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The Epistemic Normativity of Knowing-How

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Knowing how to ride a bicycle, prove a theorem, tie a necktie, or play chess is, at least in part, an epistemic accomplishment. It is some sort of *knowing*. In "Knowing-How: Indispensable but Inscrutable", Günter Abel argues that knowing how is irreducible to knowing that. No collection of knowings-that, however extensive, enables a person to play chess. But so long as he has the fine motor control to manipulate the pieces, if he knows how, he can play chess (Abel 2012). I agree. Abel's concerns in that paper are to distinguish knowing how from knowing that and to argue that knowing how must underlie knowing that. He acknowledges but does not discuss the difference between the epistemic norms of knowing how and those of knowing that. Here I explore the epistemic norms of knowing how. I argue that although knowing how does not reduce to propositional knowledge, it is not inscrutable, for inquiring into the truth values of propositions is not our only way of scrutinizing. My discussion concerns Abel's "Knowing How" exclusively. I cannot here attempt to do justice to the full theory of interpretation that he has developed over the course of his career.

1. Habits and Dispositions

Even asking about norms of knowing how might seem out of place. If Jon knows how to ride a bicycle, he has a cluster of habits and dispositions that enable him to reliably ride a bicycle – the capacity to peddle, steer, keep his balance, maneuver in traffic, accommodate himself to rough terrain, and so forth. Perhaps knowing how is simply a matter of dispositions or habits. To evaluate this suggestion, we need to draw some distinctions. A disposition is not just an ability. If Sam has the ability to speak French, he can speak French. But that ability might be one he exercises only under duress. If, on the other hand, he is disposed to speak French, he is prone to speak French on suitable occasions. A disposition is a readiness or propensity to behave or respond in certain ways in certain circumstances. Objects as well as agents have dispositions.

Malleability is a disposition to deform under compression; brittleness, a disposition to shatter when sharply struck. Optimism is a disposition to expect things to work out well; pessimism a disposition to expect them to work out badly. The propensities that qualify as dispositions need not inevitably lead to the behavior in question. Salt has the disposition of solubility even though it will not dissolve in a solution that is already salt saturated. Dispositions give rise to behavior only *ceteris paribus*.

Material objects can acquire dispositions, but they do not form habits. Although plastic becomes brittle with age, it does not acquire the habit of brittleness. Only agents form habits; and the habits they form are to some extent under their control. Procrastination is the habit of postponing tedious or unpleasant tasks; promptness, the habit of being on time. A habit evidently is an acquired disposition of an agent. It is a disposition that she need not have acquired and one that she is to some extent responsible for having as well as for exercising.

Ryle (1949) contends that knowing how is entirely a matter of habits and dispositions. To know how to ride a bicycle, he believes, is just to be disposed to behave (or to be in the habit of behaving) in certain ways while astride a bicycle. Obviously knowing how to ride a bicycle does not consist in a disposition to engage in a single specific behavior. Knowing how to ride a bicycle is not like a propensity to dissolve in water or to shatter when struck. Ryle construes knowing how to do something as a multi-track disposition, "consisting of more or less dissimilar exercises". (Ryle 1949: 56) Knowing how, he believes, is a propensity to perform any of a variety of systematically linked but distinct acts in a range of diverse but not wholly unanticipated circumstances. Since circumstances vary, sensitivity to circumstances gives rise to a cluster of available responses.

A standard objection to Ryle is that his theory of mind is excessively behaviorist. He explicates virtually every mental predicate as a disposition to overtly behave somehow or other (Carr 1979). But we need not accept Ryle's entire theory of mind to accept (or adapt) his explication of knowing how. Nor need we hold that all the habits and dispositions involved in knowing how are habits and dispositions to overt behavior. A dispositional account can recognize that knowing how often involves dispositions not only to behave, but also to think, notice, infer and/or feel; to ignore, marginalize, emphasize, and/or find salient. To construe knowing how dispositionally is to characterize it in terms of propensities, or readinesses, or reluctances to do various things in various circumstances. It may involve propensities to think

certain things, to represent things mentally in certain ways, to feel certain emotions, and to refrain from thinking, representing or feeling others. No commitment to behaviorism is required for a dispositional account of knowing how.

