms." My notion of domains of complex choice is intended to pick out decision-making tasks of this kind, though I've simplified the list in a way that isolates the factors important for my argument.

skill in these domains can be analyzed into a particular set of component abilities, just as biking ability can be analyzed into a number of component abilities, such as pedaling ability, balancing ability, etc. Furthermore, this specific set of skills is an epistemic achievement: it amounts to an understanding of how to conduct oneself in a domain. More importantly for my argument, in domains requiring complex choice and challenging performance, having this specific set of skills – as opposed to some other set – is the way an understanding of how to conduct oneself will inevitably manifest.[14]

3.1 EXPERT SKILL IS A SET OF ABILITIES

Consider first domains of complex choice. The most prominent model of real-world expert decision-making skill is the Recognition-Primed Decision (RPD) model, and this research gives us a good idea of how expert decision-making skill manifests itself in domains of complex choice. The RPD model of expert decision-making was originally developed using expert firefighters as subjects, but it has since been validated across a variety of domains, including (but not limited to) firefighting, chess, military tactics, physics problem-solving, and grain inspection. The model was developed as part of an attempt to understand how real experts in tasks requiring complex choices reliably made good decisions under real world conditions.

According to the RPD model, experts reliably make good, albeit not always optimal, decisions that are routinely better than those made by non-experts (Phillips, Klein, and Sieck 2004, 305). They are able to do so because they recognize patterns stored in memory

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[13] In his examination of the analogy between virtue and skills, Stalnaker (2010, 421) also identifies a variety of different types of skills, including skills of performance, skills of production, and skills of carrying out specific processes.

[14] As I note below, since the argument in this section is an empirical one, "will inevitably" here means something like "is really, really likely to."

(Kahneman and Klein 2009, 516; Phillips, Klein, and Sieck 2004, 304). Expert chess players, for example, have an ability to identify good moves immediately, effortlessly, and without having to consciously compare or assess possible options. They make this intuitive identification of what to do by recognizing how the current situation fits a pattern that they have encountered and successfully dealt with in the past. Although experts in domains of complex decision-making tend to rely heavily on intuition, there are two other mechanisms that play a significant role in their choices (Phillips, Klein, and Sieck 2004, 305).[15] Experts use deliberation to evaluate and improve upon their intuitive decisions when necessary. For example, chess experts can and, time permitting, often do successfully test an intuitive move to see if it really would be the best one. Finally, experts can make a good decision using conscious deliberation when the situation is too novel to generate an intuitive choice. When a board configuration doesn't fit a pattern a chess expert has encountered before, she can use her previous experience to identify a good move.

This description of expert decision-making mechanisms implies that expert decision-making skill is comprised of three component abilities. The first is *intuitive ability*: experts can identify what ought to be done quickly, effortlessly, and without conscious deliberation.[16] The second component ability is *deliberative ability*: experts use effortful, consciously accessible processes to search for and evaluate choices when an intuitive identification is lacking or inadequate. Experts can search for and test a decision by, for instance, seeking out more information and drawing implications from it, examining a situation to compare it to others previously encountered, and evaluating a choice by reference to success-relevant goals and criteria. Research on experts in various domains, such as chess, medical diagnosis

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[15] See also Ericsson and Lehman (1996, 283) for an explanation of how both "recognition-based retrieval" and "search" skills are important parts of expertise.

[16] The definition of intuition used here is commonly used by psychologists who study human cognition, e.g. Jonathan Haidt (2001), Timothy Wilson (2002), and Daniel Kahneman (2011).

and physics problem-solving, shows that experts have a more accurate and more abstract representations of their domains, and they are adept at applying these representations to particular situations (Feltovich, Prietula, and Ericsson 2006, 55 – 7; Phillips, Klein, and Sieck 2004, 300). A third component ability implied by the RPD model is *meta-cognitive ability*: an expert is able to decide when and how to rely on intuition and deliberation.

