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Skill, Drill, and Intelligent Performance: Ryle and Intellectualism

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In this paper, we aim to show that a study of Gilbert Ryle's work has much to contribute to the current debate between intellectualism and anti-intellectualism with respect to skill and know-how. According to Ryle, knowing how and skill are distinctive from and do not reduce to knowing that. What is often overlooked is that for Ryle this point is connected to the idea that the distinction between skill and mere habit is a category distinction, or a distinction in form. Criticizing the reading of Ryle presented by Jason Stanley, we argue that once the formal nature of Ryle's investigation is recognized it becomes clear that his dispositional account is not an instance of reductionist behaviorism, and that his regress argument has a broader target than Stanley appears to recognize.

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1. Introduction

In this paper, we aim to show that a study of Gilbert Ryle's work has much to contribute to the current debate between intellectualism and anti-intellectualism with respect to skill and know-how. In fact, we believe that this debate has yet to take seriously the alternative he presents us with. It is not just that this alternative is prematurely rejected. In most cases, it is not even perceived as a possible position.[1]

A striking example can be found in the first chapter of Jason Stanley's book, *Know How* (Stanley 2011), where Stanley quotes Ryle as follows (the initial brackets and the wording there are part of Stanley's quotation):[2]

> [The intellectualist point] is commonly expressed in the vernacular by saying that an action exhibits intelligence, if, and only if, the agent is thinking what he is doing while he is doing it, and thinking what he is doing in such a manner that he would not do the action so well if he were not thinking what he is doing. This popular idiom is sometimes appealed to as evidence in favor of the intellectualist legend. Champions of this legend are apt to try to reassimilate knowing *how* to knowing *that* by arguing that intelligent performance involves the observation of rules, or the application of criteria. It follows that the operation which is characterized as intelligent must be preceded by an intellectual acknowledgement of these rules or criteria; that is, the agent must first go through the internal process of avowing to himself certain propositions about what is to be done ('maxims', 'imperatives', or 'regulative propositions' as they are sometimes called); only then can he execute his performance in accordance with those dictates. (Stanley 2011, 13; cf. Ryle 2009a, 18)

As it stands, this passage is quite puzzling. At the beginning, Ryle allegedly claims that the intellectualist point—the point he is arguing *against* in *The Concept of Mind*—is expressed in the vernacular by the ordinary notion that an action exhibits intelligence when and only when the agent is thinking what he is doing while he is doing it, "in such a manner that he would not do the action so well if he were not thinking what he is doing". And then Ryle immediately goes on by noting that this popular idiom is sometimes *appealed to as evidence in favor of* the intellectualist legend. Now, on a natural reading of this second sentence, it contains a suggestion to the effect that this appeal to the vernacular is somehow mistaken. But why is it mistaken, according to Ryle? An answer in accordance with Ryle's general philosophical outlook would be that the mistake consists in misinterpreting the vernacular along intellectualist lines—that is, of foisting upon the vernacular an intellectualist view which is not there. However, given Stanley's rendering of the first sentence of the passage, such a natural reading is blocked. Stanley's way of quoting Ryle instead forces us to make the following interpretation: Ryle thinks that the vernacular *itself contains* the intellectualist view that he wants to reject, and, hence, that the mistake suggested in the second sentence is not a matter of misinterpreting the vernacular along intellectualist lines, but rather a matter of accepting the intellectualist conception already inherent in ordinary language.

However, a closer look at the original context of the passage reveals that Stanley misquotes Ryle. Here is how the passage

[1] Sebastian Rödl's brief discussion of Ryle in Rödl (2012) is a clear precursor to our interpretation, emphasizing that Ryle's investigation moves in what both we and Rödl call a "formal" register. Readings that also exhibit sensitivity to the aspects we are highlighting, and to which we are indebted, include Hornsby (2011) and Wiggins (2012).

[2] Stanley quotes a few lines more, but they are irrelevant to the point we are making.

actually begins: "This point is commonly expressed in the vernacular by saying that an action exhibits intelligence . . . ". And if one reads the paragraph that precedes the quoted passage, it becomes evident that by "this point" Ryle is not referring to "the intellectualist point" at all. Here is the preceding paragraph in full, where the point to which Ryle is in fact referring is spelled out in some detail:

> What is involved in our descriptions of people as knowing how to make and appreciate jokes, to talk grammatically, to play chess, to fish, or to argue? Part of what is meant is that, when they perform these operations, they tend to perform them well, i.e. correctly or efficiently or successfully. Their performances come up to certain standards, or satisfy certain criteria. But this is not enough. The well-regulated clock keeps good time and the well-drilled circus seal performs its tricks flawlessly, yet we do not call them 'intelligent'. We reserve this title for the persons responsible for their performances. To be intelligent is not merely to satisfy criteria, but to apply them; to regulate one's actions and not merely to be well-regulated. A person's performance is described as careful or skilful, if in his operations he is ready to detect and correct lapses, to repeat and improve upon successes, to profit from the examples of others and so forth. He applies criteria in performing critically, that is, in trying to get things right. (Ryle 2009a, 17)

In this passage, Ryle is not describing a view that he wants to reject. On the contrary, he is explaining a distinction he takes to be of crucial importance, the clarification of which is one of the central aims not only of the second chapter of *The Concept of Mind* but of the whole book. The distinction is one between intelligent action on the one hand, and mechanical habit on the other—a distinction he eventually spells out in terms of differences such as those between genuine skill and the mere repetition of behavior, and between full-fledged learning and mere drill. Ryle is not trying to collapse such differences by reducing intelligent action to mechanic response patterns, as a conventional behaviorist interpretation of his view would lead one to expect. Rather, his aim is to show that in order to adequately draw the distinction between intelligent action and mechanical habit, we must avoid an intellectualist construal of intelligence. In this paper, our overall aim is to shed some further light on this region of Ryle's philosophy—a region that is simply absent from Stanley's map of the terrain.

