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SKILL, VISUAL PREJUDICE, AND KNOW-HOW

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26.1 Introduction

Zack harbors an implicit bias that black men are typically violent. Malik, a black man, is holding a cellphone. When Zack sees this, his implicit bias permeates the perceptual processing that produces Zack’s visual experience. As a result, Zack sees Malik’s cellphone as a gun. 1 Zack’s visual experience is an instance of cognitive penetration of perception. 2 Following Jessie Munton (2019), let’s call Zack’s experience visual prejudice, a prejudicial experience, or biased seeing.

A compelling epistemological question is whether Zack’s prejudicial experience justifies him in believing that Malik is holding a gun. 3 Given recent philosophical work on skill, I want to ask a different question. Is Zack’s prejudicial experience skillful? I argue for an affirmative answer. Yet, Zack’s case presents a puzzle. It is not uncommon for philosophers to suppose that skills are instances of know-how. I argue that Zack’s case is not an instance of know-how because it does not manifest knowledge of facts. The result is a counterexample to a guiding principle in much of the literature that skills are instances of know-how.

In what follows, I present reasons to think that instances of cognitive penetration in general and cases of visual prejudice in particular are skilled performances. 4 But since Zack’s prejudicial experience does not manifest knowledge of facts, I argue that it cannot be an instance of know-how. To make the discussion manageable, I focus on a recent account of skill as know-how defended by Jason Stanley and Timothy Williamson (2017; see also 2001). I conclude that some skilled performances are epistemically deviant or pathological. This result broadens our understanding of skills and their epistemic impact.

In Section 26.2, I briefly discuss cognitive penetration of perception. Section 26.3 reviews philosophical approaches to skill that emerge from the need to reconcile agential control with automaticity. I use that literature to identify some characteristic features of skilled performance. In Section 26.4, I use the example of Memory Color to argue that cognitively penetrated visual experiences exhibit the characteristic features of skilled performances identified in Section 26.3. Section 26.5 rehearses Stanley and Williamson’s approach to skill in terms of know-how. In Section 26.6, I reply to an objection that cognitive penetration and visual prejudice do not exhibit the intentional control required by skill. Following Wayne Wu’s chapter in this volume (see Chapter 16), I argue that cognitively penetrated visual experiences can exhibit intentional control. I conclude in Section 26.7 by replying to further objections.
I pause for preliminary remarks about implicit bias and intentional control before continuing. One might think that implicit biases are unconscious or uncontrolled in a way that rules out skillful execution. Thus, some clarification is necessary before considering whether Zack’s visual prejudice is skillful.

The empirical and philosophical literature on implicit bias is ambiguous as to what is picked out by ‘implicit’. Mental states that are explicitly disavowed by agents are sometimes called implicit. Elsewhere, ‘implicit’ is used to refer to instruments for measuring such mental states, such as Implicit Association Tests (IATs). I follow Michael Brownstein (2019) in using ‘implicit’ to refer to measures. As a result, I need not take a stand on whether mental states themselves are implicit. 5

This is useful for the present discussion because implicit measures predict behavior by estimating the contents of mental states that cause the measured behavior. Assuming that mental states in the causal history of behavior constitute intentions, properties of ϕ-ing can be predicted by identifying properties represented by an intention to ϕ. In this way, prediction by implicit measures serves as evidence of intentional control.

I take the fact that an agent explicitly disavows the mental states measured by implicit instruments as evidence that the agent intends not to harbor those mental states (i.e., they do not intend to have certain beliefs or attitudes). I distinguish that from the intention to perform actions that are measured by implicit instruments. Similarly, I distinguish between the intention to ϕ and the intention to cause harm by ϕ-ing. Lack of the latter is often taken for lack of the former, which is clearly not the case. I can intend to serve my friend food which, unbeknown to me, will cause a violent allergic reaction, but I do not intend to harm my friend by serving her that food. Of course, I can intend both. My point is that intentions are fine-grained enough to draw such distinctions.

