

KNOW-HOW, ABILITY, AND THE ABILITY HYPOTHESIS

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David Lewis (1983, 1988) and Laurence Nemirow (1980, 1990) claim that knowing what an experience is like is knowing-how, not knowing-that. They identify this know-how with the abilities to remember, imagine, and recognize experiences, and Lewis labels their view ‘the Ability Hypothesis’. The Ability Hypothesis has intrinsic interest. But Lewis and Nemirow devised it specifically to block certain anti-physicalist arguments due to Thomas Nagel (1974, 1986) and Frank Jackson (1982, 1986). Does it?

Critics of the Ability Hypothesis tend to attack the claim that

(A) Knowing what an experience is like is a kind of know-how.

I’ll criticize the Ability Hypothesis, but I’ll focus instead on the claim that

(B) “Know-how is ability” (Lewis 1988, p. 516).

Noam Chomsky (1975, 1980, 1988a, 1988b, 1992) argues forcefully that know-how doesn’t reduce to ability as opposed to knowledge-that, i.e., to the possession of information. One of his main arguments is that one can retain know-how despite losing the corresponding abilities. That argument, I’ll suggest, applies in particular to knowledge of what an experience is like. If so, and if the argument is sound, then the Lewis-Nemirow objection to the Nagel-Jackson arguments fails even on the assumption that A is true.¹

I'll proceed as follows. In §1, I'll explain the connection between the Ability Hypothesis and the Nagel-Jackson arguments. In §2, I'll discuss two unsuccessful arguments against B. In §3, I'll present my criticisms of B and the Ability Hypothesis. In §4, I'll consider two attempts to circumvent my criticisms by modifying the Ability Hypothesis. I'll argue that neither succeeds. I'll summarize in §5.²

1. THE ABILITY HYPOTHESIS AND THE NAGEL-JACKSON ARGUMENTS

In this section I'll explain how Lewis and Nemirow use the Ability Hypothesis to block the Nagel-Jackson arguments. I'll focus on Jackson's Knowledge Argument, but the same points apply *mutatis mutandis* to Nagel's argument.

The Knowledge Argument runs as follows. Mary spends her life in a black-and-white room and has no color experiences. She learns everything one can learn from watching lectures on black-and-white television, including the completed science of human color vision. If physicalism were true, then she'd know all the (correct) information about human color vision. Intuitively, however, when she leaves her room and has color experiences, she learns something: she acquires new information about what it's like to see in color. Therefore, physicalism is false.

Lewis and Nemirow grant that, when she leaves the room, Mary learns what seeing in color is like. They grant that she gains knowledge. But they deny that she gains information. On their Ability Hypothesis, the knowledge she acquires is non-informational know-how, which consists in the abilities to remember, imagine, and recognize color experiences. They thereby render the intuition driving the Knowledge Argument, that Mary's pre-release knowledge is

incomplete, consistent with the claim that all information is physical information—which is all the physicalist claims.

Of course, consistency isn't enough. The Lewis-Nemirow defense succeeds only if the Ability Hypothesis has independent plausibility. And so it has. Consider how you'd answer the question, "Do you know what it's like to taste Vegemite?" If you're like me, you'd base your answer on whether you know how to remember, imagine, and recognize that taste. Why suppose there's anything more to knowing what an experience is like than possessing such know-how? And what else is know-how but ability?

Thus, the Ability Hypothesis seems to provide physicalists with a plausible defense against the Nagel-Jackson arguments.

2. TWO BAD ARGUMENTS AGAINST B

In this section I'll consider and reject two arguments against B, the claim that know-how is ability. Here's the first:

Homer prevents a meltdown of Springfield's nuclear reactor by pressing what turns out to be the right button. His only reason for selecting that particular button was, "It was Moe," as in "Eeny, Meany, Miney, Moe." Because he prevents the meltdown, he can do so; as Peter Geach writes, "what is can be, what a man does he can do" (1957, p. 15). So, Homer has the ability to prevent the meltdown. But he doesn't know how to do so. So, there's more to know-how than just ability. Thus, B is false.

That argument is unconvincing. Doing something guarantees that one can do it, in the sense that it's possible for one to do it; Geach is correct. But doing something doesn't guarantee that one has the ability to do it. Having an ability requires more than the mere possibility of one's performing the action in question. Roughly, one must be able to perform it reliably. Homer can't reliably prevent the meltdown; he just gets lucky. Therefore, he lacks the ability to prevent the meltdown. So, the first argument against B is unsound. Moral: don't confuse being able to do something (in Geach's sense) with having the ability to do it.³

The second argument, based on a slightly modified example of David Carr's (1979, p. 407), runs as follows:

Olga performs a complicated dance, which makes use of flags. Unbeknownst to her, the performance turns out to be indistinguishable from a perfect semaphore rendition of *The Starr Report*. She has the ability to convey *The Starr Report* in semaphore. But she doesn't know how to do so. So, there's more to know-how than just ability. Thus, B is false.