It may be objected that we are as uncharitable to Stanley as he is to Ryle, for aren't we ignoring the specific context in which Stanley misquotes Ryle? After all, it may be argued, Stanley's main point in this connection is to criticize what he takes to be Ryle's construal of intellectualism, and, in particular, to reject the presumption—supposedly Ryle's—that an action can be said to be guided by propositional knowledge only if the action is preceded by another distinct action where the agent avows to himself the proposition in question. According to Stanley, this presumption is what lends credibility to Ryle's notorious regress argument against intellectualism, and once the presumption is rejected Ryle's case is lost. It may be thought that, even if slightly embarrassing, the misquotation we have identified is only a minor fault, and does nothing to show that Stanley's basic criticism of Ryle fails.

However, we think the distance between Stanley and Ryle is even greater than Stanley's way of opposing them suggests. Our main aim is to clarify Ryle's actual position, and this will show that Stanley's understanding of the regress argument is mistaken. Stanley fails to recognize how broad the target of Ryle's attack on intellectualism is. In fact, Ryle rejects any attempt to construe the intelligence of intelligent action in terms of an extra feature added to behavior that by itself lacks intelligence. And his own alternative view is not a dispositionalist kind of behaviorism, but an account that is neither intellectualist nor behaviorist. Our central claim in what follows is this: in order to see the possibility of Ryle's non-intellectualist and non-behaviorist conception, it is necessary to understand what it means to say

that the distinction between intelligent action and mechanical habit (and cognate distinctions such as skill/mere repetition and learning/drill) is a distinction between *categories.* Or, as we will also put it, using resources from Elizabeth Anscombe: this distinction is to be understood as a distinction in *form*. That is the key to Ryle's dispositional analysis of skill and know-how, and to his specific observations that skill and know-how involve understanding, variability, learning, and so on, as essential characteristics.[3]

In most of what remains of this paper, we shall explore Ryle's view on its own terms, without letting the investigation be shaped by the questions Stanley considers basic. In the next section, we take a first step in this exploration by considering two examples that Ryle discusses later in his book, in Chapter 5, "Dispositions and Occurrences". These examples clarify two points that are crucial to Ryle's conception. First, they illustrate a general point about what is involved in describing and explaining something in dispositional terms—a point Ryle spells out via his notion of a *mongrel categorical*. Second, the examples are used to clarify precisely the sort of distinction between merely well-regulated behavior and a skillful agent's capacity to regulate his own actions that we saw Ryle sketching in the passage quoted earlier.

2. The Bird and the Soldier

In the first of the two examples we want to consider, the main character is a bird flying south. What, Ryle wonders, is involved in describing this bird as *migrating*? He begins by noting that "something more episodic is being said than when [the bird] is described as a migrant, but something more dispositional is being said than when it is described as flying in the direction of Africa" (Ryle 2009a, 124). Ryle is here making the point that although the statement "It is migrating" describes an ongoing happening (an "episode", in Ryle's terms), it also points to a disposition—the disposition to migrate. It is a statement that has *both* episodic and dispositional character. Ryle goes on to say,

> The description of a bird as migrating has a greater complexity than the description of it as flying in the direction of Africa, but this greater complexity does not consist in its narrating a larger number of incidents. Only one thing need be going on, namely that the bird be at a particular moment flying south. 'It is migrating' tells not more stories, but a more pregnant story than that told by 'It is flying south'. It can be wrong in more ways and it is instructive in more ways. (Ryle 2009a, 124–25)

So, moving from "The bird is flying south" to "It is migrating" is not a matter of moving from describing one episode to describing two or more, but a matter of telling a more "pregnant" story. Pregnant with what, then?

Part of Ryle's answer is that "It is migrating" is pregnant with *explanation*. It constitutes an answer to the question "*Why* is the bird flying south?" Again, this is so not because it tells us what prior and independent episode caused the bird to fly south. Rather, "It is migrating" carries "a biological message" (2009a, 125). When we say that the bird is migrating we are implying that the bird in question is *a migrant*, and this implication invokes biological knowledge of the characteristic behavior of different kinds of birds.

"The bird is migrating" is an example of a mongrel categorical. Such a statement is at once descriptive, predictive, and explanatory, but not by being a "conjunctive assemblage of detachable sub-statements" (2009a, 123). The notion of a mongrel categorical is meant to help us see that a statement can describe and

[3] We will not explicitly discuss the article Stanley wrote jointly with Timothy Williamson (2001), which ignited much of the contemporary debate about the relation between knowing-how and knowing-that. However, our criticism of Stanley's reading of Ryle applies also to what is said about Ryle in this earlier piece; Stanley and Williamson are equally blind to that central region of Ryle's thought that we explore in the present paper.

explain without reference to some other, "covert", occurrence. Such statements exemplify *dispositional* explanations, and they do so by describing an episode as an exercise of a disposition.

However, not all mongrel categoricals are alike (as not all dispositions are alike). Thus, consider Ryle's second example: "The soldier is obediently fixing his bayonet" (2009a, 126). According to Ryle, this statement is also a mongrel categorical. It does not describe two episodes in succession or tandem, one (overt) of fixing the bayonet and one (covert) of mental compliance. However, the message carried by this statement is different from the biological message carried by "It is migrating". Ryle says,

> . . . [t]o say that a sugar lump is dissolving, a bird migrating, or a man blinking does not imply that the sugar has learned to go liquid, that the bird has learned to fly south in the autumn, or that the man has learned to blink when startled. But to say that a soldier obediently fixed his bayonet, or fixed it in order to defend himself, does imply that he has learned some lessons and not forgotten them. (2009a, 128)

Recall the passage quoted in the first section of this paper, where Ryle attended to a contrast between well-regulated clocks and well-drilled circus seals on the one hand, and skilled agents on the other. There, the difference between non-intelligent and intelligent behavior was described in terms of a distinction between the mere satisfaction of certain criteria or rules and the genuine application of such criteria or rules. In his discussion of the bird and the soldier, this distinction is further elaborated in terms of *learning* as a prerequisite for the genuine application of criteria or rules (in section 3, we will return to and qualify this notion of "prerequisite").