When considering whether Zack intends to see Malik’s cellphone as a gun, I understand Zack’s bias to be implicitly measured and not necessarily an unconscious mental state. I assume that implicit measures of Zack’s bias predict his prejudicial experience by estimating the contents of causally efficacious mental states; and that such predictions, when correct, are evidence of an intention to produce a prejudicial experience rather than an intention to harbor the causally efficacious mental states; or an intention to cause harm by having a prejudicial experience.

### 26.2 Cognitive penetration of vision

A cognitive state permeates a perceptual experience when the former changes the phenomenal character of the latter from what it otherwise would have been. Such changes in phenomenal character are semantically linked to the permeating cognitive state, so that the latter explains modulation of the former. Zack’s implicit bias explains why he sees Malik’s cellphone as a gun, and it plays an etiological role in the phenomenal content of Zack’s visual experience. That content represents a symbol of violence – a gun – and associates it with Malik.

The proposal to treat visual perceptions as skilled has at least two benefits. First, it takes advantage of the explanatory power and empirical strength of Constructivist models of visual perception. Such models treat visual perceptions as the conclusions of Bayesian probabilistic inferences. Constructivist models imply that the visual system learns how to produce a visual representation of a distal stimulus by deploying stored information about environmental regularities. Treating visual processing as a skill explains how the visual system learns to do this. On my proposal, the visual system learns how to see a perceivers’s environment in roughly the same way that a person learns how to swim.
A second benefit of treating visual perceptions as skilled achievements is that it explains the mechanism of cognitive penetration. Philosophical models of skilled action typically treat them as automatic sensorimotor routines guided by cognitive states. Skilled performances are manifestations of the cognitive states that guide sensorimotor execution. Likewise, Zack’s visual prejudice is produced by automatic visual processes permeated by a cognitive state. When Zack sees Malik’s cellphone as a gun, Zack’s visual experience is a manifestation of the implicit bias that permeates his visual processing.

When combined with Constructivism, an account of Zack’s visual prejudice is fairly straightforward. Zack’s implicit bias permeates his visual processing by influencing the unconscious Bayesian inference that produces his visual experience. It is, of course, an empirical question how this influence occurs.

The suggestion to treat visual perception as skilled Bayesian inference is generally applicable. It explains the mechanism of commonplace instances of skilled seeing, such as perceptual constancies. The capacity to produce a visual percept that represents distal stimuli as having constant color, size, shape or motion despite wide variations in retinal stimulation requires expert execution of Bayesian inferences. Such performances are properly construed as skilled. But the present suggestion also explains deviant instances like Zack’s visual prejudice.

### 26.3 Control vs. automaticity

A fundamental challenge for understanding skills is that they are both controlled and automatically implemented. Recent work on skilled action seeks to overcome this challenge by integrating the cognitive and intentional aspects of skills with the automaticity of their implementation. One result has been a variety of hierarchical accounts of skill. Papineau (2015), for instance, argues that in skilled action the expert exhibits conscious cognitive control over high-level executive functions whereas the basic actions that are the components of skills are implemented by automatic motor routines. On Papineau’s account, cognitive states indirectly influence automatic motor routines (2013). Christensen et al. (2016) also propose a hierarchical model. But in a departure from Papineau, Christensen et al. argue that “cognitive control directly influences motor execution” (2016: 43).

Other work has specified mechanisms of cognitive control of automatic motor routines. Fridland (2017a, 2017b), for instance, argues that the influence of cognitive control allows fine-grained adjustments to automatic sensorimotor routines so that motor control is flexibly responsive to task goals. According to Fridland, this requires selective attention to target features of perceptual inputs and behavioral outputs, which is achieved through diachronic training. Common to all of these accounts is the notion that skilled action involves both cognitive control and automaticity.

These hierarchical accounts suggest that skilled actions have the following characteristic features: automaticity; diachronic refinement (i.e., training); intelligent task sensitivity; selective attention; and control. I do not claim that these are necessary or sufficient conditions for skill. Rather, I suggest only that expert performances exhibit some subset of these features in some degree. Moreover, there is some overlap between these features (e.g., automaticity and selective attention) that becomes evident when their mechanisms are specified.