Humans cannot develop expert decision-making skill in every domain. The RPD model indicates that people will only develop reliable intuitive ability when they undertake practice or experience that gives them clear and accurate feedback on the quality of their decisions.[17] Nevertheless, in many fields, it is possible to develop an ability to recognize a good decision quickly, effortlessly, and without conscious deliberation.

The benefit of the RPD model is that it explains how intuitive decision-making expertise is possible without having to posit mysterious or magical psychological processes. Like other animals, humans have quick processes for making judgments without conscious effort; these lower-order cognitive processes provide an evolutionary advantage by helping people make decisions without requiring that they consciously process the bewildering array of information they encounter in everyday decisions (Wilson 2002, 24). But humans also use more laborious conscious cognitive processes to make decisions; these higher-order processes, such as conscious reflection and inference, can (but don't always) help people correct their lower-level judgments. The RPD model builds on this plausible "dual-processing" model of cognition to explain how people can hone their use of higher- and lower-order decision-making processes to produce exceptional performance in a particular area.

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[17] In areas where sufficient feedback is not available, such as historical forecasting and stock brokering, a person cannot get better at intuitively recognizing good decisions (Kahneman and Klein 2009, 520, 522). In these areas, people using the right algorithms or rules of thumb usually outperform people's (even purported experts') unaided judgments (Kahneman and Klein 2009, 523).

According to the RPD model, then, expert decision-making skill in domains requiring complex choice is comprised of three abilities: intuitive ability, deliberative ability, and meta-cognitive ability. These abilities enable a person to identify reliably a good course of action in their areas of expertise.

But in some areas identifying what to do is not the only challenging part of decision-making. In some areas carrying out the identified course of action requires a challenging coordination of behavior, affect and motivation. To see what expert decision-making skill involves in these areas, it helps to go beyond the RPD model into the general research on expertise.

This research shows that in domains of challenging performance, experts have another decision-making ability: a *self-regulative ability* that enables a person to identify reliably how to affect the environment, her behavior, emotions and motivations so that she can successfully do what she has identified she ought to do.

For instance, expert volleyball players have an ability to effectively set goals for practice and performance, utilize and evaluate strategies for improving their play, and evaluate and adapt their mental and physical performance (Zimmerman 2006, 714). While the study of self-regulation in experts is in its relative infancy, there is evidence that self-regulation plays an important role in expert performance in music, writing and sports (Zimmerman 2006, 706). The best explanation for the presence of self-regulative ability in these areas is, I would suggest, that they are domains of challenging performance. Activities like writing a novel, performing a piano concerto, and swimming in the Olympics require sustained coordination of a variety of physical, emotional and motivational processes and tendencies. For this reason, I think it is reasonable to make the general claim that expert decision-making skill in domains of challenging performance includes self-regulative ability.

In these areas, experts often perform well automatically, but they also often have to engage in self-regulation to ensure that they perform at a consistently high level.

Finally, there's one more ability we can add to the previous four. Experts reliably make good decisions, but not always the best ones. In domains of complex choice, even experts can improve their decisions. Expert decision-making skill is not just a first-order ability to determine how to conduct oneself in particular situations; it also includes a second-order ability to decide how to cultivate the first-order abilities. For that reason, we should include *self-cultivation ability* as a component of decision-making expertise: an expert is able to tailor her practice, experience, and reflection over the long term in order to make her intuitive, deliberative and self-regulative abilities even more reliable (Feltovich, Prietula, and Ericsson 2006, 57). Indeed, this kind of self-cultivation ability is part of what helps a person develop and maintain expertise (Zimmerman 2006, 706 – 7; Anders Ericsson 2008; Ericsson and others 2006).

Thus, according to the empirical research, expert decision-making skill in domains of complex choice and challenging performance is actually a set of abilities:

- *Intuitive ability*: an expert is often able to identify what she ought to do quickly, effortlessly, and without conscious deliberation.

- *Deliberative ability*: an expert is able to use slow, effortful, consciously accessible processes to search for and evaluate what she ought to do when an intuitive identification is lacking or inadequate.