Whether or not Ryle is correct to *identify* knowing how to do something with a multi-track disposition, knowing how clearly *involves* multi-track habits and dispositions. A person does not know how to ride a bicycle unless she is disposed to peddle, steer, and keep her balance on a bike. And in different circumstances (when the surface is slippery, in traffic, on steep hills, over rough terrain, etc.) different fine-grained behaviors are required to peddle, steer, keep one's balance, and so forth. Even so, knowing how is not a mere multi-track disposition. Knowing how is an achievement. It involves doing something well, or rightly, or correctly. An adequate explication should do justice to this normative character. Some habits are bad; some are neutral; some are good. Some dispositions are benign; some lead us astray. If a tennis player habitually steps on the base line while serving, he does not know how to serve. If he habitually wipes his brow before serving, that habit is irrelevant to whether he knows how to serve. If he is disposed to hit the ball into the net, he does not know how to serve. If, on the other hand, he reliably serves into to the diagonally opposite square, rarely double faults, and occasionally aces, he knows how to serve. What is missing from Ryle's account is the normative element. But what sort of normativity is at issue here?

Abel characterizes knowing how as rule-following: actions take place within practices; and the rules of the practices supply the norms that govern the actions those practices embed. Whereas bad habits and dispositions are propensities to flout relevant rules, and neutral habits and dispositions are uninfluenced by the rules, knowing how consists in a propensity to follow the rules. If Jim knows how to play chess, his chess playing behavior typically follows the rules of chess. If Jane knows how to play tennis, her tennis playing behavior typically follows the rules of tennis. This seems almost trivial. But it raises a number of questions.

One is whether all knowing how is a matter of following the rules of a practice. Games like tennis and chess are plainly rule-governed. So are practices like standing on line and paying one's taxes. Participants have a pretty good idea what the rules are and what it is to follow them. Because Abel believes all human behavior is embedded in practices, it is unsurprising that he takes the rule-following formula to apply generally.

But even if Abel is right about the ubiquity of practice, it is not clear that all knowing

how is keyed to the norms of a practice. Consider knowing how to swim (by which I mean no more than to propel oneself through deep water so as not to drown). Dogs know how to swim. They do not follow the rules of a practice. Why should we think that our basic ability to propel ourselves through water is different from a dog's? If a child learned to swim by mimicking the motions of her dog, would we say that she did not know how to swim? Or consider tying a necktie. (This is Abel's example). Suppose someone regularly engages in a variety of deviant contortions that reliably result in a perfect Windsor knot. Should we say that he does not know how to tie the necktie simply because he fails to follow the rules for necktie tying that are canonical in his society? Or should we say, "If it works, it works"? Whether or not they take place within a practice, some actions seem straightforwardly consequentialist. The standard for performing them correctly seems to be no more than reliably producing the desired result. For such actions, evidently, the end justifies the means. Beyond the rules that govern all actions within a given practice (such as "don't kill anyone while doing it"), the rationale for the motions that constitute a straightforwardly consequentialist action seems to be justified by the ends they seek to promote, not by rules of the practices (if any) they belong to. It is not obvious then that knowing how to perform straightforwardly consequentialist actions is properly explicated as rule-following.

2. The Roles of Rules

A practice is a form of activity specified by rules or conventions which define offices, roles, moves, penalties, defenses, and the like, where those rules or conventions give the activity its structure. (Rawls 1999: 20) Practices are plainly rule-governed. The rules may be codified, as the laws of a state and the rules of games typically are; or they may be uncodified, as the conventions about standing on line or shaking hands are. Often, they are partly codified. Rules typically govern against a background of tacitly assumed conventions. (For example, although this is nowhere specifically stated, a team that is losing a football match ought not phone in a bomb-threat to get the game canceled.)