Earlier in the book, Ryle has discussed the difference between inculcating a *habit* and *training* someone to develop an intelligent capacity (or skill). One of his points is that learning is not just any process that changes one's propensities or capacities. Habits are instigated by drill, i.e., by a practice of mere repetition. And in habitual practices, as Ryle sees them, one's performances are "replicas of their predecessors" (2009a, 30). Intelligent capacities, on the other hand, are acquired by training or learning. This process, though it too involves drill, also includes "stimulation by criticism and example of the pupil's own judgement" (2009a, 30).

In the essay "Teaching and Training," Ryle emphasizes further how a teacher in training a pupil expects him to move beyond mere automatisms and movements learned by rote, to "employ his inculcated automatisms in higher-level tasks which are not automatic and cannot be done without thinking" (Ryle 2009b, 468). However, that they are not automatic and are done with thinking is for Ryle perfectly compatible with them being done effortlessly and unhesitatingly. There is thus, for Ryle, no tension between the idea that intelligent capacities involve judgment and the idea of them being exercised in the flow of the moment.[4]

This marks one difference between Ryle's view and the form of anti-intellectualism represented by for instance Hubert Dreyfus. Dreyfus claims that thought, rationality, and judgment *give way* when a capacity becomes effortless (Dreyfus 2005). Whereas Ryle thinks that effortless exercises of intelligent capacities precisely manifest thought and judgment. About an expert tennis-player Ryle says,

> . . . we should certainly want to say that the tennis-player is, in the hospitable sense of the verb, thinking, since he is attending to the game, and applying or misapplying to fresh contingencies lessons that he has learned. Not only his long-term strategies but also his momentary movements can be politic and cunning or stupid and ill-judged. All the time he is estimating and misestimating things. His using his wits and his playing the game are one single occupation, not two rival occupations, or even two allied occupations. (Ryle 2009b, 436)

[4] In the paper "A Rational Animal," Ryle says, "In all fields, from the nursery to the laboratory, more or less painfully acquired capacities can develop into absolute facilities, so that the exercises of these capacities are at last, though only in normally propitious circumstances, totally unhesitant, totally unperplexed and totally unlaborious" (Ryle 2009b, 438).

Ryle goes on to say that there is a *special* sense of the verb "to think," where it means "to reflect." In this more narrow sense of the term, the tennis-player must stop playing if he wants to think. But it is important to Ryle that we do not let this special sense govern our interpretation of the, indeed true and important, idea that the player is thinking in being immersed in the game. If we do let the special sense govern our interpretation of this idea, we might be forced to entertain, he says, "what in our hearts we know to be false, that the activity of playing tennis has got to be a rapid procession of momentary or unrecorded intellectual or theorizing operations triggering off the several muscular movements" (Ryle 2009b, 436). Contra an anti-intellectualist of Dreyfus's ilk, Ryle wants us to recognize that we have a notion of thinking and of judgment that applies to performances as absorbed and immersed in the particularities of the situation as you like.[5]

Moreover, Ryle thinks that the same capacity that accounts for one's performances, e.g., in tennis, can also be manifested in one's criticisms of the performances of others and in training others to develop the same capacity. He says,

> . . . roughly, execution and understanding are merely different exercises of knowledge of the tricks of the same trade. You exercise your knowledge how to tie a clove-hitch not only in acts of tying clove-hitches and in correcting your mistakes, but also in imagining tying them correctly, in instructing pupils, in criticizing the incorrect or clumsy movements and applauding the correct movements that they make, in inferring from a faulty result to the error which produced it, in predicting the outcomes of observed lapses, and so on indefinitely. (Ryle 2009a, 42)

This quote shows that for Ryle, knowing how to (e.g.) tie a clove-hitch is exercised in quite diverse ways, not only in the tying of the knot. The other examples he adduces of such exercises, such as instructing pupils and predicting the outcomes of observed lapses, show how misguided it would be, from Ryle's perspective, to pit skill *against* understanding (or thought). According to Ryle, what one is learning when one is learning a skill is not only to perform intelligently but also to judge and teach others (and oneself).[6] For Ryle, then, to learn a skill is to expand one's understanding.

When one engages in an intelligent practice, one has learned to use one's judgment to modify one's performance according to the demands of the specific situation. So, one's performance is not a mere echo of one's previous lessons. Picking up things by rote without trying to do so is, Ryle says, "the vanishing point of learning" (2009a, 128). Highlighting how the acquisition of an intelligent capacity is a matter of moving beyond mere habit to a capacity to use one's judgment, is a way of emphasizing that a full-fledged process of learning does not just make the pupil's behavior more complex, but installs in the pupil a new form of agency—one that allows her to determine correct courses of action in an open-ended variety of circumstances. He says:

> Children, semi-literates, old-fashioned soldiers, and some pedagogues tend to suppose that being taught and trained consist in becoming able merely to echo the exact lessons taught. But this is an error. We should not say that the child had done more than begin to learn his multiplication-tables if all he could do were to go through them correctly from beginning to end. He has not learned them properly until he can promptly give the right answer to any snap multiplication problem (lower than 12×13), and unless he can apply his tables by telling us, e.g. how many toes there are in a room in which there are six people. . . . Learning is becoming capable of doing some correct or suitable thing in *any* situations

[5] For some helpful suggestions about how to understand the relation between the different senses of "to think", see Kremer (2017).