Automaticity is perhaps the most difficult notion to explicate because, it seems, for many features typically associated with automaticity there is empirical evidence of automatic processes that lack those features. For instance, automatic processes are sometimes characterized as unintentional, unconscious, uncontrolled, and attention-independent. Yet none of these features is true of all automatic processes. As a result, the dichotomy between automatic and controlled
processes has been superseded by a notion of automaticity as a cluster of characteristic features exhibited in varying degrees by different automatic processes at different times.

It’s clear that developing a skill requires practice. Whether it’s typing, swimming, or playing the guitar, expertise is developed by sustained effort over a large number of trials. What explains improvement in performance over these trials, according to Fridland (2017a), are intentional states that diachronically shape the automatic motor routines through which skilled actions are executed. Fridland argues that the structure and shape of automatic motor routines that implement skilled action are diachronically refined “under the guidance of higher-order intentions” (2017a: 4357).

But these automatic motor routines are not uniform or undifferentiated. Rather, Fridland cites empirical findings suggesting that automatic motor routines develop in ways that differentiate “between task-relevant and task-irrelevant dimensions of movement.” This suggests that an automatic motor routine constitutive of a skilled action is flexibly sensitive to the semantic contents of higher-order intentions rather than a brute causal routine (2017a: 4358).

Selective attention requires determining relevant properties of perceptual inputs and behavioral outputs in order to expertly execute an action given the agent’s goals. To borrow Wu’s (2011: 56) example, if I wish to grab a hammer on a cluttered table I must visually select the hammer (ignoring other objects in my visual field) and also select those properties relevant to my grasping it (ignoring, say, the hammer’s color and texture). According to Fridland, selective attention “improves with training, is often automatic, and is directly sensitive to the semantic contents of intentional states at the personal-level” (2017a: 4354). The finding that selective attention improves with training suggests that it, too, undergoes diachronic refinement. As with motor routines, the automaticity of selective attention also exhibits flexible sensitivity to the semantic contents of higher-order intentions.

Wu (2016) argues that selective attention is indispensable to control because attention “is a crucial ingredient needed to explain how intention ‘guides’ action” (p. 112). Elsewhere, Wu (2011, 2013) argues that agentive control is implementation of a solution to what he calls the Many–Many Problem. The problem is that there are many possible inputs and outputs for a given course of action. Agency requires “selection of a specific linkage between input and output” by “reducing the set of many possible inputs to a single relevant input” (Wu 2011: 53). Likewise, the agent must select a behavioral output from among many possible outputs. In other words, the agent must select a path in a space of possible inputs and behavioral outputs. To repeat Wu’s example, in order to grasp a hammer I must visually select target inputs relevant to the hammer and my grasping it; and in order to grasp it I must select sensorimotor outputs (reach, hand position, etc.) relevant to my goal. Wu argues that implementation of a selected path through a behavioral space of possible actions constitutes agentive control of bodily action. This is the case even though the motor routines that implement the selected path are themselves automatic.

### 26.4 Skilled seeing

As with skilled action, I argue that skilled perception involves a hierarchical relation between executive states and lower-level visual processes that include the following features: automaticity; diachronic refinement; intelligent task sensitivity; selective attention; and control. In what follows, I take a paradigm case of cognitive penetration – Memory Color – and argue that it possesses these characteristic features of skill. Aside from differences in mechanisms (e.g., skilled perception involves visual processes rather than motor routines), the obvious difference between...
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skilled action and skilled perception is that the former outputs bodily behavior whereas the latter outputs perceptual experience.

A large series of experiments shows top-down influence on perceived color. In early versions (see Duncker 1939; Bruner et al. 1951; Delk and Fillenbaum 1965), subjects are shown silhouettes of objects with characteristic colors (color-diagnostic objects) such as lips, hearts, and apples (red), as well as color-neutral objects (circles, ovals, etc.) and sometimes color-incongruent objects (horse, bell, mushroom). All silhouettes are cut out of orange-red cardboard and presented on an illuminated background. Subjects are asked to adjust the color of the background to match the color of the object (so that the object disappears). When completing this task with color-diagnostic objects, subjects adjust the background so that it is redder than the object, implying that they see the object as redder than it is. More recent versions (Ling et al. 2008; Witzel et al. 2011) present subjects with images of color-diagnostic objects (bananas, lemons, etc.) against an achromatic (gray-scale) background and ask subjects to adjust the image so that it matches the background. But when adjusting a banana image to appear achromatic, for instance, subjects over-adjust so that the resulting image is slightly blue (the chromatic opposite of yellow). This suggests that subjects saw the banana as slightly yellow when it was in fact gray. These findings suggest that subjects’ beliefs about color-diagnostic objects (e.g., that bananas are yellow) permeate their color experiences.

