How scientific psychology shapes minds

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1. Unconsciousnesses

In his autobiography, Sigmund Freud bragged that his concept of repression (*verdrängung*) "was a novelty, and nothing like it had ever before been recognized in mental life" (1953: 30). Freud didn't think its not having been recognized was an accident. Upon explicating the phenomenon in his essays on metapsychology (drafted in 1915), he declared that repression "is a concept which could not have been formulated before the time of psycho-analytic studies" (145). Why not? Because the concept relies on his prior conceptual distinction between conscious and unconscious (but still dynamic) parts of the mind: "the essence of repression lies simply in [the unconscious] turning something away, and keeping it at a distance, from the conscious" (146). Freud's formulation of the concept also relied on his psychoanalytic methods that (purportedly) allow analysts to access the unconscious, and thereby identify thoughts that have been repressed. So, the phenomenon of repression could not have been discovered until Freud proposed a psychoanalytic theory of the dynamic unconscious and used psychoanalytic methods to probe that newly posited part of human minds.

Say what you will about the scientific legacy of Freud's theories. The phenomenon of repression may not be real; and, even if it does track a real mental phenomenon, Freud may not have been right that his concept was utterly novel. Regardless, Freud's articulation of the concept led to its absorption into everyday thought and talk about the mind. By the end of the First World War, Freudian concepts were becoming common parlance not just in his native Austria and neighboring Germany, but also (in translation) in France, England, and the United States. From those original hotbeds of psychoanalysis, the influence of Freudian (and pseudoFreudian) concepts spread across the globe. Nowadays, there's at least a bit of Freudiana underlying how just about everybody conceives of (their own and others') minds. Graham Richards's confidence is well-founded when he writes that "psychoanalysis has unquestionably enjoyed greater popular success and cultural influence than any other body of Psychological thought" (2000: 183-184).

Nevertheless, psychoanalysis is far from the only branch of scientific psychology that has had a significant influence on how non-scientists understand their minds. Sticking with scientific theories of the unconscious, consider the lay uptake of the concept of implicit bias from social psychology. Implicit biases are automatically activated attitudes (or stereotypes) about social groups that aren't consciously endorsed. You probably recognize this concept from workplace or school trainings if not from everyday conversations with (and about) friends and relatives. As Benedek Kurdi and Eric Mandelbaum write, "the notion of implicit bias has now been popularized to such a degree that it is used routinely and prominently in public discourse, including in presidential debates and US Supreme Court opinions, to explain why societal inequalities persist even though explicit views about the worth and capabilities of social groups have become considerably more egalitarian over time" (2023: 1). Researchers who study implicit bias are keenly aware of the social ramifications of their work. For example, Kurdi and

Mandelbaum argue that the orthodox associative account of implicit biases is "societally counterproductive" since, especially when combined with evidence of the ineffectiveness of short-term experimental interventions and corporate trainings, it can lead people to be (wrongly) fatalistic about the prospects for reducing bias.

This emphasis on real-world prospects evokes a striking commonality in the public uptake of the concepts of implicit bias and repression, respectively. Folks aren't content to dredge these phenomena up from their unconsciousnesses. Instead, people want to change their (and others') minds so they're no longer biased, or so they aren't repressing thoughts anymore (or at least not the kinds of thoughts that lead to neuroses when repressed). Hence the long hours spent in antiracist workshops and therapy. The hope is that, by drawing people's attention to previously neglected (if not totally unrecognized) aspects of their mental lives, scientific psychology can play a role in shaping those lives for the better.

In §2, I'll propose that these psychoanalytic and social scientific practices can fruitfully be understood as *sociocognitive* practices. In §3, I'll argue via three additional case studies—on ADHD, IQ, and personhood—that scientific psychology plays a role, not just in shaping people's thinking about minds, but also (and thereby) in shaping minds themselves. Other chapters in this volume attest that mindshaping practices are mechanisms of social construction. So §3 may be seen as supporting the fringe thesis that science aids in the construction of minds, as opposed to discovering minds' inherent structure. In the concluding §4, I'll present considerations relevant to determining the extent to which we should take that thesis seriously.