- *Meta-cognitive ability*: an expert is able to identify when and how to rely on intuition and deliberation.

- *Self-regulative ability*: an expert is able to identify how to affect her environment, behavior, affect and motivations so that she can successfully do what she has identified she ought to do.

- *Self-cultivation ability*: an expert is able to identify how to tailor her practice and experience in order to make her intuitive, deliberative and self-regulative abilities even more reliable over the long-run.

Just as biking ability can be analyzed into a set of different abilities – a pedal-pumping ability, balancing ability, endurance ability, etc. – expert decision-making skill in domains requiring complex choice and challenging performance is best analyzed as a complex of abilities. In fact, I think it is fair to say that expert decision-making skill in these types of domains just is the possession of the above five abilities relative to that domain. The relative prominence of each of these abilities will likely vary according to the domain. Experts in some areas may rely more heavily on intuition, for example, than experts in other areas. At this point, all I've endeavored to show is that expert decision making skill in domains of complex choice includes some significant degree of intuitive, deliberative, meta-cognitive, self-regulative and self-cultivation abilities.

3.2 *THIS SET OF ABILITIES IS UNDERSTANDING HOW TO CONDUCT ONESELF*

This set of five abilities is a form of understanding. Experts understand how to conduct themselves in their domains, and this understanding reliably produces good decisions by helping a person adapt to the limitations facing human decision-making. This is significant because it shows that expert decision-making skill is the kind of epistemic achievement that, I argued above, makes someone wise.

An expert's intuitive, deliberative and meta-cognitive abilities enable her to identify what should be done in response to relevant features of the situation. Her self-regulative ability enables her to identify how to overcome internal obstacles to carrying out her identification of what should be done. Finally, her self-cultivation ability enables her to improve her identification of what should be done by making it more efficient and accurate. It might seem that this ability is not part of understanding how to conduct oneself; at most, one might think, it is understanding how to develop understanding of how to conduct oneself. But if we see the task of conducting oneself in a domain as a long-term one, we can assimilate self-cultivation ability into understanding of how to conduct oneself. Over the long term, seeing how to improve one's intuitive, deliberative, meta-cognitive, and self-regulative abilities is part of what enables a person to identify what she ought to do and how to do it. Thus, expert skill is understanding of how to conduct oneself in a domain.[18]

If this is right, then the abilities that expert decision-makers have amount to understanding of how to conduct oneself. Nevertheless, it could still be the case that the entailment doesn't hold the other way: not all instances of understanding of how to conduct oneself will manifest themselves as the particular complex of abilities I've described above. For instance, understanding how to conduct oneself could conceivably involve mainly deliberative abilities, or it could be solely intuitive. If this were true, it would undermine my attempt to show that since wisdom is understanding of how to conduct oneself, wisdom is an expert skill comprised of the five abilities outlined above.

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[18] Reason-giving ability is part of the account of understanding given by Sosa (2007, 137), who describes understanding as the possession of explanations; cp. Alison Hills' (2009, 102 – 3) account of moral understanding, according to which a person understands why a moral proposition is true when she can, among other things, explain why it is true in her own words. Research on expert decision-making indicates that experts have deeper and more abstract knowledge that they can use to make choices about what to do (Feltovich, Prietula, and Ericsson 2006, 50; Phillips, Klein, and Sieck 2004, 301). This suggests that expert decision-making skill includes a consciously accessible grasp of reasons for action that can, to some extent, be articulated.

It turns out that there is reason to think that understanding of how to conduct oneself in domains of complex choice and challenging performance will have to manifest itself as the complex of five skills listed above. As a matter of contingent fact, these skills are the ones humans need to overcome the challenges presented in these domains.

One piece of evidence for this claim is the robustness of the expertise results: the skills implicit in the RPD model and research on expert self-regulation and self-cultivation generalize across the many domains of complex choice that have been studied. This suggests that understanding of how to conduct oneself is likely (perhaps highly likely) to manifest itself in those specific abilities.