A top-down influence on perceived color entails a hierarchical relation between color-diagnostic beliefs and low-level visual processing. In Memory Color, the content of the perceiver’s perceptual experience occurs automatically. Perceivers automatically see the gray banana as yellow. It also seems clear that Memory Color requires selective attention to color and shape, and that this attention is automatically implemented. Olkkonen et al. (2008) and Witzel et al. (2011) show that Memory Color effects strengthen when the perceptual targets have more features (e.g., complete images rather than silhouettes). This suggests that Memory Color effects involve automatically implemented selective attention to features of the perceptual target.

Memory Color is also learned through training. Witzel et al. (2011) found Memory Color effects for man-made objects such as Smurfs, the Nivea tin, the German cartoon character Die Maus, the Pink Panther, and so on. They conclude, “Since these objects are tied to a particular cultural context, their association with a typical colour must have been learned in everyday life” (2011: 44). Perceivers learn to see artificial and culturally specific objects as color-diagnostic, producing a measurable Memory Color effect.

Intelligent task sensitivity is evident in recent experiments showing Memory Color effects to be robustly illumination-independent (Olkkonen et al. 2008). That is, Memory Color effects persist despite changes in illumination. The perceiver’s visual system does not correct for changes in illumination. This is presumably because illumination is irrelevant to the perceiver’s goal of color constancy of the color-diagnostic perceptual target. These results show that Memory Color effects exhibit semantic sensitivity of automatic low-level visual processes to the perceiver’s permeating cognitive state. Those processes bypass semantically irrelevant perceptual perturbations when generating a permeated perceptual experience.

The remaining feature of skill is control. On Wu’s model of skilled action, implementing a solution to the Many-Many Problem constitutes agentic control. An analogous account of control for cognitive penetration attributes selection of a path through a manifold of multiple possible perceptual inputs and outputs to the visual system. Moreover, that path must be semantically coherent in order for the output of the selected path to be explicable in terms of a permeating cognitive state. In Memory Color, it seems clear that a color-diagnostic belief guides selection of path through a manifold of multiple possible inputs (e.g., the banana region of the
image is modulated rather than the background), and multiple possible outputs (e.g., the output color is yellow rather than pink or blue). Given that the visual system solves a Many–Many Problem when producing a cognitively penetrated percept, the production of that percept is controlled rather than reflexive.

### 26.5 Skill and know-how

The features of skill outlined in Section 26.3 are also generally attributed to know-how. Knowing how to ride a bike requires training, control, selective attention, intelligent task sensitivity, and automatic sensorimotor routines. Accordingly, Stanley and Williamson write, “Skill is intimately connected to a kind of knowledge which philosophers have typically, though misleadingly, called ‘knowing how’” (2017: 714). What’s ‘misleading’ about this, they go on to argue, is the notion that know-how is distinct from propositional knowledge—a notion attributed largely to Ryle.

Ryle (1949/2009: 17) describes know-how in terms of learning, flexible control, detection and correction of errors, and improving upon past successes. But Ryle argues that none of these features of intelligence entails propositional knowledge. Ryle’s argument takes the form of an infinite regress. Suppose that knowing how to swim requires considering some propositions. Considering is itself an act, so it must be something we know how to do. But then knowing how to consider propositions about swimming requires considering some further propositions (about considering). But we must also know how to consider those propositions. And so on ad infinitum. For this reason, Ryle rejects Intellectualism—that view skill presupposes propositional knowledge.