2. Scientific psychology as social cognition

When psychologists and philosophers discuss "social cognition"—the domain of the eponymous subfield—they tend to focus on how ordinary (non-scientist) folks think about minds. But textbooks open by defining the domain in more general terms: "social cognition is the study of how people make sense of other people and themselves" (Fiske and Taylor 2017).[1]

Science is a human social practice. It's a specialized and sophisticated human social practice, which follows specialized and sophisticated epistemic norms, but it's a human social practice all the same. And the mind sciences, in particular, are human social practices that are fixated on making sense of (and sometimes intervening on) minds. The mind sciences are thus part of the domain of social cognition. Psychologists and other cognitive scientists are engaged in the broader human sociocognitive endeavor of grappling with (and sometimes attempting to change or exploit) people's minds.

It might be objected that this literal interpretation of the textbook definition is too glib, since the precise ways in which science is special render it silly to treat psychology as just another kind of sociocognitive practice: as belonging to the domain of social cognition, as opposed to an importantly separate domain of scientific cognition. Scientists hold themselves (and each other) to strict epistemic standards, adhering tightly to maxims concerning responsible belief formation,

[1] Admittedly, the textbooks go on to say things like "[social cognition] focuses on how ordinary people think and feel about people – including themselves." But these clarifications are charitably interpreted as describing the emphasis of extant research, rather than as defining the scope of the target domain.

inference, and so on. Those epistemic standards don't reign in the same ways over normal human social settings (Santana 2017). Moreover, cognitive scientists tend to be concerned with characterizing universal (or at least very general) truths about perception and cognition, rather than understanding particular people in their lives (Corns 2023). For these reasons, it might seem imperative to distinguish what cognitive scientists are up to from what ordinary people navigating their social environments are up to.

It is, of course, often worthwhile to pay attention to what makes science special; there are indeed aspects of scientific practices that set them apart from other social practices, and aspects of cognitive scientific practices that set them apart from other social cognitive practices. But I want to propose that a mindshaping-centric perspective on social cognition reveals that the distinction between scientific psychology and folk psychology is not nearly as hard and fast as usually supposed.[2] My proposal might seem counterintuitive. Tad Zawidzki's mindshaping hypothesis is designed to counter the view that mindreading—the capacity to attribute beliefs and desires to people—is central to social cognition. If the everyday attribution of mental states is a peripheral part of social cognition, then surely the scientific attribution of mental states is even more peripheral. However, the fact that scientific psychology is a specialized, sophisticated, and (especially on an evolutionary timescale) extremely recent sociocognitive practice doesn't disqualify it from inclusion in what Zawidzki calls the "human sociocognitive syndrome" (2013: xi). After all, on Zawidzki's mindshaping-centric view, full-blown mindreading is also a specialized, sophisticated, and (on an evolutionary timescale) recent sociocognitive practice, but that doesn't disqualify it from inclusion as an element of the human sociocognitive syndrome. Peripherality isn't absence.

Besides, it's not obvious that scientific psychology is now a peripheral part of social cognition, despite the fact that it arrived late on the social scene. Mindshaping is at the heart, not just of how the sociocognitive syndrome evolved, but also of ongoing sociocognitive practices. And there are good reasons to think that scientific psychology is an important site of mindshaping as it is practiced in the 21st century. Core mindshaping practices, including pedagogy and storytelling, have always featured distinctively epistemic aims, inextricable from their normative aims. Mindshaping also includes practices of norm enforcement, which often involve instituting idiosyncratic norms that govern social cognition in particular ways in local contexts.[3] Finally,

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[2] On my usage, folk psychology consists in diverse human practices "of modeling people (and categories of people), and thereby understanding, evaluating, regulating, bonding with, covering for, and predicting them, via the attribution of thoughts, experiences, attitudes, purposes, interests, traits, capacities, perspectives, moods, plans, habits, proclivities, and other mental phenomena" (Curry forthcoming a). The term "folk psychology" was introduced (as "folk philosophy" in Dennett 1965: 37) and popularized (Churchland 1981) for the purpose of differentiating it from scientific psychology. Over time, however, it's become clear that the term picks out a set of sociocognitive capacities and practices of abiding philosophical interest. And as these practices have become better understood, the line between folk psychology and scientific psychology has blurred (Curry forthcoming a). As with a mindshaping-centric understanding of social cognition, a mindshaping-centric understanding of folk psychology renders it easy to see that scientific psychology is a peculiar kind of folk psychology, which, like non-scientific folk psychology, serves regulative mindshaping purposes as well as predictive and explanatory purposes.

[3] Mindshaping leads to intergroup variation as well as intragroup homogeneity (Zawidzki 2013: 233).

mindshaping includes practices of constructing and communicating about models—including quite general models—of what minds are (and should be) like. Scientific psychology furnishes social cognition with new versions of these practices, to be sure, but per the mindshaping hypothesis they are versions of sociocognitive practices par excellence.