Regulative rules govern activities within a practice. They can be obeyed or flouted. The rule that a player must remain behind the base line while serving is a regulative rule of tennis. *Constitutive rules* play a more fundamental role. They structure the practice, making certain

sorts of action possible. Outside of tennis, there is no such thing as double fault; outside chess, no such thing as castling. Only in the context of the games do certain behaviors qualify as actions of these kinds. The constitutive rules specify what it takes to instantiate categories the practice defines.

Some constitutive rules set parameters: a chess board is to consist of 64 squares, eight rows and eight columns in alternating colors. Others define objectives: the goal of chess is checkmate – capturing the opponent's king. Yet others define roles within the practice: a bishop can move any number of squares along any diagonal; it is not permitted to move vertically or horizontally. Constitutive rules set the criteria for performing the actions that the practice defines. They make it possible to move a rook rather than just displace a piece of wood; to hit a home run rather than just smack a spherical object; to keep a promise rather than just do what you predicted you would do.

Such rules define positions (rook, second baseman, administrative judge), and set out their distinctive functions and responsibilities. They specify constraints that participants playing the different roles are to follow, and the ranges of opportunity open to them. By prescribing the rules of correct play, the rules make it possible to play incorrectly. They constitute a context within which errors can be committed and corrected, excuses and defenses offered, conduct rewarded or punished. Outside tennis, there is no such thing as a double fault. No matter where the balls land, that error is impossible unless one is playing the game. Nor, outside the game, can someone hit an ace. Only within the game are certain sorts of excellences and incompetences possible.

Constitutive rules make it possible to devise strategies, tactics, and rules of thumb. The constitutive rules of chess endow different pieces with different powers. In light of them it is a good idea, should the opportunity arise, to capture the opposing queen. Refraining from capturing the queen when in a position to do so is not a failure to follow the rules. But it is apt to be a poor move. Constitutive rules frame activities, thereby creating opportunities and incentives. They do not mandate capitalizing on those opportunities or availing oneself of those incentives.

Constitutive rules are normative, not (or not primarily) descriptive. They may determine the telos of the practice – the goals toward which it aims. The constitutive rules of a game determine what it takes to win. Those of a tax code determine how to calculate what you owe. If

the rules were descriptive regularities, they would simply characterize what is typically done. But even if most people pay the taxes they owe and most tennis players serve from behind the baseline, such an interpretation would misconstrue the function of the rules. They retain their force even when flouted. No matter how many people fail to pay the taxes they owe, such behavior is an infraction. No matter how many tennis players step on the baseline while serving, a foot fault is a mistake (Elgin 1996).

3. Rule-Following

What is it to follow a rule? A seemingly plausible answer is that to follow a rule is to intentionally regulate one's behavior by reference to the rule. The novice chess player mutters to herself, "The bishop moves diagonally", then moves her bishop along a diagonal. As a general account, this will not do. First, it apparently sets off an infinite regress. If language is itself a rule-governed practice, the novice would have to invoke rules for interpreting her muttering, and rules for interpreting those rules, and so forth. We cannot do this indefinitely. Nor can we plausibly maintain that there is a self-interpreting level of discourse where the regress ends. Second, it is no accident that my example concerns what a *novice* chess player might do. An experienced player – someone who knows how to play chess – does no such thing. In Wittgenstein's terms, she acts blindly. (Wittgenstein 1953: §219) Although she may deliberate about strategy and tactics, she has so internalized the rules governing ways the various pieces can move, that they have become second nature to her. For her, *to be a chess bishop* is to be able to move only along a diagonal. Once she recognizes a chess piece as a bishop, how it can move is settled. No inference need be drawn, no rules consulted. The capacity to act blindly while being subject to norms requires an explanation.

Abel distinguishes between *rules*, which evidently govern from the outside, and *regularities* which are internal to the practices themselves. He says, "The rule-following characteristic of knowing-how is *internal* to the practices themselves. It cannot be described as a criteria-governed application of external rules." (Abel 2012: 254) He goes on to say, "The practice-internal regularity of . . . executions is absorbed and incorporated. It becomes quasi-organic and organizes experience." (Abel 2012: 255) More needs to be said. For not all regularities – indeed not all quasi-organic regularities – constitute knowing how. Nor are they all

matters of habit, disposition, or skill.