Another intuition motivating Anti-Intellectualism is that the automaticity of skilled performance rules out propositional knowledge as a component of skill. The idea seems to be that considering a proposition or being sensitive to its semantic content requires cognitive resources unavailable to automatic processes. A dog knows how to catch a frisbee, but the dog does not consider propositions in order to do so. Intellectualist replies often take know-how to be manifestations of propositional knowledge (Ginet 1975; Stanley and Williamson 2001, 2017; Stanley 2011), which are contrasted with considerations of the relevant propositions. Since know-how requires only manifesting propositional knowledge without considering the proposition known, Ryle’s regress is halted. Furthermore, such manifestations are understood to be automatic actions that express knowledge of a proposition under what Stanley and Williamson call a practical mode of presentation (2001: 429). To borrow Ginet’s much-discussed example, I manifest my knowledge that there is a door in front of me, and that the door can be opened by turning the knob and pushing, simply by turning the knob and pushing the door open (Ginet 1975: 7). The action that manifests this knowledge is automatic, and I needn’t consciously consider any of the propositions that I know.

Stanley and Williamson (2001, 2017) and Stanley (2011) offer further evidence that know-how manifests propositional knowledge by considering various other kinds of knowledge—knowing when, knowing where, knowing what, knowing which, knowing whether, etc. — and their relation to knowing how. Let’s call these other types of knowledge ‘knowledge-wh’ states. They argue that know-how typically entails knowledge-wh states, and that knowledge-wh states are propositional knowledge. Know-how, then, is a form of propositional knowledge.

Visual processing manifests knowledge-wh states when solving underdetermination problems. There are many different distal stimuli compatible with such-and-such retinal inputs.
Yet the visual system reliably produces a perception of the most likely distal stimulus given retinal inputs and stored information about environmental regularities. The visual system knows whether to interpret retinal stimulation as originating from a convex object reflecting light from overhead, or a concave object reflecting light from below; or whether the distal surface is white and bathed in red light or red and bathed in white light (Rescorla 2015: 694). The visual system knows how to produce a percept of constant surface color from retinal stimulation of diverse color-producing properties; and it does so under varying conditions by knowing which surface colors are most likely; knowing whether the light source is uniform; and knowing when a retinal stimulus is produced by background illumination. As a result, the visual system knows how to see a distal stimulus. For similar reasons, the visual system knows how to see constant size, constant shape, and constant motion. It does so despite ambiguous retinal stimulation manifesting knowledge-wh states.

Yet the same can be said of Memory Color. The visual system knows which regions of the percept to modulate in order to be semantically consistent with color-diagnostic beliefs (the banana, not the background). It knows what color is the target of the color-diagnostic belief (yellow, not pink or blue). It knows whether to correct for changes in illumination. Given all of this, Memory Color effects manifest propositional know-wh states indicative of skill. But can a Memory Color effect be rightly considered an instance of know-how? None of the know-wh states manifested by a Memory Color experience entail knowledge that the banana image is yellow. It seems that some instances of cognitive penetration present a challenge to Stanley and Williamson’s view that skill manifests know-how and know-how is a disposition to know facts. Although dispositions can be manifested in a variety of situation-specific ways, a disposition to know a fact cannot be manifested by not knowing that fact.

As with Memory Color, Zack’s visual prejudice manifests a variety of knowledge-wh states. It knows which region of the percept to modulate (the cellphone, not Malik’s hands or clothes). It knows what modulations are semantically consistent with depictions of violence (weapons rather than wallets or toys). Let’s suppose that it knows whether to correct for changes in illumination, occlusions, and so forth. Since Zack’s visual prejudice manifests a variety of knowledge-wh states, it is skilled on Stanley and Williamson’s account.

But considered as an instance of know-how, Zack’s visual prejudice is epistemically worse than Memory Color. The color-diagnostic belief that bananas are typically yellow might plausibly count as a knowledge state. But Zack’s implicit bias is not a knowledge state at all. Thus, whereas one might be tempted to say that the disposition to know that bananas are typically yellow is improperly manifested in a Memory Color effect, something similar cannot be said of Zack’s implicit bias simply because implicit biases are not knowledge states.