[6] It is important to note that Ryle is not precluding that there might be more to being a great teacher than possessing the skill. The point is that in learning a skill one learns to judge performances and work on improving them, be they one's own performances or the performances of others. Hence, on Ryle's view, some capacity to provide instruction is part and parcel of having a skill.

> of certain general sorts. It is becoming prepared for *variable* calls within certain ranges. (Ryle 2009a, 129, original emphases)

The central issue here is not whether the actual use of the word "learning" is as closely tied as Ryle thinks to the acquisition of capacities characterized by preparedness for variability. We might be happy to say that a child who can repeat the multiplication tables has learnt them, although he has more to learn about multiplication. But there is hardly much point in learning the multiplication tables by heart, unless this is a stage in the development of an open-ended, general capacity to multiply. The important point is that in most cases, especially in the cases that are central to what we call "intelligence", learning processes are aimed at the development of capacities whose exercises are not mere copies of previous lessons. And such capacities, Ryle thinks, are often implied when we describe what people are doing using mongrel categoricals.

3. The Category of Skill

At this point, we are in a position to consider what *kind* of investigation Ryle is engaged in. For this is something that has not been clearly perceived; and it seems to us that this failure to grasp the character of Ryle's approach is an important reason why the contemporary appropriation of his work has often been so imperceptive and fraught with misunderstanding.

As we saw in the previous section, Ryle introduces the idea of a mongrel categorical to make us realize that often when we describe activities of various sorts, such as birds migrating, sugar dissolving, and soldiers fixing bayonets, we are also trafficking in explanations. He emphasizes that these explanations do not have the form of citing a previous or concomitant episode as the cause of the activity described. When thinking about activities that display intelligence, such as the soldier's fixing his bayonet, we do not have to suppose that the intelligence of the act is conferred on it by some other, inner, episode. The description of a soldier as fixing his bayonet is a description of an activity that "directly display[s] qualities of mind" (Ryle 2009a, 15). It does so by being an exercise of an intelligent capacity, i.e. one that is acquired by learning, involves the judicious application of criteria, and is variable.[7]

Let us pursue further the question of what Ryle means when he says that a quality of mind is on direct display. This claim might sound vaguely behaviorist. However, Ryle's point is not that intelligence is some physical property of a stretch of human movement, on a par with the velocity of the hand as it moves forward to grab a cup. He insists that there might be no such differences between, say, a clown who skillfully trips on purpose, and a clumsy person who trips involuntarily. Their bodily movements and the configurations of their limbs as they fall to the ground might be identical. He notes, however, that the former and not the latter is the upshot of "much rehearsal" and done "at the golden moment" (2009a, 21). Thus he seems to argue that the history of an agent and what happens before a stretch of human activity takes place is relevant for what sort of activity it is. The clown is not doing two things: thinking

[7] Ryle's point is not that possessing know-how must in each case fulfill all these criteria—indeed his view is compatible with the possibility that an agent can know how to do something even if, say, she is no longer able to practice the skill herself. Consider the well-rehearsed example of the expert piano-player who can no longer play because she has lost her arms, but who can still teach the piano and provide useful criticisms. Because of her history, and because she can still teach others, there is room for thinking that she knows how to play the piano. The case of the armless pianist comes from Stanley and Williamson (2001), who take it to be a straightforward counterexample to Ryle. As Hornsby notes, they are wrong to attribute to Ryle a view according to which knowing-how simply is a matter of having an ability (Hornsby 2011, 82). It is an interesting question if someone who has never been able to ϕ (where "ϕ" signifies a certain skill) but is able to teach others to ϕ can be adequately described as knowing how to ϕ (or if such a case is even conceivable, strictly thought through); in this connection, see also Ellen Fridland's discussion of the gymnastics teacher Bela Karolyi in Fridland (2015, 711ff.).

and tripping. He is just doing one thing: skillfully tripping. But this, Ryle appears to claim, is something he could not have done unless he had learned the skill.

This may seem perplexing. On the one hand, Ryle says that the intelligent character of the clown's tripping is "on direct display"—a phrase which strongly suggests that the intelligent character is somehow directly present to an appropriately receptive onlooker. On the other hand, Ryle seems to explain the presence of intelligence in terms of a past history of learning. How are these two notions supposed to be compatible?

This tension may appear even more intolerable if one interprets Ryle's claim about the necessity of past learning as a mere hypothesis about how the clown happened to achieve his skill—a hypothesis whose verification, in the last instance, is a matter of knowing about earlier (and thus no longer present) events. After all, isn't it quite possible that the man before us was a prodigy with an immense natural talent for clownery, and so never needed to do any rehearsing, but just "had it" from the start? It may be unlikely, but it does not seem excluded by the clown's present actions; and the mere possibility appears enough to undermine Ryle's claim that the necessity of learning is part of what accounts for the "directly displayed" intelligence of the skill. For such a prodigy's performance may be just as intelligent as the behavior of someone for whom much practice has been needed. We would not retract that the clown's behavior is skillful if we were informed that he was a clown prodigy. So, how can Ryle's view make sense?

In our view, Ryle is not making the dubious point that having actually learned the skill is a necessary condition for having the skill—a claim with the specious upshot that prodigies of the sort imagined are not skilled at all but behave automatically, non-intelligently. Rather, Ryle is identifying what we will characterize as a *formal* aspect of skillful behavior. Instead of claiming (either as an *a priori* principle, or as a more or less well-confirmed empirical hypothesis) that any skill can be executed only by someone who has actually learnt the skill, what Ryle wants to bring out is that something is a skill only insofar as it is situated in a logical space where questions about learning are *applicable*—where such questions *make sense*. For example, with regard to the clown we can ask questions such as: "When did you learn to trip like that?", "How did you learn it?", "Who taught you?", "Was it difficult to learn?", and so forth. That these questions are applicable does not exclude that they may occasionally receive answers such as "I didn't have to learn it, I just knew how to do it the first time I tried", "Nobody had to teach me", and so on. Rather, the central contrast is with merely automatic behavior in relation to which these questions make no sense at all (insofar as learning is conceived along Rylean lines, as involving not just mere drill but also stimulation of the pupil's own judgment through criticism and example). If a piece of behavior is purely automatic, we can instead ask things such as "When did this become a habit with you?", "Do you have any idea why you tend to respond like this?", and so on.

