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duce nor are produced by other representations). Cummins does consider the possibility of putting a further “filter,” such as an etiological requirement, on s-representation. His argument is that if beliefs and desires are not representations, then their determinacy need not be accounted for by a theory of representation. But isn’t it plausible that if, say, Marr’s 2-1/2 D representations actually exist, *they determinately* represent environmental spatial structures, rather than representing these only relative to Marr’s interpretation?

The “mapping” or “simulation” theme, especially, which is the core of Cummins’s book, has been sorely neglected and is hugely important, I believe, and Cummins’s way of spelling it out deserves careful attention. Excellent!

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THE DISAPPEARANCE OF INTROSPECTION. By WILLIAM LYONS. Cambridge, MIT Press, Bradford Books, 1986. Pp. xiii, 193.

Previous accounts of introspection, according to Lyons, have all held that introspection consists in some kind of inner inspection or monitoring of our mental states. They have shared this common core however much they have differed in other respects. The purpose of this interesting study is to show that what passes for introspection is not a kind of monitoring or inner inspection at all. Insofar as we conceive of introspection on that model, there is properly speaking no such thing.

The first four chapters—just over half the book—discuss the accounts of introspection advanced in connection with four general theories of mind: nineteenth-century introspectionism, behaviorism, the mind-body identity theory, and functionalism. This survey, Lyons urges, bears out his eliminativist claim; the four accounts all construe introspection as a kind of inner inspection, and all face intractable difficulties. The survey also sets the stage for Lyons’s own account, presented in the remaining chapters, of what happens when we seem to introspect. Central here is the idea that what passes for introspection is often inaccurate, sometimes dramatically so.

Lyons’s discussion of earlier theories helpfully recounts the debates that surrounded each theory, and the reasons why each was displaced by the next. Much in this account is useful, for example, the debate about introspectionism among Comte, John Stuart Mill, and William James, and the way the experimental results of divergent introspectionist schools often conflicted.

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Nonetheless, Lyons's criticism of these theories is not always convincing. For example, David Armstrong holds that introspecting is a process in which one part of the brain scans mental states in another. According to Lyons, if introspection were a mechanical process of this sort, we couldn't explain why it's so often inaccurate (55–60). This overlooks the possibility, which Lyons mentions in another context (70), of interference from other mental systems. Lyons also believes a mechanical model cannot explain why introspection is useful if it's so inaccurate (56, 60). But mechanical systems often perform imperfectly, though well enough to be useful.

Lyons's own theory treats the apparent introspection of feelings and perceptual states differently from that of cognitive states and processes. Where other theorists would describe us as introspecting a perceptual state or feeling, Lyons insists that we're simply perceiving or feeling attentively. There's no distinct act of attending or inspecting, only the perceptual state or feeling, which occurs in a special way.

This Rylean move is unconvincing. As Lyons concedes, we're often able to report our perceptual states and feelings and often we have beliefs that we have them. But he denies that this means we internally inspect those states. "It could be . . . that our brain is so constructed that when our eyes are focused on a tomato or we have a hallucination of seeing a tomato that we are moved to believe and able to assert that we are seeing a red patch shaped like a tomato" (106). But this amounts to a kind of inner monitoring; indeed, it's just Armstrong's scanning model, which Lyons explicitly rejects.

Lyons also holds that we don't inspect our cognitive states and processes, but he gives a different account of what does happen. He believes we use mental images derived from memory and imagination to construct models of cognitive processes occurring in us, models that reflect the general dictates of folk psychology (126). These images give us "internal versions" of "overt cognitive acts" such as seeing and hearing (152–53). In "replaying" these acts we construct models of cognitive processes and states to which we have no other conscious access (124–25). The apparent introspection of cognitive states and processes is thus actually a kind of theorizing about them (126–26, 138–39). This picture fits well, Lyons urges, with results in social psychology according to which we often confabulate our so-called introspective reports.¹ It also explains why alleged introspection is so often inaccurate, but nonetheless so useful.

¹He relies especially on the classic article by Richard E. Nisbett and Timothy DeCamp Wilson, "Telling More Than We Can Know: Verbal Reports on Mental Processes," *Psychological Review* 84 (May 1977): 231–59.