Support for a stronger claim – that understanding isn't just *likely* to manifest itself as these abilities but that in humans it is *really, really likely* – comes from the best explanation for the empirical results.

In domains of complex choice, identifying reasons for action requires decision-making skills that are automatic, corrective, and coordinating. Because the features of situations that are relevant to deciding what to do are many, varied, and interact in complex ways, a person needs a way to identify what to do in response to the situation automatically – that is, quickly and without the aid of ponderous higher-level cognition. In humans, the way to achieve this is to utilize the recognition-driven intuitive abilities that our species acquired relatively early on in its evolutionary development. Because intuitive abilities will not be able to achieve great accuracy without refinement from another source, a person needs a way to correct her intuition to achieve an accurate identification of what to do in response to a situation.[19] In humans, this is achieved through the higher-level cognitive abilities that

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[19] Of course, the degree to which intuition ("system 1" cognition) needs correction from reflection and deliberation ("system 2" cognition) will vary depending on the domain of choice. But in general the efficiency provided by intuition comes at a cost of accuracy (Wilson 2002, 50). I think this is especially true when it

enable deliberation about what to do as a supplement for, and correction to, intuition. Finally, because intuitive and deliberative abilities will need to be coordinated in order to utilize them efficiently and effectively, a person needs meta-cognitive ability. Sometimes intuition will lead us astray without more deliberation, and sometimes deliberation is an unnecessary or corrupting influence on an intuitive identification of what to do. An expert needs to be able to tell the difference in the situations she's faced with. Thus, barring some new evolutionary changes, a human ability to identify what to do in response to a situation in domains of complex choice will have to be composed of intuitive, deliberative, and meta-cognitive abilities.

In domains where choices are not only complex but, once made, challenging to carry out, an ability to identify how to carry out the prescribed response will require self-regulative abilities. Because carrying out decisions in domains of challenging performance is too complicated to become fully automatic even in experts, a grasp of how to carry out a decision will require self-regulative ability.

In domains of complex choice and challenging performance, then, understanding how to conduct oneself will have to manifest itself as a set of intuitive, deliberative, meta-cognitive, and self-regulative abilities. But self-cultivation abilities will very likely be part of the package, too. There is a simple reason for this. Self-cultivation ability is necessary to achieve high levels of expertise in these domains, so experts will have acquired this ability during their development. Since even experts' grasp of what to do is not perfect – research shows that experts in domains of complex choice make reliably good but not always optimal decisions – the ability to develop one's decision-making abilities will be very likely to be exercised and sustained.

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comes to the domain of wisdom, even after a person has attained a significant degree of wisdom. For another argument that untutored intuition systematically misleads us in moral judgment, see Singer (2005).

For these reasons, it is reasonable to conclude that understanding of how to conduct oneself in domains of complex choice and challenging performance is really, really likely to manifest itself as the set of five abilities. The argument for this claim is of course an inductive one based upon empirical observation, though I think it is a very strong argument.

4 OVERVIEW OF THE ARGUMENT

The previous sections have given us all the resources necessary to argue for the expert skill model of wisdom. What remains is to give an overview of the argument and pull out its implications.

4.1 *OVERVIEW OF THE ARGUMENT*

The argument for the expert skill model can be paraphrased rather simply: expert skill is understanding of how to conduct oneself in a domain, and wisdom is understanding of how to conduct oneself all-things-considered, so wisdom is an expert skill. This way of putting the argument emphasizes that wisdom is the same kind of epistemic achievement as expert skill, but it obscures the argument's more subtle structure and implications.

Consider, then, what I'll refer to as *the core argument for the expert skill model*:

1. In domains of complex choice and challenging performance, understanding of how to conduct oneself will very, very probably be composed (in real people) of a set of five skills: intuitive, deliberative, meta-cognitive, self-regulative, and self-cultivation.