Not every ability required to participate in a practice is a matter of knowing how. Speaking requires the ability to breathe. Anyone who cannot breathe cannot speak. But we do not say that ordinary speakers know how to breathe. Normal, healthy terrestrial animals breathe automatically. Nor is every acquired ability of participants in a practice an instance of knowing how. Some acquired abilities are products of normal development. At around the age of two, children start to walk. If Piaget is right, they proceed stepwise to recognize the conservation of magnitudes under various transformations. Once they have crossed a threshold, they can do things they could not previously do, and can participate in practices that require the ability to do those things. But the regularities they exhibit are, arguably at least, not matters of knowing how. They are regularities acquired in the process of normal human development. They are aptitudes that normal members of our species after a certain age display. Unlike tying a necktie or riding a bicycle, they are not learned. But, Abel says, "the skills and capabilities [that qualify as knowings how] need to be learned and practiced" (2021: 255). If knowing how is internally related to learning how, then regularities that are not products of learning how are not instances of knowing how. Finally, there are normatively neutral behavioral regularities. Suppose Mike regularly opens doors with his right hand. This is a behavioral regularity; whenever he goes to open a door, he uses his right hand unless it is very inconvenient to do so. But if no rules or conventions constrain the choice, we would not think that his favoring one hand over the other is a matter of knowing how. He would know just as well how to open a door if he standardly did it with his left hand or alternated hands to suit his convenience. Moreover, this would be so even if most members of his society typically open doors with their right hands. So long as there is no pressure to conform, door opening behavior is not answerable to a norm about which hand to use. The few left-handed door openers know equally well how to open doors.

Behavioral regularities that are not constrained by norms seem not to be candidates for knowing how. Breathing is automatic; the ability to walk is automatically developed. Opening doors with one hand or the other is arbitrary. Where we speak of abilities, capacities or competences as knowings how, it seems, we recognize that they are acquired, that they might fail to be acquired, perhaps that learning is involved in their acquisition, and that they involve they are subject to normative assessment.

But if, as Wittgenstein and Abel maintain, we act blindly when we exercise know how,

what role do the norms play? We evidently do not consult them or intentionally regulate our behavior by reference to them. Once we know how to do something, doing it in appropriate circumstances is second nature to us. It might seem then that knowing how is simply a matter of automatically, unthinkingly behaving in accord with the norms of a practice.

This will not do. For knowing how is sensitive to why we automatically, unthinkingly behave as we do. Consider the following case: Except in New York City, drivers in the US are permitted to turn right at a red light unless "No Turn on Red" is posted at the intersection. In New York City, right turns on red are never permitted. Drivers from out of town tend to be unaware that New York is an exception the general rule. Suppose Meg, a denizen of Kansas, is driving in New York. Unsurprisingly she finds the experience harrowing. She stops at every red light, not because she is aware of or sensitive to the law, but because she considers New York drivers and pedestrians reckless and wildly unpredictable. She considers it safer to proceed only when the light is green. She acts in accord with the law, but not on account of it. The regularity in her behavior is not an instance of following the traffic law. Although it may be an instance of knowing how to drive safely, it is not an instance of knowing how to drive legally in New York. Acting in accord with the law is not the same as acting on account of the law (See Kant 1785/1981). And only acting on account of the law qualifies as knowing how.

3. Virtue

Again we face the tension: On the one hand, knowing how to follow the rules of a practice seems to require us to be cognizant of those rules; on the other, we act blindly. How is it possible to do both? Here it pays to turn to Aristotle. The virtuous person, Aristotle says, does the right thing, in the right way, at the right time, for the right reason; and he does so from a firm and stable character (Aristotle 1985: 1105a30). But he does not, and need not, deliberate about what to do. He need not even be conscious or expressly aware of why he does what he does. For being virtuous, he has internalized the rules. Doing the right thing in the right way, at the right time, for the right reason has become second nature to him. Aristotle likens virtues to crafts (1985:1103b). Anything that can be done can be done well or badly. And to do something well – not accidentally, but as a result of a stable, acquired disposition – is to do it with a trait that is, or is at least analogous to, a virtue. A good harp player knows how to play the harp and normally

displays that knowledge when playing the harp; a good builder knows how to build well and normally displays that knowledge when building.