That argument is unconvincing, too. It rests on the contentious assumption that know-how is opaque. Olga might sincerely deny knowing how to express *The Starr Report* in semaphore. But it doesn't clearly follow that she lacks that know-how. After all, once informed of her unintended feat, she might well describe herself as having known how to do it all along, and it's not clear that she'd be wrong. Compare: does knowing that Cicero was Roman entail knowing that Tully was Roman? Semanticists disagree.⁴ Someone who knows that Cicero was Roman might sincerely deny knowing that Tully was Roman. But it doesn't clearly follow that

the agent lacks the knowledge he claims to lack. The issue of whether know-how is transparent or opaque is much the same as the issue of whether knowledge-that is transparent or opaque. The assumption that know-how is opaque is no less controversial than B is. So, since the argument above rests on that assumption, the argument is at best inconclusive.

3. KNOW-HOW WITHOUT ABILITY

In this section I'll discuss some problems Chomsky raises for equating know-how with ability, and show how they apply to the Ability Hypothesis.

Simple considerations indicate that know-how doesn't in general reduce to ability. A guitar teacher might know how to play well, but lack the ability to play well. Perhaps he's uncoordinated or never practices. Further, his ability to play might improve with practice, even as his know-how remains constant. So, his know-how doesn't reduce to the corresponding ability.⁵

Knowing how to play an instrument isn't special in this regard. Chomsky uses similar arguments to show that knowing how to speak and understand a language doesn't reduce to a network of abilities. But a more interesting argument concerns the possibility of retaining know-how despite losing ability. Chomsky argues as follows:

Suppose that Juan, a speaker of Spanish, suffers aphasia after a severe head wound, losing all ability to speak and understand. Has Juan lost his knowledge of Spanish? Not necessarily, as we might discover if Juan recovers his ability to speak and understand as the effects of the injury recede. Of course, Juan recovers the ability to speak and understand *Spanish*, not Japanese, and does so even without any

instruction or relevant experience with Spanish. ...Plainly something was retained while the ability to speak and to understand was lost. What was retained was a system of knowledge, a *cognitive system* of the mind/brain. Evidently, possession of this knowledge cannot be identified with ability to speak and understand or with a system of dispositions, skills, or habits. (Chomsky 1988a, p. 10)

In short, one might retain knowledge of how to speak and understand a language even while lacking the ability to do so; therefore, knowing how to speak and understand a language can't be identified with the corresponding ability.

Against Chomsky's argument, some object that Juan has the ability to speak and understand Spanish even while afflicted with aphasia. What he lacks, the objection runs, is the ability to *exercise* that ability.⁶ That objection is unconvincing. There are genuine cases of being unable to exercise an ability one has, as when a swimmer's legs and arms are tied up with rope (Chomsky 1988b, p. 564). But the Juan case isn't such a case. As Chomsky notes, to maintain that Juan retains his ability to speak and understand Spanish before the effects of his injury recede, the objector must invent a new concept of ability, designed to have the typical properties of knowledge. For example, Juan's "ability" would include what's ordinarily called 'knowing how to conjugate Spanish verbs'. As Chomsky remarks, "Plainly nothing is achieved by these verbal maneuvers" (Chomsky 1988a, p. 11).

Another tack is to deny that, prior to his recovery, Juan retains his know-how, on the grounds that knowledge requires *access*—an ability to retrieve or employ the knowledge in some way or other. On that view, Juan retains something else, which is neither ability nor full-fledged knowledge. Now, I doubt that knowledge requires access. A nervous guitarist might be unable to remember how to play an arpeggio or how many flats are in an A-major scale, but he'd still

know those things. Nor do I see why a more severe access problem would necessarily undermine knowledge.⁷ But we needn't settle this matter here. In response to the objection that knowledge entails access, Chomsky argues that the "something else" that might be retained through loss of ability is what holds theoretical interest for the linguist, whether or not we call it 'knowledge' (1988b, p. 576, fn. 4). Here our topic is knowledge of what experiences are like, not knowledge of language. But, as we'll see, the same response is available. Nothing essential depends on whether knowledge, properly so-called, entails access.