There is a reason why Ryle sometimes allows himself to speak as if a history of actual learning were indeed a necessary condition for any variety of skillfulness. For even though there might be cases like the prodigy who does not have to learn a certain limited skill, it is arguable that such cases are peripheral and parasitic on cases in which a skill is indeed learned. Even if exceptional prodigies are imaginable, we understand them precisely as exceptions; they are not the cases to turn to if we want to understand the nature of skill. Having a capacity for judgment and criticism is part of being a skilled agent, and this is precisely what learning and instruction involve and aim at inculcating. Moreover, there are certainly many skills with regard to which it is hardly intelligible to say that a human being "just knew how to do it the first time she tried"—consider, for instance, speaking English and playing chess. Perhaps it is only with regard to

very narrowly circumscribed skills, such as tripping in a natural manner, that it makes sense to imagine the kind of prodigy envisaged above (notice that such a prodigy is not the same as an autodidact—an autodidact has learned the skill, albeit with herself as a teacher). However, when Ryle distinguishes between skills in general and mere automatisms, he is not committed to the idea that possessing any skill necessarily takes learning. What Ryle offers is a formal characterization: skills are such that questions about learning can sensibly be raised. This characterization is not straightforwardly vulnerable to a single imaginable counterexample.

The move Ryle is making when he distinguishes skill from mere habit is thus, we argue, the same as the one he makes in the beginning of the essay "A Rational Animal". There he provides an interpretation of the dictum "Man is a rational animal". First, he denies that this dictum means that all men have some special excellence. Second, he argues that what it does mean is that "[i]t is a peculiarity of men that they can sometimes succeed, but it is also their peculiarity that they can sometimes fail in certain undertakings in which other animals not only cannot succeed, but cannot even fail" (Ryle 2009b, 429). Thus, to point out that we are often not as clever as we would like to think we are is not to provide evidence that Man is *not* a rational animal. To the contrary, it is to show that the dictum (on Ryle's interpretation) is true, since it is against the background of its truth that it makes sense to say that we often make trivial mistakes. "Man is a rational animal" is, thus, a formal characterization. And so, we argue, is "Skill, as opposed to mere habit, is learned".

Importantly, there is a sense in which such a formal characterization is circular. As we noted at the end of section 2, the word "learning" is sometimes used loosely as applicable also to the mere instigation of automatic response patterns. For example, someone might say that a certain circus seal has "learned" to perform a certain trick. Thus, circularity enters when we try to delineate a more precise and restricted notion of learning along the lines proposed by Ryle—for then we need to employ precisely those concepts that the discussion about learning was meant to elucidate: skill, intelligence, judgment, and so forth. However, such circularity is to be expected, given that Ryle is after what we have called a "formal" characterization of skill. For what such a characterization identifies is a logical space constituted by mutually interlocking concepts that cannot be defined independently of each other. In other words, formal characterizations do not attempt to reduce one concept to other, more fundamental ones, but show how concepts of equally fundamental significance are interrelated.

Famously, Ryle's term for such a logical space is *category*:

> To ask the question To what type or category does so-and-so belong? is to ask In what sorts of true and false propositions and in what positions in them can so-and-so enter? Or, to put it semantically, it is to ask In what sorts of non-absurd sentences and in what positions in them can the expression 'so and so' enter? and conversely, What sorts of sentences would be rendered absurd by the substitution for one of their sentence-factors of the expression 'so-and-so'? (Ryle 2009b, 188)

Categorization is a matter of distinguishing, not the true from the false, but the "absurd" from the "non-absurd"; and Ryle adds that he speaks of absurdity in preference to "nonsensical" or "meaningless" only for the reason that the latter two words "are sometimes used for noises like 'brillig' and 'abracadabra', and sometimes for collocations of words with no grammatical construction" (2009b, 188). According to Ryle, delineating a category is a matter of marking a logico-conceptual space of sense-making rather than a factual domain of truths, and this is precisely what we mean by saying that Ryle moves in a formal register of investigation. Thus, what we are claiming is that Ryle conceives the distinction between skill and automatic behavior as a category distinction, and the conflation of the two as a category mistake.

Our reading entails that there is an interesting similarity between Ryle's discussion of skill and Elizabeth Anscombe's discussion of intentional action. Anscombe says, "the term 'intentional' has reference to a *form* of description of events" (1963, 85), arguing that "We do not mention any extra feature attaching to an action at the time it is done by calling it intentional" (1963, 5). Rather, she argues, what distinguishes actions that are intentional from those that are not is that intentional actions are "the actions to which a certain sense of the question 'Why?' is given application; the sense is of course that in which the answer, if positive, gives reason for acting" (1963, 9). As Anton Ford points out in a recent discussion of these passages (Ford 2015), the formal character of Anscombe's account manifests itself in the fact that she has no problem tolerating a "null" answer to the "Why?" question. According to Anscombe, an action may well be intentional even if the answer to "Why are you doing such-and-such?" is "For no particular reason" (Anscombe 1963, 25). If she thought that being done for a reason were a necessary condition for being an intentional action, then she would have to say that such an answer disqualifies the action from being intentional at all. However, what she takes to be crucial is not a positive answer, but that the question makes sense as applied to the action in question; she can freely admit that there are intentional actions that are done for no reason at all.[8] This is parallel to how we proposed that Ryle conceives questions about learning a skill. Again, if we ask the clown "When did you learn to trip like that?" and he replies, "I didn't have to learn it, I just knew how to do it the first time I tried", our question nonetheless has application, and his skill is still a skill.[9]