Consider the branches of scientific psychology already discussed in §1. Each of the mindshaping practices just mentioned is central to (the admittedly idiosyncratic and outdated science of) psychoanalysis in the Freudian tradition. Freud engaged in the practice of analysis in pursuit of intertwined epistemic and normative ends. (He conceptualized repression as both a theoretical posit and a medical condition to be treated; indeed, he conceived of psychoanalysis more generally as a set of empirical methods that provided data for a theory of cognitive architecture as well as a psychiatric method for healing neurotic patients.) Freud also enforced strict norms concerning how psychoanalysis ought and ought not to be practiced.[4] And he constructed architectonic models of typical, healthy, and disordered minds. Each of these scientific practices contributed to the shaping of 20th century minds, as folks sought to emulate—or more often to avoid emulating—Freud's infamous models.

Similarly, a hallmark of implicit bias research (and related areas of 21st century social psychology) is that investigators are unabashedly pragmatic: they avow the normative aim of aiding in feminist, anti-racist, and other social justice initiatives, alongside the epistemic aim of modeling the architecture of cognitive systems. The normative focus of implicit bias research is admittedly a target of criticism from other cognitive scientists, who are concerned to protect psychology's reputation as a value-neutral natural science. But this express commitment to value-neutrality is itself an attempt at social norm enforcement. The internecine dispute between activist researchers and their critical colleagues isn't best understood as a dispute over whether scientific psychology should be understood as a site of social cognition. Rather, it's a dispute about the proper role for psychologists qua scientists to play within the broader sociocognitive milieu.

3. More cases

Ian Hacking is the philosopher who has most extensively explored how scientific psychology serves mindshaping functions. Hacking (1995) observes that many classifications of mental phenomena are "interactive kinds": that is, classifications that influence the behavior of the people to whom they are applied. This influence can be the result of the classified person reacting directly to being classified. Or it can be the indirect result of other (individual or institutional) classifiers treating the classified person differently, which leads to the classified person behaving differently in response to the new ways in which they're treated. Regardless, when the application of interactive kinds changes how somebody behaves, that can lead to the need for new classifications, which might in turn change behavior, which might in turn lead to new classifications, ad infinitum. Via these “looping effects”, minds are shaped and reshaped over time in at least two different respects. First, how people tend to think, feel, and act changes in response to how they're classified in sociocognitive practices. Second, which phenomena are classified as genuinely *personal* (or even *mental*) phenomena—or countenanced at all—changes.

[4] See "Wild Psychoanalysis" (Freud 1953: 221–227).

3.1. ADHD

Hacking applies his insights into the dynamics of mindshaping to a number of case studies, including homosexuality and multiple personality disorder (1995); feeblemindedness, schizophrenia, and childhood autism (1999); suicidality and genius (2006). I'll recount (and add detail to) one, typical case study of Hacking's (1999: 102-103): the story of Attention Deficit Hyperactivity Disorder (ADHD).[5]

Pre-scientific sociocognitive practices classified some children as fidgety. Then scientific psychologists got involved in the social cognition game. 20th century clinicians classified (unofficially) fidgety children as (officially) hyperactive—and prescribed treatments accordingly. Some time later, the idea arose that attention deficits were the root of children's fidgeting. This idea had significant ramifications for treatment, since clinicians focused on sustaining the attention and controlling the distracting impulses of kids "with attention deficits" (whereas they had sought more generally to subdue the behavior of "hyperactive" kids). According to the third edition of the Diagnostic Statistical Manual (DSM-III), published in 1980, attention deficit disorder (ADD) could come with or without hyperactivity. However, a flurry of new research failed to validate this distinction between ADD and hyperactivity. So, the revised edition of the DSM-III renamed the disorder ADHD. That label has stuck through two more editions of the DSM, albeit with some significant changes to diagnostic criteria.