I suggest that, being sensitive to norms, Abel's regularities are closely analogous to Aristotelian virtues. Although Aristotle restricts the term 'virtue' to characteristics that make the actions of certain agents morally or intellectually good, I shall use it in a broader sense. Virtues are what make the actions of certain agents (those who standardly do the right things in the right way at the right time for the right reasons), good of their kind. The virtues integral to a practice are various, and some are matters of degree. The propensity to follow the rules of chess at all is real, but minimal virtue in a chess player. The propensity to devise and execute complicated strategies effectively is a greater chess playing virtue, for it makes one a better chess player.

What are rules for the novice become virtues when they are internalized so that they automatically, unthinkingly guide practice. The attractive element in Ryle's account of multi-track dispositions is that it accommodates sensitivity to circumstances. What Abel and Aristotle add is that the sensitivity in question is not just to the physical, material, or sociological circumstances, but also to the normative circumstances. Human behavior is circumscribed by norms. To be duly sensitive to circumstances involves being sensitive to the norms of the practices one takes part in. Such sensitivity is a part of knowing how to participate in those practices, for the norms govern what may be done, what must be done, and what must not be done within the practice. If this sensitivity has become second nature, we need not deliberate, and may not be able to articulate the norms that constrain and guide us. Still, our behavior is responsive to those norms.

Dispositions have a counterfactual dimension. To ascribe a disposition is to indicate something not only about what does happen, but also about what would happen had circumstances been different. The glass that never is struck and never breaks nonetheless has the disposition of brittleness if it would break if it were struck. Similarly, I suggest for dispositions that involve norms. Someone who has internalized the rules of the road automatically and unthinkingly follows them. She does the right thing. But given that her behavior is automatic, what makes it the case that she does it for the right reason? The answer depends on what counterfactuals are true of her. Meg is not only ignorant of the law pertaining to right turns in New York, she is also indifferent to it. She would not turn right on red in New York no matter what the law said. Although Mark, like Meg, stops at every red light in the city, he would often

turn right on red if the law allowed. His driving behavior is constrained by the law in a way that hers is not. His propensity to modulate driving to the local laws is evidence that he knows how to drive in New York. His disposition is, as hers is not, sensitive to the normative structure of the New York City traffic laws. Displaying that sensitivity constitutes acting for the right reason.

Internalizing the norms of a practice does not just engender a disposition to behave, but a normative disposition – a disposition to hold oneself accountable. Someone who has internalized the norms of a practice considers herself subject to criticism if she violates those norms. She may flinch, or blush, or correct herself, or glance furtively around to see if anyone noticed. She may resolve to do better next time. She may also consider herself entitled to disapprove of, criticize or correct other participants in the practice who violate its norms, and perhaps to praise or admire those who observe the norms.

A fluent speaker of a language typically follows its grammatical rules automatically. She may be unable to articulate the rules she follows. She may even harbor doubts about the correctness of the rules a knowledgeable grammarian proposes. When asked what is wrong with a particular construction, she might have nothing more helpful to say than that it sounds funny. This is surely an instance of following the rules blindly. But a fluent speaker is not a flawless speaker. Occasionally she says something odd. Some odd utterances are simply unexpected. In a discussion of reverberations, a speaker says, "A duck's quack does not echo". Although her claim is surprising, there is nothing untoward about her utterance. Not considering it problematic, she is not embarrassed about having uttered it, and is not inclined to correct it. Nor are other speakers of the language apt to take her to task. Other utterances are factually incorrect. These may go uncorrected because the speaker is unaware of the error. If she realizes her error, she is likely to rescind or correct her claim. But to become aware she needs either to acquire new information or to be reminded about information she already has. Then she admits, "I was wrong to say that Peoria is in Indiana; it is in Illinois". Her correction has a different semantic content from her original claim. Yet other utterances are grammatically flawed. Here, the error may be obvious to the speaker as soon as the words leave her mouth. Perhaps she says, "The data demonstrates that the ice caps are melting." She immediately recognizes that "data" is a plural noun and requires a plural verb. The correction she makes is to simply change the verb form. The substantive semantic content of the claim remains the same. If she fails to recognize her error, other speakers – even those who know nothing about what the data are or show – can