26.6 Intentional control

It might be objected that cases of cognitive penetration such as Memory Color are not skills because they do not exhibit intentional control. Wu’s chapter in this volume proposes an account of intentional control that, I think, is consistent with cognitive penetration. Following Anscombe, Wu argues that intentions represent a type of action to be done. Those representations “specify a set of properties such that if the resulting action has those properties, then the intention is satisfied in that the resulting action is intentional under the relevant description,” (Wu, Chapter 16 in this volume: [page number]). Control is then defined over properties of an intended action-type. A property of an action, “is controlled relative to an intention if and only if the intention’s representing [that property] as to be done brings about the action’s having [that property as represented in the content of the intention]” (Wu, Chapter 16 in this volume: [page number]).
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The perceptual analogue is that an intention represents a type of visual output to be experienced. Those representations specify a set of properties such that the output is intentional under the relevant description if it has those properties. Control is then defined over properties of the intended visual output type. A property of the visual output is controlled relative to an intention if and only if the intention’s representing that property as to be experienced brings about the visual output’s having that property as represented by the content of the intention.

What’s more, Wu’s analysis suggests that we can individuate intentions from non-intentional mental states by identifying a link between properties represented in the content of mental states and properties of an action (or output) etiologically downstream from those mental states. If the latter has properties represented in the content of the former because those properties are represented by those mental states (and this relation can be identified through counterfactual truths – e.g., if the mental states had not represented those features, then the action would not have those properties), then those mental states are intentions. The resulting action is controlled with respect to those properties.

It’s fairly easy to see how the merger of Wu’s Many-Many Problem and his account of intentional agential control might work. An agent solves the Many-Many Problem by selecting a representation of an action with a certain set of features as ‘to be done’ from among multiple such representations. If the resulting action has those features because they are contents of the selected representation, then the action is intentionally controlled. This can provide an analysis of task sensitivity in representational terms. Task sensitivity requires semantic coherence with a representation of a type of action to be done, or a type of visual output to be experienced.

For instance, in Memory Color cases beliefs about color-diagnostic objects represent a type of visual output to be seen. As a result, predictions can be used to measure intentional control in Memory Color cases. Consider Witzel et al.’s (2011) findings of Memory Color effects for man-made culturally specific objects. Based on these findings we can plausibly predict that subjects whose color-diagnostic beliefs are shaped by a specific cultural context will demonstrate particular Memory Color effects. We can predict, for instance, that subjects who grew up in Germany will demonstrate Memory Color effects specific to images of Die Maus, but other subjects will not demonstrate such effects. This prediction estimates the contents of those subjects’ color-diagnostic beliefs. Insofar as properties of a visual output can be predicted by identifying properties of a permeating color-diagnostic belief, and insofar as that belief represents properties as to be seen in a target percept, such predictions are evidence of intentional control.

Similarly, Zack’s bias specifies representations of violence or aggression as properties of the visual output that includes a black male face, and since Zack’s visual experience has those properties it is plausibly intentional under the relevant description. Zack’s prejudicial experience has the property represented by his bias (i.e., violence) and would not have that property had that bias not permeated his visual experience. Zack’s prejudicial experience is intentionally controlled with respect to that property.

It might be wondered whether this is sufficient to establish person-level intentional control. (Wu is explicit that his account of intentional control is agential or person-level.) As far as I can tell, what’s needed to establish person-level intentional control is that a person-level representation of a target action specifies a set of properties such that the resulting action has those properties because they are specified by the relevant person-level representation. Color-diagnostic beliefs and implicit biases are person-level representations that, in the context of a permeated perceptual experience, specify sets of properties of target visual experiences such
that the resulting experiences have those properties because they are specified by permeating person-level representations. That is sufficient, on this analysis, to establish person-level intentional control.

26.7 Conclusion

It might be objected that cognitive penetration is an ability of the visual system rather than a skill. In reply, consider that Zack’s visual prejudice exhibits modal properties that are closely associated with know-how rather than ability. Stanley and Williamson (2001: 416) and Stanley (2011: 126) reject the ability view of know-how by arguing that there is a modal difference between ability and know-how. They consider the case of a pianist who loses her arms. She knows how to play piano but loses the ability to do so. Stanley and Williamson conclude that know-how does not entail ability. The reason the armless pianist knows how to play piano despite lacking the ability to do so is that there is a close possible world in which she has that ability – a world in which she has arms.