We can now better understand Ryle's claim that in skillful behavior, a quality of mind is on direct display. According to Ryle, a reductive physicalist construal of what is "directly displayed" is not obligatory. Purely physical responses is one category, and the category of skill, intelligence and judgment another; and there is no reason to hold that only the purely physical captures what is "on display". To a human agent in a human world, brought up to conceive of human conduct in terms of skill, judgment, and intelligence, intelligent action is normally as directly displayed as any purely physical stimuli and response.[10]

It is important to keep in mind that Ryle's investigation moves in a formal register, not just when he is discussing how learning relates to skill, but also when he discusses the character of what is thus learnt, and the role of dispositions. Consider again his treatment of dispositions and dispositional explanations. If one

[8] See Ford (2015, 133–35). Ford convincingly argues that there is a similarity here between Anscombe's account of intention and Frege's account of number. Ford shows how this comes out in Frege's being equally prepared to accept a "null" answer to the question he takes to identify the domain of the countable, namely "How many?": "What answers the question 'How many?' is a number, and if we ask, for example, 'How many moons has this planet?', we are quite as much prepared for the answer 0 . . . as 2 or 3, and that without having to understand the question differently" (Frege 1950, 57).

[9] Again, this is not to deny that such "null" cases cannot be the basic ones but must be peripheral. Anscombe appears to have a similar conception: cases in which her "Why?" question is answered by "For no particular reason" are, she says, of "slight" interest (1963, 34), whereas it is clear that she regards the cases in which a reason for action is given in response as revelatory of the nature of intention.

[10] Here we can also see the deeper nature of Ryle's rejection of the other side of the dualist coin, namely, what he calls "Cartesianism". By retaining the behaviorist conception of what is available "on the surface", the Cartesian is forced to claim that mental qualities must be somehow hidden behind that surface. So, the Cartesian retains the basic mistake of reductionist behaviorism, namely, that of missing that the difference between mere automatic responsiveness and intelligent conduct is a formal or categorical difference. According to the Cartesian, that difference must consist in the presence of some extra feature added to an already identified piece of outward physical behavior—which is precisely to construe the difference we want to understand in non-formal terms. By contrast, the deepest point of Ryle's discussion is that the difficulty cannot be resolved until we understand that the difference is a difference not in matter but in form.

overlooks the formal character of Ryle's discussion, it is difficult to resist the idea that his aim is to lump intelligent performances together with animal responses to stimuli and even with the behavior of inanimate objects such as a sugar cube's dissolving in water. Certainly, one may acknowledge that Ryle wants to make distinctions within this broad class of phenomena, but it will be difficult to see how these distinctions could be other than quantitative ones—distinctions having to do merely with a difference in complexity. Stanley's reading is a clear example of this tendency. He insists that Ryle is a behaviorist in the most traditional, physicalist sense of the word, and that the dispositional state of know-how is different from other dispositions only in being more complicated:

> Ryle certainly thought that mental capacities were not identical to dispositions characterized in terms of a single natural kind of behavior, like squinting. But it is consistent with Ryle's persistent admonishments that he thought of each mental capacity as identical with a very lengthy and complex disjunction of purely physical behavioral dispositions. (Stanley 2011, 10)

This reading fits badly with what Ryle actually says about dispositional explanations. According to Ryle, saying that an intelligent performance is an exercise of a disposition is only to make a claim which points in a very general direction—a claim awaiting specification in order to make determinate sense. He says,

> . . . merely to classify a word as signifying a disposition is not yet to say much more about it than to say that it is not used for an episode. There are lots of different kinds of dispositional words. Hobbies are not the same sort of thing as habits, and both are different from skills, from mannerisms, from fashions, from phobias, and from trades. Nest-building is a different sort of property from being feathered, and being a conductor of electricity is a different sort of property from being elastic. (Ryle 2009a, 101)

Ryle is at least as interested in the *differences* between "The sugar cube is dissolving", "The bird is migrating", and "The soldier is fixing his bayonet" as he is in their unity. We should take seriously his repeated claim that intelligent capacities are distinctive in kind, and thus differ not merely in complexity from other kinds of disposition. For instance, when, in *The Concept of Mind*, he moves from the discussion of dispositions in general to mental capacities in particular, he says that although some dispositional terms (such as combustibility) can be "applied indifferently to all sorts of things", he is interested in the "quite restricted class of dispositional terms, namely those appropriate only to the characterization of human beings." Even more specifically, he is concerned with those dispositional terms "appropriate to the characterisation of such stretches of human behavior as exhibit qualities of intellect and character" (Ryle 2009a, 109). Note here that Ryle talks about how certain dispositional terms are *appropriate to* or *apply to* only some things. To echo the discussion of Ryle's notion of category above: it is not *false* to say of a stone or a cat that it is a great cook, but *absurd*. Such formulations reveal that Ryle thinks that dispositions can differ not only in complexity, but also in form or category.