correct her mistake. The recognition of a need for correction shows that the agent takes herself to be answerable to a norm. The kind of correction she makes indicates what norm she takes herself to be accountable to.

What may be articulable as the rules and conventions that, from the outside, constitute an agent's rule-following behavior, function as quasi-Aristotelian virtues in the agent's own sense of what he is doing. Once he knows how to play chess, ride a bicycle, tie a necktie, or speak grammatically, he does the right things at the right times for the right reasons, and does so from a steady disposition. The regularities that characterize his behavior have become second nature. And the right reasons are internalized norms.

Abel maintains that knowing how is more fundamental than knowing that. If so, the model provided by the novice chess player is misleading. She internalized antecedently articulated rules. And she was expressly aware of the rules before she internalizes them. To be sure, this sometimes happens. But, Abel maintains, often no articulated rules are available. A speaker learns her native language by being brought up in a community where it is spoken. She models her utterances on those of other speakers, and subjects her linguistic behavior to correction from them. She counts as fluent when, in the opinion of her compatriots, she speaks like a native. That is all it takes. The process can occur without explicit instruction in the rules of grammar. Indeed, it could occur in a linguistic community whose grammar had never been codified. Unlike chess, where the constitutive rules are prior to the practice, grammatical rules precipitate out of the practice. What makes a construction grammatical is that fluent speakers treat it as such. They understand it and do not think it needs correction. Rather than saying that the language learner internalizes the rules, it would be more accurate to say that the linguist externalizes the linguistic virtues of competent speakers.

This sheds light on how to resolve Wittgenstein's worry about rule-following (Wittgenstein 1953; Kripke 1982). Ginsborg, like Abel, recognizes that not all norms are reducible to rules. (Ginsborg 2010). To evade the skeptical puzzle Kripke identifies as arising from the absence of rules, she argues that some norms are primitive. When asked what comes next in a series, or what the sum of 68 and 57 is, she maintains, there is an answer that we primitively ought to give. That answer is right: other answers are wrong. This is so even though it is possible to articulate a rule that a “deviant” answer would conform to. Ginsborg characterizes primitive normativity negatively. It is “normativity which does not depend on

conformity to an antecedently recognized rule." (Ginsborg 2010: 233). She evidently assumes that either normativity is grounded in rules or it is *sui generis*. If there are virtues that are not the internalization of antecedently recognized rules, they are, on her view, primitively normative. We ought to act on them, but there is just no saying why.

This seems wrong. Even if, for example, there is no way to state precisely what proper intonation is, so no way to give content to the requirement that bassoonists should play with proper intonation, it seems plain that proper intonation is a musical virtue. It is not, however, primitive. What makes it a virtue is the way it figures in good musical practice. Knowing how to play a wind instrument involves knowing how to play with proper intonation, because without proper intonation one cannot play well.

Some actions, I suggested earlier, are straightforwardly consequentialist. Their success is determined by their outcomes. What makes the behavior of an agent who knows how to perform such an action virtuous is that that behavior stems from a steady disposition to reliably produce the desired outcome. Practice-based virtues require a different explanation. In my academic building, when the stairs are crowded, people walk on the right. Nothing favors walking on the right over walking on the left. But safety and efficiency favor having everyone going the same direction walk on the same side of the staircase. A simple practice has emerged that achieves that end. Because that practice is in effect, habitually walking on the right is a virtue. Those who know how to participate in the practice unthinkingly stay to the right, and are apt to glower at those who walk on the left. Practices that promote goods thus endow component actions with normative status. Rather than holding that there is just no saying what makes walking on the right normatively correct, we can first explain what makes the practice good and then explain how its component actions derive their normative status from their role in the practice. The practice is good because it promotes safety and efficiency. To be sure, practice in which everyone walked on the left would be equally safe and efficient. So there is no reason to think that walking on the right is intrinsically preferable to walking on the left. But given that the practice of walking on the right is in effect, conforming one's behavior to it is a virtue. For doing so contributes to the achievement of the good the practice promotes. (See Rawls 1999).