Zack’s case can be given a modification to show that it exhibits similar modal properties. Suppose that Zack’s visual processing is disrupted by a sudden flash of bright light. Zack is unable to see either Malik’s face or his cellphone. But in a close possible world (i.e., one without the flash of light), Zack has the same instance of biased seeing as in the original case. Zack’s visual processing has modal properties associated with know-how in this modified version of the case even though it lacks the ability to produce a prejudicial experience. Zack’s visual processing is more than just an ability.

Zack does not know whether Malik is holding a gun. The Memory Color patient does not know whether this banana is yellowish now. What this suggests is that manifesting situation-specific know-wh states is not sufficient for manifesting knowledge of facts. But Stanley and Williamson take know-how to be a disposition to know facts. Memory Color and visual prejudice are skilled but not instances of know-how on their analysis.

The hierarchical models of skill discussed in Section 26.3 are helpful for understanding where Stanley and Williamson’s account goes astray. In Memory Color and visual prejudice, lower-level visual processes manifest situation-specific know-wh states. But the higher-level intentional states that guide those lower-level visual processes do not manifest knowledge of facts. For that reason, these performances are skilled in the sense that the features of skill identified in Section 26.3 (automaticity, control, selective attention, diachronic refinement, task sensitivity) are instantiated by the relation between higher-level intentional states and lower-level visual processes.

But whether a performance manifests knowledge of facts seems to be determined by whether the higher-level intentional state that guides it expresses knowledge of facts. In Memory Color, the guiding higher-level intentional state arguably does express knowledge of facts, but this is not sufficient for the performance to manifest situation-specific knowledge of facts. In visual prejudice, the guiding higher-level intentional state does not express knowledge of facts at all, explaining why the performance does not manifest knowledge of facts.

Stanley and Williamson might object that I have overlooked their distinction between two senses of ‘manifest’. Skilled actions are manifestations 2 of knowledge states; and knowledge states are manifestations 1 of dispositions to know. But in Memory Color and visual prejudice, lower-level visual processes manifest, task-sensitive know-wh states. The resulting visual experiences manifest, the knowledge states manifested, by low-level visual processes. The issue isn’t that I have overlooked two senses of ‘manifest’. The issue is that task sensitivity requires that
low-level states are guided by higher-level intentions that either are not knowledge states or are not sufficient for manifesting situation-specific knowledge states.

Notes
1 See Payne (2001); Correll et al. (2002); Hugenberg and Bodenhausen (2003, 2004); Stokes and Payne (2011).
2 Cognitive penetration is also sometimes referred to as a top-down effect on perception. The phenomenon has been defined in several different ways depending on a range of variables (e.g., Macpherson 2012; Siegel 2012). Siegel (2017) has introduced the additional phrase ‘perceptual hijacking’ to identify instances of cognitive penetration that are epistemically bad in some way (e.g., Zack’s biased seeing).
3 For detailed discussion, see Siegel (2012, 2017).
4 Munton (2019) also proposes to treat visual perceptions as skilled. Unfortunately, a detailed discussion of Munton’s approach would take us too far afield.
5 I can also sidestep the issue of how to categorize implicit biases.
6 Macpherson (2012) argues for an indirect model of the mechanism of cognitive penetration. I think an indirect model is compatible with the Constructivist account suggested here, but there is insufficient space for a detailed discussion.
7 Wu contrasts selection of a path through behavioral space of multiple possible actions with reflexes, wherein the behavioral space is limited to “a single one-one link between stimulus and response at a time” (Wu 2011: 53). Implementation of this reflexive one-one link requires no selection of a path through behavioral space by the agent, and so no solution to the Many-Many Problem. For this reason, reflexes are uncontrolled on Wu’s account.
8 It also explains some of the inconsistencies of earlier Memory Color effects observed by Duncker (1939), Bruner et al. (1951), and Delk and Fillenbaum (1965), which used silhouettes having fewer properties to which a perceiver could attend.
9 See also Stanley and Krakauer (2013).

References