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Lyons's conclusion here outruns his premises. What passes for introspection may often be the product of confabulation, but that doesn't mean it always is. Even in particular cases, inner inspection might occur alongside confabulation; perhaps monitoring sometimes occurs but gets corrupted by wishful thinking and similar factors. And though many agree with Lyons that we never introspect the mental processes that issue in cognitive states,² still we might sometimes monitor the resulting cognitive states.

Central to the picture Lyons rejects is the assumption "that 'introspection' is a meta-process that monitors first-level [mental] occurrences" (123). His account is designed to avoid this higher-order characterization. If feeling and perceiving attentively is all there is to the apparent introspecting of perceptual states and feelings, no higher-order mental act is involved. Similarly, if the alleged introspecting of cognitive states consists just in strings of images derived from memory and imagination (124–25).

A crucial test for any theory of introspection is how it handles introspective reports. Such reports ostensibly describe mental states that one is aware of being in. Like other sincere assertions, these reports express thoughts that have the same content as the reports. So these thoughts are about other mental states; they are second-level mental states.³

Lyons denies that introspective reports are actually about perceptual or cognitive states; rather, he urges, they're about the objects of those states, or about overt performances (129–30). Presumably that's why our being "moved to believe and able to assert that we are seeing a red patch shaped like a tomato" (106) doesn't count, for Lyons, as scanning our visual experience.⁴

Doubtless that's sometimes true about remarks that seem superficially to mention mental states. 'I think it's raining' is usually about the weather, not one's mental states, and 'I see a tomato' is often about an overt achievement. But that's not always so, as other cases show. The truth conditions of 'I have a pain right there' or 'The solution just occurred to me' plainly

²In Karl S. Lashley's well-known dictum, which Lyons quotes: "No activity of the mind is ever conscious" ("Cerebral Organization and Behavior," in *Association for Research in Nervous and Mental Diseases, Research Publications: The Brain and Human Behavior*, vol. 36, ed. Harry C. Solomon, Stanley Cobb, and Wilder Penfield [Baltimore: The Williams & Wilkins Company, 1958], 1–18, at p. 4).

³See my "Thinking that One Thinks," in *Consciousness*, ed. Glyn Humphreys and Martin Davies (Oxford: Basil Blackwell, forthcoming).

⁴Lyons puts things sometimes in ways that encourage sliding between first- and second-level construals. For example, he speaks of introspective reports as "reporting on one's 'introspections'" (129), which is ambiguous between reporting on the act of introspecting and reporting on its content.

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involve my mental states. Introspection undeniably involves higher-order thoughts about one's mental states.

Lyons believes that previous accounts of introspection have largely just been consequences of more general theories, and have paid little attention to the relevant data; he means his account to do greater justice to those data (95). It is arguable that his own theoretical convictions sometimes interfere with that goal. Nonetheless, he presents an impressive, well-organized wealth of argument and data which make this study valuable to anybody concerned with introspection.

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EMPIRICAL KNOWLEDGE. By ALAN H. GOLDMAN. Berkeley, University of California Press, 1988. Pp. xi, 409.

In this book, Alan Goldman undertakes to settle many of the most important issues in epistemology. Among other things, he means to provide us with an analysis of knowledge, to defend foundationalism, to refute skepticism and to uphold scientific realism. In approaching these problems, Goldman relies heavily on the value of inference to the best explanation. I think he asks more of explanatory considerations than they can provide.

Goldman analyzes knowledge as follows: Someone's belief counts as knowledge just in case "appeal to the truth of the belief enters prominently into the best explanation for its being held" (22). This proposal is unsatisfactory as it stands, but Goldman strengthens it with the help of some possible-worlds machinery. The result is that to know *p*, the proportion of close *p*-worlds (worlds where *p* is true) in which you believe *p* must be higher than the proportion of close worlds generally where you have that belief (26). Goldman does not say how we are to judge when a possible world is sufficiently close to the actual world to be relevant, nor does he say how we are to count such worlds.

Goldman claims that his analysis can handle well-known problem cases like the example of Henry and the fake barns (44), but I cannot see that this is correct. In the example in question, Henry sees a real barn but doesn't know that there's a barn before him because of the presence of barn facsimiles nearby. Now we might plausibly suppose that in all close worlds where there is a barn on the spot, Henry sees it and has the ap-