Practices are public; performers learn to conform to their norms, and are subject to criticism and correction if they fail to conform. Knowing how is, as Abel says, a product of "triangular relations of subject, other subjects or agents, and the world." (2012: 248) A four year

old child is given the first numbers in the sequence '1, 2, 3' asked what comes next. She might answer '4, 5, 6', or she might construe the sequence as a Fibonacci series and answer '5, 8, 13'. If she does the latter, her answer is mathematically impeccable. 5, 8, 13 are the next numbers in the Fibonacci series. Still, we want to say, her answer is incorrect. If correctness turns entirely on the rules of mathematics, we have no grounds for criticizing her answer. But if correctness turns on attuning herself not just to the rules of mathematics, but to the practice she is participating in, things are different. Given the practice in effect in her pre-school classroom, she has reason to give and prefer the standard answer. Assuming that the class is not studying arcane mathematical sequences, the immediately subsequent integers are standard. Because Abel recognizes the importance of other agents, he has the resources to assess practices, and assess particular behaviors within practices from a perspective that Ginsborg, who looks only at the agent, her past intentions, and her current mindset cannot. Abel can say, as Ginsborg cannot, that what makes an action correct is that it is required (or permitted) by a practice, and that practice promotes something that the members of a given community regard as worth achieving. He can look outward to the public good that the norms achieve, rather than exclusively inward to what the agent thinks she is trying to do.

We are brought up in practices, and often learn from examples. So unlike the chess novice, we may never have learned the "rules" of practices we participate in. Indeed, such practices may have few articulable rules. We were simply socialized to model our behavior on the behavior of adept practitioners. This is why native speakers fail to recognize, much less be able to state, the grammatical rules of their language. Outsiders – perhaps linguists or anthropologists – may formalize the normative regularities that they find in the practice. But practices proceed without expressly formulated rules. The fact that practitioners not only typically conform to certain regularities, but teach others to conform, and correct or disparage the behavior of non-conformists makes it manifest that norms are operative. Normatively informed behavior then is more extensive than explicitly rule governed behavior.

4. Learning How

The novice tennis player hits hundreds of balls in learning how to serve. The novice cellist saws away for untold hours in learning how to bow. Abel insists learning by doing is

typically needed to acquire know how. Aristotle agrees. One becomes just by doing just acts. But Aristotle emphasizes that "the sources and means that develop each virtue also ruin it" (Aristotle 1985:1103b9). What the novice does repeatedly can be repeatedly done well or repeatedly done badly, or intermittently done well and done badly. Only if it is done well will repetition lead to the development of a virtue. Rote repetition will not do. The novice's actions must be monitored (by himself or others), and encouraged or corrected as appropriate.

This means that the student and/or his teacher needs standards by which to judge. But if the actions are ones for which there is no adequate articulable rule, where do they find the standards? They appeal to exemplars – telling instances – where the action is manifestly well done. With or without the aid of a mentor, the novice models his behavior on the behavior those who already know how to perform the actions he seeks to master. Still there is a problem. In the course of exercising his expertise, someone who already knows how to play chess or tie a necktie or play the cello displays a vast array of epistemically accessible features. Which should be modeled?