Against the background of what we have said in this and the previous section, it should be clear how misleading it is to claim, as Stanley repeatedly does, that the issue over intellectualism is an issue over what sort of *state* it is that *guides* behavior. Stanley construes intellectualism as the view that "action is intelligent in virtue of being guided by propositional knowledge", and argues that Ryle defends the opposite idea that "intelligent action is a matter of being guided by a non-propositional state of knowing-how" (Stanley 2011, 12; see also 22–23). Two points can be made here. As our characterization of the formal nature of his approach made clear, Ryle does not think that action is intelligent in virtue of any extra feature added to a separately identifiable piece of outward behavior: "When I do something intelligently, i.e. thinking what I am doing, I am doing one thing and not two. My performance has a special procedure or man-

ner, not special antecedents" (Ryle 2009a, 20). The parallel with Anscombe's claim that we do not mention any extra feature attaching to an action by calling it intentional is striking. If our reading is correct, Ryle's notion of "procedure or manner" is a somewhat misleading way of referring to a formal unity, a category. Moreover, as we saw in the discussion of mongrel categoricals, Ryle thinks that dispositional explanations generally don't trade in separable episodes that cause behavior. Thus, he is resistant to positing a state that supplies the behavior with intelligence, arguing that "[t]o possess a dispositional property is not to be in a particular state" (2009a, 31).[11]

The general point that dispositional explanations cannot reduce to explanations in terms of underlying states may be debated, of course. Suffice it to note here that the peculiar form of intelligent capacities makes them especially unfit for being identified with or exhaustively explained by an underlying state (or what Stanley (2001, 17) calls "categorical property", a notion that has nothing to do with a Rylean category). Stanley dismisses this aspect of Ryle's position:

> Skepticism about ascriptions of categorical properties of the mind/brain that explain the behavior of a given rational agent is no more plausible than skepticism about the ascription of categorical properties to a glass that explain its fragility. (Stanley 2011, 7)

However, that categorical properties (in Stanley's sense) carry less explanatory value in the case of intelligent action than in the case of a fragile glass is not a dogma on Ryle's part, but something he makes a case for. As we have emphasized, Ryle thinks that the behavior of a rational agent is diverse and open-ended in a way that the behavior of a glass is not. Ryle says:

> Knowing how, then, is a disposition, but not a single-track disposition like a reflex or a habit. Its exercises . . . can be overt or covert, deeds performed or deeds imagined, words spoken aloud or words heard in one's head, pictures painted on canvas or pictures in the mind's eye. Or they can be amalgamations of the two. (Ryle 2009a, 34)

So, even if we may make sense of the idea that a disposition such as fragility in a glass can be satisfactorily explained by a categorical fact, it remains unclear what it would be to identify a state that is responsible for the open-ended range of exercises of know-how. Moreover, as we saw in the discussion of learning, Ryle emphasizes that learning a skill involves developing one's judgment. Judgment would, it seems, not be needed if the agent were in a state that determined the response in the situation.

Stanley's view in effect presupposes precisely that undifferentiated, behaviorist conception of behavior that Ryle is trying to undermine—a conception which entails that the behavior can be present with or without that state of knowledge which would confer upon it the feature of being intelligent or skillful. Given this Stanleyan scheme, it is virtually inevitable that the central

[11] Admittedly, Stanley is not unaware of this feature of Ryle's position. Consider the following passage:

> Ryle is operating with a metaphysical picture of knowing how according to which one's know how just is *constituted* by the fact that when one is so situated, one acts thus. On Ryle's picture of action, intentional actions are not the effects of inner categorical causes. Thus his picture of knowing how coheres with his conception of intentional action. Ryle's metaphysical picture is widely regarded as implausible since it involves ungrounded dispositions—that is, the possession of dispositions without any categorical basis. (Stanley 2011, 17)

How Stanley reconciles this observation with ascribing to Ryle the idea that knowing-how is a non-propositional state is not clear. Perhaps he recognizes the tension here, but thinks of the construal of knowing-how as a non-propositional state as more charitable to Ryle, since it does not saddle him with what Stanley takes to be the plainly hopeless view that knowing-how (and other dispositions) are "ungrounded". But is it true that Ryle subscribes to the view that dispositions are ungrounded? He would not deny that we may discover all sorts of connections between dispositions and what Stanley calls "categorical" properties, including neuro-physiological facts about the human brain. But he believes it is a mistake to think that there must be such a categorical property corresponding to the dispositional statement. The dispositional statement binds together factual statements (it resembles a statement of a law in this respect), but it isn't itself another factual statement.

issue becomes: What is the nature of the state in question? Is it a state of knowing-that or a state of knowing-how? And Ryle then gets caged into awkwardly having to defend the view that only a dispositional state of non-propositional know-how can provide the agent with the relevant guidance—a state which must ultimately be construed as no different in form from a sugar cube's state of being soluble. No wonder, then, that Stanley cannot distinguish Ryle's position from that of traditional reductionist behaviorism.

4. Ryle's Regress

We have emphasized the formal nature of Ryle's investigation and made the point, more specifically, that the distinction between skill and mere habit is a category-distinction. How does all this matter for how we should understand Ryle's regress argument? One answer is that it is a mistake to think, as Stanley does, that Ryle concludes from the regress that intelligent action "must be *uninformed*" (2011, 19, original emphasis).

It is striking how well Stanley's misunderstanding of the upshot of the regress argument fits with his misquotation of Ryle discussed at the very beginning of this paper. As the reader will remember, this misquotation foists upon Ryle a denial of the everyday notion that an agent acts intelligently if and only if he is thinking what he is doing while he is doing it. Such a denial is congenial to the (in fact deeply un-Rylean) idea that intelligent action reduces to intricate patterns of unthinking behavior. All this clearly exhibits Stanley's conception of Ryle as a behaviorist of the most standard type—one who thinks of each mental capacity as "identical with a very lengthy and complex disjunction of purely physical behavioral dispositions" (2011, 10).

As we have emphasized throughout our discussion, Ryle insists that intelligent action is different not just in complexity but in kind (form, category) from automatic response patterns. He never rejects but in fact positively embraces the idea that intelligent action is done with thinking—that such action is indeed *informed*. His point is just that the "thinking" in question is not to be conceived as a process or state that is separable from and underlies, causes, or accompanies the outward behavior.