Hacking suggests that "children diagnosed with ADHD [might be] different from the children once called fidgety" (1999: 102). If so, it isn't because the label "ADHD" is now being applied to different children than those who would once have been called "fidgety." Nor is it the result of changes to how impulsive children behave that are entirely independent of how they're diagnosed. Instead, on Hacking's view, when children were called fidgety, that changed how they were treated (both clinically and interpersonally)—and perhaps even how they treated themselves. These changes in turn shaped fidgety children's behavior—perhaps in a way that led to them being newly labeled "hyperactive." Hyperactive children were then, as a result of their new label, tracked into stim-free classrooms designed to minimize their opportunities for activity. This dramatic change in learning environment inevitably shaped their behavior.[6] Further looping effects between changes in classification and changes in behavior ensued over the next century. Eventually we arrived in the 2020s. ADHD TikTokers now influence members of their global audiences to think about their (official or self-)diagnoses of ADHD as meaning very particular things about what their minds are like, as well as what their minds should (and shouldn't) be like (Chevalier 2024). The modern sociocognitive forces of scientific psychology and social media conspire to ensure that minds are nowhere near done being shaped.

3.2. IQ

The case of IQ testing, which Hacking (1999, 2006) glosses and I analyze in greater depth

[5] This discussion also draws from Lange et al 2010.

[6] Imagine a kid who would have cultivated a jovial class clown persona if afforded a window with a schoolyard view (from which to draw comedic material) and a full complement of classmates for an audience. The jokes that kid tells in their curtained, art-free, nearly audience-free classroom inevitably take on a different character. The jokes they end up telling at home probably do too.

elsewhere (Curry forthcoming a), provides another clear example of looping effects in action. Here are four things that happened over the course of the 20th century. First, test constructors refined IQ subtests to focus ever more narrowly—and ever more accurately—on assessing a particular set of analytical abilities. Second, powerful institutions like armies, universities, and businesses adopted IQ tests as tools for assessing who to promote, admit, or hire. Third, against a backdrop of cultural variation in conceptions of intelligence (Curry 2021a), laypeople came increasingly to conceive of (their own and others') intelligence in terms of IQ. Finally, the famous Flynn effect occurred: each generation of people living in post-industrial nations became better at taking IQ tests than the last. These four facts are interrelated. People cultivated the set of analytical abilities assessed by IQ tests partly in order to get better at IQ tests. They desired to get better at IQ tests both because institutions increasingly valued IQ scores and because, having come to conceive of intelligence in terms of IQ, they themselves increasingly valued the relevant set of analytical abilities (Curry forthcoming a).

In short, being called "low-IQ" or "high-IQ" came to matter to people, and people changed their behavior—and minds—accordingly. It remains to be seen how these nascent looping effects driven by the science of intelligence research will play out in the future, but recent evidence of reversals of the Flynn effect in Norway (Bratsberg & Rogeberg 2018) and the United States (Dworak, Revelle, & Condon 2023) is suggestive. It would be fascinating to find out whether the reverse Flynn effect is correlated with a decrease in the degree to which people value—and, relatedly, conceptualize intelligence in terms of—IQ. IQ skeptics may be able to look forward to a future in which IQ scores are downplayed and intelligence is once again diversely conceptualized. If so, these changes in how we conceptualize intelligent (or unintelligent) minds will undoubtedly be part and parcel of new sociocognitive forces shaping minds themselves.

3.3. Personhood

In some sociocognitive contexts, conceptions of intelligence are core parts of our conceptions of who we are as people. But IQ research is far from the only branch of the mind and brain sciences that influences thinking about personhood.

As Mason Westfall argues, there's good reason to take the aspects of mind that are constitutive of personhood—"the mental stuff that's 'me'" (Westfall 2024: 831)—to be co-extensive with the aspects of mind that are targets of sociocognitive practices.[7] That means that if science influences the posits of social cognition, it also thereby influences the metaphysics of personhood. For example, Westfall suggests that "as an understanding of implicit attitudes proliferates, they *have become*, or *are becoming* personal states" (2024: 850). On this proposal, implicit biases weren't

[7] Westfall's argument is that the only way to account for what unifies the plurality of kinds of personal phenomena *as personal phenomena* is by appeal to the fact that they are all posits of (pluralistic) folk psychology. This account of the personal/subpersonal distinction hinges on a distinction between folk and scientific psychology. So my claim that scientific psychology is a variety of folk psychology (see fn. 2) apparently clashes with Westfall's account. However, I suspect there's a way to rephrase Westfall's insight to render it compatible with my claim—which is, after all, consistent with there being a clear distinction between cognitive scientific practices and non-scientific (though often scientifically influenced) sociocognitive practices. (Whether Westfall endorses my claim—and thus whether he would be amenable to my rephrasing—is another matter.)