2. Wisdom is understanding of how to conduct oneself in a domain of complex choice and challenging performance.

3. Expert decision-making skill just is the set of five skills: intuitive, deliberative, meta-cognitive, self-regulative, and self-cultivation.

Conclusion 1: Therefore, wisdom will very, very probably be composed (in real people) of the set of five skills [by 1 + 2].

Conclusion 2: Therefore, wisdom is an expert decision-making skill [by 3 + Conclusion 1].

I stated earlier that the argument for the expert skill model is partly an empirical one and partly a philosophical one. Premise 2 is justified by philosophical argument that gives a rationally defensible account of the normative ideal of wisdom. Premises 1 and 3 are the conclusions of the empirical argument, which is based on an analysis of the empirical research on expert decision-making.

Together, these premises imply two important conclusions. One is that wisdom is the same sort of epistemic achievement as expert decision-making skill (Conclusion 2). This tells us about the nature of perfect wisdom and real-world wisdom: it gives us an account of what wisdom is in our most perfect ideal and as it will manifest itself in the real world. But the argument also yields a more specific conclusion (Conclusion 1) about the form wisdom will take in real people: it will include intuition, deliberative ability, meta-cognitive ability, self-regulative ability, and self-cultivation ability. It is important to emphasize how this expands upon the notion of wisdom given in §2. Not only does it show us how a person

with wisdom identifies what to do (she uses intuition, deliberation, and meta-cognition), but it also shows that a wise person in the real world will have an ability to overcome internal obstacles to doing what she should. Since expert decision-making skill in areas much less complex than the domain of wisdom (for instance, volleyball and dancing) require a self-regulative ability, we can conclude that wisdom, at least as it would manifest in real people, does as well.[20]

4.2 THE IMPORTANCE OF THE ARGUMENT

These conclusions are important for a number of reasons. For one thing, they tell us that wisdom is developed in the same way as expert skill: through deliberate practice that gives a person feedback on the quality of their decisions. More work is required to specify in detail what kind of deliberate practice helps a person develop wisdom. But by doing so, we would be able to show that, and how, people can develop wisdom.

The expert skill model can also tell us important things about the role of intuition, deliberation and reflection in wise decision-making. Rosalind Hursthouse notes that interpreters of Aristotle disagree about whether Aristotelian practical wisdom is knowledge of a systematic set of moral principles that can be applied in deliberation or a quasi-perceptual capacity to see what should be done (2006, 284 – 5). This exegetical disagreement tracks more general philosophical disagreement about the nature of moral

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[20] This conclusion is further bolstered by research in psychology that shows that the situation often affects our behavior and cognition to a much greater degree than personality traits or character. Some philosophers have suggested that this research shows that virtue ethics relies upon an implausible account of character traits and their influence on conduct (Doris 2002; Harman 1999). Other philosophers (see e.g. Merritt (2000)) have argued that virtue ethics can accommodate this research by acknowledging virtue's dependence on social and situational influence. I am suggesting that wisdom gives a person the understanding required to intelligently channel this situational influence. I thank Valerie Tiberius for pointing out the connection to this research.

knowledge.[21] This disagreement even persists amongst philosophers, like Julia Annas (1998; 1995; 2011; 2004) and Matthew Stichter (2007), who have revived the ancient analogy between virtue and practical skills. Annas claims that modeling virtue on expert skills shows that the virtuous person engages in reflection informed by a "unified grasp of the general principles underlying her patterns of action and decision" (1993, 68). Stichter, on the other hand, objects that experts often rely mostly on intuitive processes and are thus often unable to articulate their reasons for acting as they do (2007, 191 – 2).[22]

My argument for the expert skill model provides a resolution to the debate between Annas and Stichter. The expert skill model shows that wisdom has both a substantial intuitive *and* a substantial deliberative and meta-cognitive component, and it grounds this claim in a plausible philosophical argument informed by an accurate analysis of the empirical research.