Moreover, Ryle nowhere denies that even with regard to quite a simple action such as opening a door, the agent's knowing-how will be intermingled with some or plenty of knowing-that. Thus, Stanley's invoking Carl Ginet's point that in opening a door by turning the knob I manifest knowledge *that* I can get the door open by turning the knob, misses its target (Stanley 2011, 15; cf. Ginet 1975, 7). In fact, Ryle is keen to underline that acquiring "all but the most unsophisticated knacks" requires "some intellectual capacity", including "understanding instructions" (2009a, 36–37). So, there is no textual evidence that Ryle would want to deny that an agent's opening a door typically manifests her knowledge that she can get the door open by turning the knob. More specifically, there is no evidence that he would take a denial of this platitude to be an upshot of his regress argument.

What is going on in the regress argument is instead, as we read Ryle, a two-pronged attack on intellectualism, conceived as an attempt to account for skilled action in terms of the conjunction of two separately conceivable components: "mere" behavior and states of knowledge. But the idea is not to defend standard behaviorism, which tries to provide a similar account but without the second component. In fact, Ryle takes it for granted that such standard behaviorism is mistaken. His basic insight is this: Once we start from the assumption that intelligent action involves as one of its proper components behavior that is by itself non-intelligent, we will be unable to provide a satisfactory account of such action. Let us look a bit closer at his way of arguing.

Ryle begins his regress argument by making the following initial summary:

> The crucial objection to the intellectualist legend is this. The consideration of propositions is itself an operation the execution of which can be more or less intelligent, less or more stupid. But if, for any operation to be intelligently executed, a prior theoretical operation had first to be performed and performed intelligently, it would be a logical impossibility for anyone ever to break into the circle. (Ryle 2009a, 19)

He then goes on by identifying "some salient points at which this regress would arise" (2009a, 19). The first such point targets the following feature of what Ryle thinks of as the intellectualist legend: "whenever an agent does anything intelligently, his act is preceded and steered by another internal act of considering a regulative proposition appropriate to his practical problem" (2009a, 19). Ryle then points out that the presumed internal act of considering a regulative proposition is itself an intelligent act, and would therefore have to be preceded by a similar consideration; and so on, *ad infinitum*. The second point at which the regress arises has to do with the relation between general instructions and the particular details of the action in a situation:

> Next, supposing still that to act reasonably I must first perpend the reason for so acting, how am I led to make a suitable application of the reason to the particular situation which my action is to meet? For the reason, or maxim, is inevitably a proposition of some generality. It cannot embody specifications to fit every detail of the particular state of affairs. Clearly, once more, I must be sensible and not stupid, and this good sense cannot itself be a product of the intellectual acknowledgements of any general principle. (Ryle 2009a, 20)

As Small (2017) argues, these two points constitute two moments where intellectualism fails to adequately explain what it should explain, namely how it can be that some actions can be assessed along a dimension of intelligence. The two moments correspond to what Small calls the problem of "selection and execution".

On Ryle's view, what the intellectualist needs to explain but cannot without embarking on an endless regress, is how merely propositional knowledge can account for the fact that the agent both needs to act on her knowledge and to determine what particular course of action to take among several different possibilities open to her. First, unless we are to lose sight of the crucial category-distinction between skill and mere habit or blind disposition, we cannot account for those features by saying, as behaviorism does, that they are taken care of by automatic mechanisms. We would then lose the right to assess the action along a dimension of intelligence. Second, if we try to account for execution and selection by postulating yet another piece of propositional knowledge governing those processes, the regress arises. Hence, Ryle concludes, intellectualism does not yield an adequate account of intelligent or skillful action.

To argue that Ryle's regress argument, so conceived, can be used against Stanley's own positive view on skill and knowledge-how would require a more detailed discussion than we intend to engage in here (for such discussion, see Fridland 2014 and Small 2017). Instead, we will end by again stressing what we see as the fundamental reason why Stanley never sees the nature and force of Ryle's regress argument. Ryle's aim is not to answer the question "What confers intelligence on behavior?", where the term "behavior" is taken to refer to something which can be exhaustively identified prior to deciding whether it is intelligent or not. On the contrary, he wants to reject that question. The real issue for Ryle is to understand the distinction between intelligent performance and mechanic habit that he describes in the passage we quoted in section 1—the passage Stanley ignores in connection with the misquotation we discussed at the beginning of this paper. According to Ryle, we already have a concept of intelligence whose function it is to capture the distinction between merely satisfying certain criteria and applying criteria in a skillful and self-critical fashion—between being merely well-regulated and being able to regulate one's actions. The point of Ryle's regress argument is to show that this distinction can-

not be accounted for exclusively in terms of knowing-that, but that the relevant notion of intelligence also requires a notion of knowing-how. His claim is that there can be no such thing as an intelligent creature that *only* has propositional knowledge.[12] Ryle's argument for this claim applies irrespectively of whether the propositional knowledge in question is conceived of as explicitly contemplated or just tacitly manifested in action.

As we read Ryle, realizing that knowing-that is insufficient for intelligence is intimately tied to seeing the distinction between intelligent performance and mechanical habit in terms of a difference in form, or category. For, as Stanley's discussion of Ryle aptly illustrates, the idea that knowing-that is enough is precisely the idea that we only need to *add* something *external* to patterns of already identified behavior to confer intelligence upon that behavior. By emphasizing the need of knowledge-how for intelligent performance, Ryle is pointing out that intelligence entails a reconfiguration of the very pattern of behavior itself. Intelligent performance is of a different order from mechanical habits, no matter how complicated these habits are. This order irreducibly involves practical judgment, the capacity for self-criticism and the striving to get things right.

[12] Arguably, Ryle would also say that there can be no intelligent creature with only know-how. His conception is fully compatible with the (eminently plausible) view that knowing-how and knowing-that are both necessary ingredients in intelligence, and that none of them would count as *knowledge* without the presence of the other.

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