part of what made people persons before the advent of scientific psychology; however, over the last few decades, they have been incorporated into our personhood. Similarly, the popularization of scientific ideas concerning the roles that neurotransmitters and hormones (like serotonin and oxytocin) play in our mental lives may have led—or be leading—those posits to be incorporated into the popular understanding of what makes depressed or amorous people who they are as persons (Westfall 2024: footnotes 34 and 43). Research shows that people are particularly impressed by sociocognitive explanations that appeal to neuroscience (Hopkins, Weisberg, & Taylor 2016). And mindshaping is all about making an impression. Martha Farah proclaims that, already, "neuroimaging has contributed to a fundamental change in how we think of ourselves and our fellow persons" (2012: 575; see also Vidal & Ortega 2017).

The mindshaping roles played by scientific psychology in these cases are, on their face, somewhat subtle. Science isn't directly changing how our minds work. If we have implicit biases, then we presumably already had them before scientists invented the concept; similarly, the lay embrace of talk of serotonin levels isn't directly altering how the relevant chemicals course through our nervous systems; our appreciation of fMRI machines isn't directly altering the functional structure of our brains. Instead, science is merely changing which (pre-existing) parts of us qua organisms we are considering parts of us qua persons. However, the import of those merely classificatory changes shouldn't be underestimated. Conceptions of personhood are central to ethical and legal concerns. What seem like innocuous classificatory changes have the potential to dramatically alter how we think we ought to treat one another—including how we think we ought to treat ourselves. In introducing new posits into the sociocognitive ecosystem, science may well be inaugurating new looping effects, which may lead to substantive changes in people's behaviors, thoughts, feelings, and even serotonin levels as those people react to being labeled unconsciously biased, serotonin-deficient apes whose actions are neurally determined. Some philosophers envision utopian results (Churchland 2013). Others fear dystopia; Dominic Murphy writes that "if the new sciences of the mind reinterpret human beings very comprehensively, we will risk losing our grip on what matters to people because we will lack the vocabulary within which to state and justify it" (2017: 171).

It may however be wise to tamp both optimistic and pessimistic expectations about the brave new social world being forged through scientific mindshaping. Scientific psychology has the potential to reshape how we think about ourselves and others—for good or for ill. More often, though, the powerful conservative norms that govern sociocognitive practices bend science towards the perpetuation and reinforcement of pre-existing ways of thinking about minds, rather than instigating a revolution in our self-conceptions. As Cliodhna O'Connor and Helene Joffe argue in their review of the evidence concerning how neuroscience has affected conceptions of personhood, "people selectively attend to and interpret science in ways that cohere with their pre-existing values, identities and beliefs." O'Connor and Joffe don't deny that science sometimes plays the kinds of mindshaping roles discussed above—they affirm that "new scientific information can indeed challenge and modulate existing understanding"—but they stress that "it can also assimilate into and reinforce established ideas" (2013: 255). There's no telling in advance how any particular scientific practice will be incorporated into broader mindshaping practices: it might provide the innovative ideas that instigate new patterns of social behavior that end up shaping our minds into novel configurations; but it might instead provide newer, shinier tools

for accomplishing the same old sociocognitive ends, serving to further ensure that minds stay in roughly the same shapes that pre-existing mindshaping practices marked as normal. Indeed, O'Connor and Joffe marshal empirical evidence suggesting that, to date, neuroscientific research has mostly had the latter variety of impact on social cognition. Rather than bowing to neural determinism, people lean on notions of neural plasticity to reinforce their beliefs in free will and moral responsibility (260–261).

Whether the social roles they play are revolutionary or reactionary, O'Connor and Joffe's review plainly reveals that neuroscientific ideas have already begun to be incorporated into lay practices of understanding people. Some of these neuroscientific ideas are reasonably faithfully transmitted to the public, accurately representing the state of scientific knowledge. Other terms are bandied about in ways that make them unrecognizable to the scientists who coined them. Either way, the brain sciences, themselves specialized sociocognitive practices, are having an impact on the broader sociocognitive landscape. It remains to be seen whether they will provide the spark that eventually reshapes our minds to the point where we are unrecognizable as persons (as that category of creature—persons—is currently conceived), or whether they will simply provide a new vocabulary with which to describe the same old people.