Let's turn to knowledge of what experiences are like. Suppose a brain injury robs Hank of his ability to imagine the experience of tasting chocolate ice cream. As the effects of his injury recede, he recovers the ability to imagine tasting *chocolate* ice cream, not *Vegemite* ice cream. He does so without experiencing that distinctive taste in the intervening time, since there's no chocolate in his hospital food. Hank's knowledge, like Juan's, is implicit and temporarily inaccessible; nonetheless, the knowledge is there. Thus, knowing how to imagine tasting chocolate doesn't reduce to the corresponding ability. Similar reasoning applies to knowing how to remember and recognize such experiences.

Consider a variation of the Mary case, in light of the preceding discussion. Suppose Mary doesn't leave the black-and-white room. Instead, a trusted friend slips red paper under the door and informs her that the paper is red. Having seen the red paper, she knows how to imagine red experiences. Then a brain injury affects her general imaginative ability; she can't visualize anything. Does she lose her knowledge of how to imagine red experiences? Not necessarily, as we might discover if she recovers her ability to imagine as the effects of the injury recede. She recovers the ability to imagine *red* experiences, not blue ones, without leaving the room. Evidently, she retains her know-how without retaining her ability. So, her know-how can't be

identified with the corresponding ability. Similar reasoning applies to knowing how to remember and recognize the experiences. So, the know-how relevant to the Ability Hypothesis can't be identified with the corresponding abilities.

As I noted three paragraphs back, some philosophers might prefer not to call that which can be retained despite the loss of ability 'knowledge', on the grounds that knowledge requires access. Those philosophers wouldn't see the preceding argument as posing a direct threat to B. But the access requirement on knowledge doesn't rescue the Lewis-Nemirow analysis of the Mary case. In our modified story, Mary retains something after losing her recently acquired ability to imagine seeing red. Call what she retains 'X', and let's not assume that X is knowledge properly so-called. Mary doesn't acquire X until after she leaves the room. X doesn't reduce to the ability to imagine red experiences. Rather, X explains why she recovers that particular ability, just as what Juan retains explains why he recovers the ability to speak and understand Spanish. Likewise for the other abilities relevant to the Ability Hypothesis. So, when Mary sees red for the first time (whether by leaving the room or seeing the red paper) what she gains doesn't reduce to those abilities. That result doesn't undermine B, if know-how requires access. But it shows that A and B can't both be true—that it can't be both that what Mary gains is a kind of know-how and that that know-how reduces to the abilities to imagine, recognize, and remember experiences.

Lewis and Nemirow might try to respond as follows:

The know-how Mary gains upon leaving the room is a complex ability, consisting of X and a distinct ability Y. X doesn't reduce to the ability to imagine red experiences, since she temporarily loses the latter ability while retaining X. But X is some other ability.

That response is essentially a variation of the second-order-ability response to Chomsky's aphasia-case argument. It seems to suffer from the same difficulties. X would seem to have the typical properties of knowledge. If it does, then calling X an 'ability' achieves nothing.⁸

4. MODIFYING THE ABILITY HYPOTHESIS

Could Lewis and Nemirow avoid the problems raised in the previous section by modifying the Ability Hypothesis? Such a modification could take either of two forms:

Option 1. They might identify knowing what an experience is like with possessing abilities, and try to defend that identification independently of anything to do with know-how, i.e., omit know-how from their analysis, thus leaving out the middle term.

Option 2. They might identify knowing what an experience is like with know-how, without claiming that know-how is ability, i.e., endorse A but not B.

Both options are problematic. In this section, I'll explain why.

Option 1 is ruled out for reasons already given. The main argument of §3 shows that what Mary gains when she leaves the black-and-white room can't be reduced to abilities, because she can retain part of what she gains—the part we called 'X'—despite losing the relevant abilities. Whether X deserves the title 'know-how' is beside the point.

Further, either option would undermine the strategy of using the Ability Hypothesis to block the Nagel-Jackson arguments. Recall that Lewis and Nemirow accept Jackson's claim that

(P1) When Mary leaves the black-and-white room, she gains *knowledge* about what seeing in color is like.

But they reject his claim that

(P2) When Mary leaves the room, she gains *information* about what seeing in color is like.

They reject the inference from P1 to P2, by arguing that the knowledge Mary gains is non-informational know-how.

On option 1, Lewis and Nemirow grant that Mary gains knowledge when she leaves the room, but they don't claim she gains know-how. However, the plausibility of their analysis depends on characterizing what she gains as a kind of the knowledge, namely, knowledge-how. Without that characterization, their account provides no explanation of why P1 is true but P2 is false. So, even if option 1 enabled Lewis and Nemirow to avoid the criticisms raised in §3, it would undermine the force of their strategy for blocking the Nagel-Jackson arguments.