While not all deliberation and meta-cognitive reflection proceed by applying principles,[23] the expert skill model gives us reason to think wise deliberation and reflection will utilize principles of action to some degree. For one thing, expert intuition is only developed when a person gets feedback on the *regularities* governing her area of expertise, and experts reflect often on their practice and others' performance in order to get feedback that refines their understanding. When it comes to the domain of wisdom, coherentist reflection is an important way a person will get feedback on the quality of her decisions. Without this kind of reflection, it is unclear how a person could get feedback on whether her

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[21] This disagreement can be found, for example, in debates over moral particularism. For an overview of the issues in this literature, see Dancy (2001).

[22] The research Stichter relies on is the empirical model of expertise developed by Stuart and Herbert Dreyfus (H. L. Dreyfus 1997; S. E. Dreyfus 2004; H. L. Dreyfus and Dreyfus 1991). The problem is that Dreyfus and Dreyfus' work, while historically important in the field of empirical research on expertise, is based upon phenomenological investigation of skills like driving (H. L. Dreyfus 1997, 19) rather than naturalistic decision-making research on domains of complex choice and challenging performance.

[23] See Wong (2002) for a helpful examination of analogical reasoning that does not proceed using principles to deduce conclusions.

decisions are part of a life that is well-lived on the whole. This reflection will yield *prima facie* principles describing the types of actions that are kind, just, or whatever. So even though a person will eventually develop an intuitive ability to identify what to do in many (especially common) situations, she will have a grasp of principles of action to some degree or other. What's more, the RPD model shows that experts don't rely solely on intuition – they deliberate to test their intuitive choice and to produce a choice when the situation is too novel for intuition to be of help. It seems likely that this deliberation will utilize the principles acquired in reflection, though choices usually can't be merely deduced from the principles in a mechanical fashion. In any case, the expert skill model shows that both the intuitive ability emphasized by Stichter and the reflective and deliberative abilities emphasized by Annas will be part of real-world wisdom.

5 OBJECTIONS TO THE EXPERT SKILL MODEL

Despite its attractive features, the argument for the expert skill model is likely to provoke various objections. Here I'll address a few of the most pressing.

One objection is that wisdom is not a decision-making skill, since there are important differences between wisdom and skills. Making good on this objection, however, is not so simple. The objection undermines the expert skill model if, and only if, (i) the difference cited between wisdom and expert decision-making skill actually obtains *and* (ii) the difference either implies that wisdom is not the same type of epistemic achievement as expert decision-making skills in areas of complex choice and challenging performance or implies that wisdom is not composed of the same set of five abilities as those skills. After all, all that the expert skill model claims is that wisdom is the same *type* of epistemic

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achievement as expert decision-making skill (not the exact same achievement) and that wisdom involves the same generally-described set of abilities as expert decision-making skill.

Inspiration for this objection can be found in Aristotle, who argued that practical wisdom and *technê* (technical skill or craft expertise, such as boat-making skill) are distinct intellectual virtues. We might wonder whether the differences Aristotle identified between wisdom and *technê* obtain between wisdom and expert decision-making skill and whether these differences undermine the expert skill model.

Consider the first major difference Aristotle identifies: craft expertise is "concerned with production, not action" (*NE* 1140a17 – 18), while practical wisdom is concerned with action. If the difference cited here is that *technê* aims at making things, while practical wisdom aims more broadly at doing things, then the objection fails to undermine the expert skill model. The expert skill model draws connections between wisdom and expertise at deciding what to do when, for instance, fighting fires. So there is no contrast between producing things and acting to be undermined.