4. In what senses and to what extent are minds socially constructed?

'Neuroplastic persons' to whom we apply labels like 'ADHD' or 'high IQ' behave, think, and feel at least somewhat differently than they would have if we hadn't come up with those labels. People who have come to conceptualize themselves (and others) as implicitly biased take remedial action; to the extent that they are successful, they reengineer their (and others') unconscious cognitive machinery. Scientific psychology thus contributes to the 'social construction' of minds in a narrow, etiological sense of that embattled phrase: it is a social practice that plays a causal role in determining how minds come to work (at least somewhat) differently over time. Is there any more to it than that?

In discussing the extent to which phenomena studied in the natural sciences should be understood as socially constructed, Hacking articulates three "sticking points": three fundamental philosophical disagreements about the relationship between the natural sciences and their objects that "are made contemporary by using the phrase 'social construct'" (1999: 63). Hacking's first sticking point concerns whether it was inevitable that, as history progressed, a successful natural scientific enterprise would end up describing the world in the ways that our natural sciences in fact describe the world. Constructionists about the objects of natural science deny this inevitability, and argue instead that the course of successful science is highly contingent. Hacking's second sticking point concerns whether the world studied by natural scientists has an inherent structure, which scientists merely discover (rather than constructing), since it exists independently of scientists' descriptions of the world. Constructionists deny this inherent-structurism (traditionally, but misleadingly, called "realism"), and argue instead for nominalism, the view that scientists impose their categories on a world featuring a complex mess of individual things that don't already come pre-sorted. Finally, Hacking's third sticking point concerns whether the stability of established scientific beliefs can be explained by reference to the content of the scientific discoveries justifying those beliefs. Constructionists deny that stability can be

explained by reference to the content of science, and argue that stability is better explained by reference to external factors having to do with the social functions of science. As Hacking emphasizes, positions on each of these sticking points come in a spectrum: the course of successful science might be entirely, mostly, somewhat, barely, or not-at-all inevitable; the world might be entirely, mostly, somewhat, barely, or not-at-all inherently structured; the stability of scientific beliefs might be explained entirely, mostly, somewhat, barely, or not-at-all by reference to their content.

Reflecting on analogues to Hacking's sticking points can help each of us determine the extent to which we think minds are socially constructed. In what remains of this chapter, I'll run through analogues of each sticking point in turn, and suggest some ways in which taking up a mindshaping perspective—and especially reflecting on how scientific practices shape minds—might pull one toward (though it won't entail) the constructionist ends of the corresponding spectrums.

4.1. Sticking point #1: contingency vs inevitability

Our first sticking point concerns whether it was inevitable that, as history progressed, a successful sociocognitive enterprise would end up describing minds in the ways that our practices in fact describe minds. Social constructionists about minds deny this inevitability, and argue that the course of successful mindshaping practices is highly contingent. Per the constructionist, the concepts of ADHD, IQ, and implicit bias might not have figured in an equally sociocognitively useful and empirically adequate concept of mind developed in another timeline, with its own idiosyncratic looping effects.

The inevitabilist might object by appealing to the normative pressures driving mindshaping practices. Especially if paired with a commitment to the view that social cognition tracks the inherent structure of the mind (see sticking point #2), reflection on the homogenizing aims of mindshaping may suggest that we were always going to have to understand each other along roughly the same lines as we've actually focused on understanding each other.[8] However, it's also plausible that, sometime in the course of their historical development, sociocognitive practices fall into a mindshaping equilibrium: a point at which minds have been shaped well enough for present sociocognitive purposes, such that, though mindshaping practices may keep changing in interesting ways over time, they won't necessarily keep *improving*.[9] From points of equilibrium on, it may be highly contingent how we mindshape each other, and thus highly contingent which categories are salient to us. For example, it seems contingent that human beings ever developed sciences of the mind, and thus contingent that mindshaping has been taken in a sciencey direction over the last century and a half. Moreover, to the extent that the course of scientific psychology—successful or not—is itself contingent, the ways in which it contributes to mindshaping are liable to be equally contingent. (IQ tests might never have been invented;

[8] Zawidzki (2013: 216) gives an argument along these lines, drawing on Brandom's (1994) suggestion that our practice of attributing mental states like beliefs and desires to one another is essential to the fundamental human social aim of communicating with each other about the world by giving (and asking for) reasons.

[9] Even if sociocognitive concepts become ever more complex as they accrue scientific detail, increased conceptual complexity is no guarantee of increased (or decreased!) utility (Novick 2023).

children might have remained 'fidgety' in the eyes of their teachers.) Finally, even if the mind has an inherent functional structure, it may be contingent whether we develop social practices that glom onto that structure, as opposed to highlighting patterns of mental activity that matter to us as social creatures but are mere spandrels of the core functional architecture of the mind (Curry 2021b).