Goodman (1968) supplies the answer. An exemplar, Goodman says, serves as a symbol that exemplifies some, but not all, of its own properties. A commercial paint sample is helpful in choosing paint because it exemplifies its color and sheen. It points up its color, thereby providing epistemic access to it. An example worked out in a logic text affords epistemic access to the logical form of its argument by exemplifying modus ponens. In construing an item as an exemplar, we treat it as a symbol. The paint sample symbolizes the paint that matches it. An exemplar thus not only instantiates, it also refers. Moreover, exemplification is selective. An exemplar highlights or emphasizes some of its properties by overshadowing or downplaying others. The paint sample does not make reference to its age or distance from Detroit, although it instantiates those properties as well as its color and sheen. An exemplar typifies the members of the class of items that share the exemplified properties. By pointing up their shared property, it enables us to recognize them as relevantly alike. This is why looking at paint samples is helpful. If we know how to interpret the sample, we know what color paint we are buying.

Being symbols, exemplars require interpretation. To interpret an exemplar correctly, we have to be able to tell which of its features it refers to. Multiple exemplars may exemplify the same feature; and in different contexts a single exemplar may exemplify a variety of different features. So interpretation is not always easy or automatic. Actions as well as objects can

exemplify. In showing someone how to do something, I perform an action that exemplifies the features his performance should replicate. If we want to model our behavior on an exemplary performance, we want to replicate the exemplified features and bring it about that our behavior is in the class it typifies.

Some systems of exemplification are standardized. Tailor's swatches belong to regimented systems under which they exemplify their fabric, texture, color and weave. Others are ad hoc. A naturalist points to a bird, and announces that it is an example of a brown headed cowbird. If his interlocutor is ornithologically sophisticated, she may already have a good idea along what dimensions the specimen exemplifies; if not, the naturalist may have to spell them out. "Look at the shape of the tail, the eye markings, the juxtaposition of the black body and the brown head," he might say. If his teaching is successful, he will equip his interlocutor to recognize other brown headed cowbirds when she encounters them.

Exemplars show. They highlight, illustrate, or display the features they refer to. This is why they are useful in teaching. A trombone teacher can show her student how to play a glissando. A father can show his son how to tie a necktie. Because the exemplars embody the success they seek to convey, they are apt to be more effective than verbal descriptions of successful practice. A baseball coach readily shows a batter how to make minute adjustments in his stance that enable him to hit the ball further. Such an illustration is normally preferable to telling the batter to hold the bat a millimeter higher, crouch a two centimeters lower, and bend is left leg forward just slightly, while twisting three degrees to the left. Maybe such instructions would work. But "Try this!" followed by an illustration is a more promising strategy.

Exemplars are often more fine-grained than verbal descriptions. We regularly show one another how to do things that we cannot quite capture in words. A cellist who models his performance of Elgar's Cello Concerto on that of Jacqueline Du Pré interprets her performance as exemplifying a cluster of subtle, nuanced expressive properties – musical properties that he cannot express in propositions. He attempts to realize those properties in his performance and monitors his own efforts to see whether he improves, where improvement is measured in terms of approximations to the features he finds exemplified by Du Pré. He subjects his efforts to criticism, taking her exemplary performance, as he interprets it, as a standard against which to judge. To the extent he succeeds, he comes to know how to play the concerto as Du Pré does.

What does recognizing the role of exemplification add to Abel's position? Abel argues

that knowing how is ubiquitous. It underlies knowing that, and interpenetrates our practices. But because it is not reducible to knowing that and is not expressible in propositions, he concludes that it is indispensable but inscrutable. I agree that it is indispensable. But if we recognize that exemplification is a mode of reference, that we can and do learn to interpret and use exemplars to display and convey what we know how to do, then knowing how is not inscrutable. It simply involves a different mode of symbolization from that involved in knowing that. This is a result that Abel should find congenial.

5.Conclusion

I have argued that the epistemic norms of knowing how are quasi-Aristotelian virtues; they are goods realized in action and may be uncharacterizable apart from the practices they belong to or the ends they promote. When this is so, it is impossible to state exactly what knowing how involves. But this does not make knowing how epistemically inaccessible, or learning how mysterious. A student can learn how to perform the action by modeling exemplary performances of it. Once his behavior accords with his exemplar, he knows how to do the action in question. Knowing how then is not inscrutable so long as we have the resources to identify and interpret exemplary instances.

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