Another interpretation of Aristotle's point, or perhaps an elaboration on it, draws a contrast between the type of reasoning involved in *technê* and the reasoning involved in wisdom. At the most general level, Aristotle suggests that practical reasoning does not involve deliberation about which ends to pursue but rather deliberation about how to achieve those ends (*NE* bk III.3, VI.12). This holds both for *technê* and wisdom: just as in boat-making the goal of making a good boat is given and the task is to figure out how to achieve this goal, in all-things-considered decisions about how to live the goal of flourishing (*eudaimonia*) is given and the task is to figure out how to achieve it. Nevertheless, some interpreters of Aristotle have suggested, plausibly, I think, that this doesn't mean Aristotle thought wise people don't deliberate about ends at all. Wise people not only deliberate

about the means to flourishing but also deliberate in order to specify what *constitutes* flourishing, especially in particular circumstances (Richardson 1990). For instance, upon finding out that her dying brother's wife has been unfaithful, a wise person will have to deliberate to specify what specific goal is kindest: sparing her brother the agony of the truth, or gently exposing the subterfuge she suspects her brother wouldn't want to be ignorant of.

This might seem to provide a contrast between *technê* and expert decision-making skill, on the one hand, and practical wisdom, on the other: whereas *technê* and decision-making skill only require instrumental reasoning, wisdom also requires non-instrumental specificatory reasoning (Stalnaker 2010, 408). For instance, the goal of firefighting is to put out fires, and the function of expertise is simply to help a person figure out the best means to this goal. Since wisdom requires more than this merely instrumental reasoning, wisdom is importantly different from expert decision-making skills.

This version of the objection also fails, since it does not draw a genuine contrast between wisdom and expert-decision making skill. The RPD model describes expert decision-making in areas with "[s]hifting, ill-defined, or competing goals" (Zsambok 1997, 5). A good firefighter doesn't just aim at the goal of putting out fires but at various other goals as well: ensuring firefighter safety, ensuring the safety of citizens, protecting property, and so on. These are the goals that constitute the supreme end of firefighting, which we could say is to combat fires well or effectively. Some of these more specific goals compete with each other: a firefighter will sometimes have to decide, *qua* firefighter, between securing someone's safety and getting the fire under control. Thus expert decision makers in areas of complex choice and challenging performance (including both firefighting and all-things-considered decisions) will often have to specify which particular goal in a situation constitutes the supreme end of their domain.

Another version of the objection suggests, following Aristotle, that wisdom is not a skill but rather a disposition. Linda Zagzebski (1996; cp Stalnaker 2010, 408; Kekes 1995, 30; Van Norden 2008, xxxiii), for instance, argues that intellectual virtues are not skills, since a person can have a skill but fail to act on it, while one cannot have an intellectual virtue like wisdom and fail to act on it. If this is right, then motivation is a component of wisdom but not part of expert decision-making skills. Thus wisdom is not a skill at all.

I see three possible ways to respond to this objection, each of which would defuse the objection. One option is to accept a hybrid skill model of wisdom, according to which wisdom is expert decision-making skill plus the motivation to exercise this skill and act on its deliverances. Alternatively we could argue that wisdom *is* best described as a skill. One way to make this response would be to argue that the decision-making skill involved in wisdom is, unlike other skills, necessarily motivating: when a wise person identifies what to do, that identification is necessarily motivating.[24] Though both of these responses concede that there are differences between wisdom and expert skills, neither cites a difference that undermines the expert skill model in the fashion described in (ii) above.[25] Another way to argue that wisdom is a skill is to emphasize that the decision-making skills I'm concerned with involve shaping motivation to guide decision-making. This third response is the one I favor. A firefighter, for instance, is good at deciding what to do because her fear and concern responses have been shaped in ways that help her put out fires well (where "well" involves appropriately balancing issues of safety, damage to property, etc.).[26] But the inclusion of

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[24] Thus, Margaret Little: [the knowledge a virtuous, i.e. practically wise, person has] is a skill in judging which situations fall under various rich moral classifications such as kind, cruel, obligatory, evil; and what it takes to count as having such a skill, it is claimed, cannot be understood independently of one's having a practical orientation to be identified, if you like, with its judgments. (1997, 74 – 75)

[25] I thank Valerie Tiberius for helpful discussion of this objection.