Nevertheless, even amidst all of this contingency, there may be some aspects of the ways in which we think about (and shape) minds that are inevitable parts of any and all successful social cognition. There may, for example, be no successful social cognition absent some barebones grasp on personhood or agency (Westfall 2023): plausibly, your cognition isn't successful *social* cognition unless you're construing another as *an other* unified source of actions or thoughts or feelings or perceptions.

4.2. Sticking point #2: nominalism vs inherent-structurism

Our second sticking point concerns whether the mind has an inherent structure, which folks merely discover (rather than construct) through social cognition, since it exists independently of folks' (or scientists') descriptions of minds. Social constructionists deny inherent-structurism about the mental phenomena invoked in sociocognitive practices and argue for the alternative, nominalist view according to which social cognition imposes its categories on people with nervous systems featuring a complex mess of individual processes that don't come pre-sorted (or at least not pre-sorted into *mental* categories).

This second sticking point was one fulcrum of the debate about the status of folk psychology that dominated the philosophy of mind in the 1980s and 1990s. Folk psychological realists like Fodor (1987) pushed the inherent-structurist point of view. Eliminative materialists like Churchland (1981) agreed with Fodor that the mind/brain has an inherent structure, but disagreed that traditional sociocognitive practices portray that structure accurately. Interpretivists like Dennett (1987) pushed for views that came closer to nominalism—and thus constructionism—by arguing that the ontological structure of the mind emerges relative to interpretive practices.

The mindshaping hypothesis doesn't necessarily entail this kind of *ontological* social construction. For looping effects to take off, it must be the case that how people conceptualize minds changes, leading to *etiological* social construction, and then new reconceptualization, and so on. But it needn't be the case that those changing conceptualizations are tightly linked to changes in the ontology of mind. It could be that minds are inherently structured in terms of a well-defined catalogue of real mental phenomena, and that, when they are accurate, our conceptualizations of mental phenomena align with these natural kinds. If so, then mindshaping practices alter which mental phenomena people center in their understanding of themselves and others, and thereby alter which mental phenomena are cultivated and which neglected, but they don't ontologically construct the phenomena themselves.

Alternately, though, it could be that patterns of behavioral and cognitive dispositions emerge *as particular mental phenomena* only when they're embedded in appropriate sociocognitive practices of interpretation. If so, then there's such a thing as "having a high IQ" only in relation to IQ-ascribing practices (even if the analytical abilities that IQ comprises existed for millennia before the advent of intelligence testing). Similarly, Westfall argues that mental phenomena

become personal—become part of who you are as a person—only when they become targets of social cognition. Even more radically, perhaps patterns become *mental* only when they're detected in an appropriate sociocognitive context. If so, then some phenomena, including repressed thoughts and implicit biases, are real mental phenomena now even though they weren't *mental* phenomena relative to sociocognitive practices that were common during the heyday of Cartesianism, when consciousness reigned as the socially accepted mark of the mental.

It's worth stressing that one needn't deny inherent structure entirely in order to argue that our categories determine which (actual or potential) patterns of nervous system activity—of which there are innumerably many (Chirimuuta 2024) which ubiquitously crosscut each other (Khalidi 2023)—are counted as mental, and are thus cultivated via mindshaping practices, such that they become core parts of the ontology of *mind* per se. Even if the mind has an inherent structure featuring (e.g.) informationally encapsulated perceptual modules and informationally unencapsulated cognitive faculties (Fodor 1983), it may be the case (a) that this inherent cognitive architecture gives rise to the particular pattern of functioning that constitutes ADHD only as a result of mindshaping pressures, and (b) that ADHD (or, for that matter, vision) is properly construed *as mental* (as opposed to merely neurological) only in relation to sociocognitive practices (including the mind sciences) that mark it as such.

4.3. Sticking point #3: external vs internal explanations of stability

Our final sticking point concerns whether the stability of established beliefs about the mind can be explained by reference to the fact that those beliefs accurately describe the inherent structure of the mind. Social constructionists deny that stability can be totally explained by reference to correspondence between sociocognitive categories and the inherent structure of the mind, and argue that stability is better explained by reference to external factors having to do with the social functions of social cognition.