On option 2, Lewis and Nemirow identify knowing what an experience is like with knowing how, without claiming that knowing how is ability as opposed to possessing information. In that case, they owe us an account of the distinction between possessing information and the know-how Mary acquires when she leaves the room—an account that

provides grounds for rejecting the inference from P1 to P2. I see only one way for them to provide such an account. They could argue that, in the case of knowing what an experience is like, know-how consists partly in possessing abilities and partly in possessing information. They could then reason as follows:

Prior to her release, Mary has the informational component of knowing what color experiences are like. But she's missing the other component, the abilities. She acquires those when she leaves the room. Since they partly constitute knowing how, acquiring them is gaining knowledge (in the sense of completing knowledge she had only partially). So, P1 is true. But since she gains no information, P2 is false.

That maneuver doesn't solve the problems I raised in §3. Recall one last time our variation of the Mary case. Sometime after seeing the red paper, she has a brain injury that causes her to lose her recently acquired imaginative ability. As the effects of her injury recede, she recovers her ability to imagine red experiences, not blue ones. So, if she gains an imaginative ability when she sees the paper, then she also gains something else—something that explains why she recovers the ability to imagine *red* experiences. Likewise, in Jackson's original story, if Mary gains abilities, then she gains something else as well. Lewis and Nemirow would seem to have no basis for denying that that something else is information. So, the proposed defense of option 2 fails to evade the §3 argument.

5. SUMMARY

The Ability Hypothesis relies on two distinct claims: knowing what an experience is like is a kind of know-how, which in turn reduces to possessing a set of abilities. But the relevant know-how fails to so reduce, since one can retain the know-how without retaining the corresponding abilities. And there appears to be no plausible way to modify the Ability Hypothesis to avoid that problem.⁹

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NOTES

¹ [Footnote added after publication: I now think the arguments I present in this paper fail to refute the ability hypothesis.]

² D. H. Mellor (1993) advocates the Ability Hypothesis but rejects physicalism. Some of my arguments in §4 don't apply to his position, since they depend on the connection between the Ability Hypothesis and physicalism. But my main criticisms apply. For other criticisms, see Alter 1998, Bigelow and Pargetter 1990, Chalmers 1996, Conee 1994, Gertler 1999, Loar 1990, Lycan 1996, and Raymont 1999. The Nagel-Jackson arguments face several objections that don't depend on the Ability Hypothesis. For a taxonomy, see van Gulick 1993. I should note that Jackson (1998) now rejects his Knowledge Argument and endorses physicalism. I'll ignore that fact. Also, I should note that criticisms of the thesis that know-how is ability may be found in White 1982 Stanley and Williamson 2001. I have only recently come across the latter works, but they seem very sympathetic to my project. Finally, I should note that I identify knowing-that and possessing information only for ease of exposition. The notions are distinct, but the differences aren't relevant here.

³ Cf. Chomsky 1980, pp. 4–5, 1988b, p. 576, fn. 5. The Homer example comes from a classic episode of *The Simpsons* (Fox Television Network). In that episode, Homer prevents meltdowns on two separate occasions, both by dumb luck.

⁴ The literature on the subject is voluminous. See Salmon and Soames 1988.

⁵ Lewis seems to recognize this sort of consideration. He writes, "If you want to know how to open the combination lock on the bank vault, information is all you need" (1988, pp. 288–89). But he evidently does not regard it as a problem for B or his defense of physicalism.

⁶ Chomsky attributes that objection to Anthony Kenny (1984, ch. 10). Kenny formulates the objection in a subtly different way. He contends that whether subjects like Juan should be described as losing the ability

to speak and understand, or rather as losing the ability to exercise that ability, is a matter of decision, not fact. But that subtle difference in formulation adds no force to the objection, as far as I can tell.

⁷ One could argue for a qualified access requirement, e.g., that knowledge requires access under optimal conditions. Such a qualified principle would ground a distinction between the nervous-guitarist and Juan cases, if Juan's situation prior to his recovery is optimal and the nervous guitarist's situation is sub-optimal. I'm skeptical of any such access requirement. But, as I argue at the end of this section, we needn't settle the matter here.

⁸ Possessing an ability and knowledge are context-sensitive notions (Lewis 1979). Does that undermine my claims about retaining know-how without retaining the corresponding abilities? I don't think so. The relevant context is set by the Mary case. My claims are true with respect to that context.

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