[26] A similar thing can thus be said about wisdom: through deliberate practice (including, for instance, feedback from the wise and appropriate reflection on her experiences), a person can shape her commitments to justice, compassion, and the like into a reliable understanding of how to conduct herself, all-things-considered. This

motivation and affect doesn't preclude calling the firefighting expert's understanding (nor, by extension, the wise person's understanding) a skill.

Of course, some might press the objection further by noting that a person who is an expert at making firefighting decisions can use her ability for the wrong ends, while a wise person cannot (on pain of being unworthy of the appellation "wise") (cp. Stalnaker 2010, 408). An expert firefighter can use her understanding nefariously to set destructive fires, but a wise person cannot use her understanding to achieve the wrong ends.

This is a genuine difference between wisdom and other decision-making skills. But it's not a difference that undermines the expert skill model. After all, the difference comes down to the range of goals considered: wisdom involves deciding what to do all-things-considered, while other expert decision-making skills involve deciding what to do given some narrower set of goals that are either not sufficient or not necessary for living well. The expert skill model does not deny that this difference exists. It just claims that despite this difference, there are some essential similarities between wisdom and expert decision-making

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helps us answer two puzzles about wisdom that occupied Aristotle: what is the relationship between virtue of character and wisdom, and what distinguishes mere cleverness from wisdom? In answer to the first puzzle, Aristotle states that "virtue [of character] makes the goal correct, and prudence [practical wisdom] makes the things promoting the goal [correct]" (*NE* 1144a9-10). The expert skill model yields a similar conclusion because it stresses that developing wisdom, just like developing expert firefighting skill, requires having the right general commitments that are then shaped through practice, experience, and reflection into a reliable understanding of how to conduct oneself. In the case of wisdom, a person brought up to care about honesty, justice, self-respect (and the like) has a concern for the right general goals, but she needs then to develop the reliable intuitive, deliberative, meta-cognitive, self-regulative, and self-cultivation abilities that channel this concern appropriately. This helps to answer the second puzzle about the distinction between wisdom and mere cleverness. According to Aristotle, although a wise person and a clever person share a similar skill at deliberation, wisdom and mere cleverness are distinct, since a person who is merely clever is able to figure out what promotes the goals she happens to have, while a wise person has an ability to figure out what promotes the right goals (*NE* 1144a25-36). The expert skill model yields a similar conclusion. A person who is committed to self-promotion and self-gratification, for instance, and who only practices pursuing these ends may develop decision-making abilities (i.e. intuitive, deliberative, meta-cognitive, self-regulative, and self-cultivation abilities) that help her achieve them. But such a person is merely clever and not wise, since her decisions aim at the wrong ends and thus don't track what really matters. On the other hand, a person who has the right general goals and learns (through appropriate experience and reflection) how to specify what these goals require in particular situations and to identify the effective means to achieving those goals is truly wise, though her abilities bear some general resemblance to the merely clever person's.

skills in general: they are instances of an understanding of how to conduct oneself, which is manifested as a set of five specific decision-making abilities.

6 CONCLUSION

I've argued for the expert skill model of wisdom: wisdom is the same type of understanding as that possessed by expert decision-makers in more mundane areas like firefighting. Acknowledging this, I've stressed, tells us important things about how wisdom will manifest itself and can be cultivated by real people. Of course, more work needs to be done to evaluate the expert skill model and to pull out its implications.[27] But I hope to have shown why that work is worth doing.

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[27] Daniel Jacobson (2005) identifies another objection to the expert skill model. Since the expert skill model shows that wisdom can be developed only if a person gets sufficient feedback on the quality of her decisions, developing wisdom is possible only if a person can get sufficient feedback on the quality of her all-things-considered decisions about what to do. But, Jacobson argues, no such feedback is available. While it is clear how we can get feedback on how our chess moves contribute to winning, it is much less clear how any of the (often objectionably parochial) sources of feedback we get on the wisdom of our decisions could help us develop a highly reliable understanding of what to do. If Jacobson is right, then wisdom is not "a plausible human skill" after all (2005, 400). I think the expert skill model can avoid this objection, but there isn't space to show why here.

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