Psychology is a young science, and many of its categories are unstable. Neuroscientists are advocating for novel cognitive ontologies (Poldrack & Yarkoni 2016) which would replace the categories used by cognitive psychologists, who use different categories than behaviorists, who used different categories than gestalt psychologists, who used different categories than psychoanalysts, who used different categories than introspectionists. However, there's a case to be made that the central categories employed by our *non-scientific* sociocognitive practices are much more stable. Folks have been talking about each others' thoughts, desires, and emotions for thousands of years. Fodor would say that folk psychology is by-and-large stable insofar as it accurately limns the inherent structure of the mind. That's an internal explanation, in Hacking's terminology. The alternative, external explanation—suggested by the mindshaping literature—is that stability comes from the normative and regulative constraints on our sociocognitive practices, rather than from the inherent structure of the mind itself. Talk about thoughts, desires, and emotions is ubiquitous and stable because it's so damn socially useful, regardless of what precisely is going on with the machinery inside our heads.

Once again, our case studies about how science shapes minds are instructive. To the extent that you think, with Murphy and the Churchlands, that science is likely to shape minds into novel configurations, you'll likely go in for an (internal) explanation of the (in)stability of our sociocognitive practices that appeals to the match between folk psychological categories and the

(progressively more accurate) categories employed in our best scientific theories of how the mind works. To the extent that you think, with O'Connor and Joffe, that mindshaping practices are liable to assimilate scientific concepts in order to reinforce established folk psychological ideas, you might go in for an (internal) explanation like Fodor's, and claim that cognitive science's new categories are window dressing for the core truths about the mind's workings that folk psychologists discovered long ago. Alternately, you might go in for an (external) explanation that appeals to longstanding social norms and commitments, especially if you agree with Zawidzki that the attribution of thoughts, desires, emotions, and all the rest primarily serves practical mindshaping ends.

4.4. Checklist

Hacking (1999: 99) notes that his "three sticking points form a check list", and that Thomas Kuhn "scores 5, 5, 5"—maximally socially constructionist about the categories of the natural sciences. I invite you to score yourself on my adapted sticking points. For what it's worth, my own scores concerning the extent to which minds are socially constructed are:

#1 Contingency: 4.[10]
#2 Nominalism: 4.[11]
#3 External explanations of stability: 4.[12]

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[10] By my lights, most details of how minds are shaped via social cognition are extremely contingent. This contingency is evidenced by (a) diversity in human sociocognitive practices (Curry 2020, 2021a), (b) the likelihood that different social species shape minds differently (Curry 2023), and (c) the likelihood that socially salient patterns of mental abilities like IQ are mere byproducts of the functional dynamics of the mind (Curry 2021b). I admit that there are probably some basic mental categories ("perceptual access", "perspective", perhaps "personhood" or "agency", maybe even "belief and "desire") that all sociocognitively sophisticated creatures invoke in common, and which line up fairly neatly with explanatorily robust scientific categories. If so, then the contours of sociocognitive categories aren't utterly contingent. Nevertheless, I'm inclined to bet that there are few of these universal sociocognitive categories, and that they are less important to our sociocognitive practices—in comparison with idiosyncratic categories like repression, implicit bias, ADHD, and IQ—than theorists of social cognition tend to presume. My score of 4 reflects this hunch that social cognition, like other organismic capacities, comes in endless forms that we (and other social animals) reshape over time.

[11] Following Dennett, I believe in the interpreter-independent existence of real patterns, and take mind-ascribing practices to be veridical only insofar as they target real patterns (Curry forthcoming a). So I'm not 100% nominalist about the phenomena of interest in social cognition. However, I think that real patterns emerge *as mental phenomena* only relative to interpretive models (Curry 2020; forthcoming b). So I am a nominalist (and an ontological social constructionist) about the category of the mental—and the category of the personal, and many specific categories of mental phenomena—even while allowing that some of the phenomena that fall under the category of the mental have some inherent structure.

[12] Insofar as there's stability in sociocognitive categories, I suspect that stability is due mostly to ("external") social factors. To the extent that scientific categories are reinforcing of stability, they are incorporated in the service of pre-existing social norms. Thus, any "internal" factors contribute to an explanation of stability via their contribution to external factors. To the extent that scientific categories genuinely shake things up—and thus override external factors—they are a source of instability, not stability.

I'm not quite fully Kuhnish about mindshaping, but I do think the thesis that minds are socially constructed—by the mind sciences as well as other, folksier sociocognitive practices—has considerably more going for it than the hardline anti-constructionist views endorsed by most philosophers of mind.

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