

A MODEST DEFENSE OF MIND READING

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15 YALE J.L. & TECH. 214 (2013)

ABSTRACT

The last decade has witnessed a profusion of commentary on “mind-reading” devices. Instead of offering traditional legal arguments against such devices, most scholars have simply assumed their use to be unconstitutional. The consensus is clear: by essentially “speaking for” defendants, mind-reading devices offend the basic spirit of the Self-Incrimination Clause. In this Article, I defend the constitutionality of mind-reading on both doctrinal and normative grounds. First, I reconstruct the Court’s self-incrimination jurisprudence to demonstrate that evidence is only “testimonial” — and thus, privileged — if it involves a “communicative act” from the suspect. Whether or not particular types of mind-reading devices would elicit “communicative acts” is a narrow, technology-specific question. And at least some mind-reading devices almost certainly would not — making their use permissible under the Fifth Amendment. Second, I defend this doctrinal result against normative attack. Many different accounts of the privilege’s theoretical underpinnings exist. I evaluate these accounts in turn, arguing that some are inapposite to mind reading, while others fail in a deeper sense.

* Academic Fellow, Schell Center for International Human Rights, Yale Law School; J.D., Yale Law School, 2011. I thank, first and foremost, the editorial team at the Yale Journal of Law and Technology for all their diligent work. An earlier version of this manuscript was presented at an Information Society Project workshop in October 2012. It has benefited enormously from the insights of the workshop participants, including, but certainly not limited to, Jack Balkin, Linda Greenhouse, Bryan Choi, Margot Kaminski, Christina Spiesel, and Kara Loewentheil. Vivek Mohan, Mateo Taussig-Rubbo, and Shishene Jing were indispensable, early on, to shape the idea into something beyond a formless intuition. Michael Aikins provided strategic guidance. Carly Zubrzycki patiently helped me refine the Article in both substance and form. Finally, Sharat Raju contributed to the intellectual life of the Article, and of the institution writ large, in immeasurable ways. It was from the garden bed of his support that my work was able, in the first instance, to bloom. All errors are my own.

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INTRODUCTION

Suppose, some day in the not-too-distant future, that John Doe is the prime suspect in a murder investigation. In addition to compelling Doe to compose a voice recording,¹ to submit a handwriting sample,² and to turn over computer files³ — all par for the constitutional course — a judge also issues a warrant compelling Doe to sit for examination by a Mind Reader Machine, an invention that enables police to obtain detailed biometric and neurological information from Doe, which is then translated into a “read-out” of his mental states. Without requiring any cooperation on Doe’s part, the Machine will put his thoughts on full display. What would be the constitutional implications of this newfound practice?

Imagined at such a high level of abstraction, the Mind Reader Machine is obviously a dramatization. But realistic analogues become more plausible by the day.⁴ We may not be far from a world in which brain-imaging technology will enable law enforcement to parse the thoughts of a silent criminal suspect, to retrieve the suspect’s memories, and to determine whether the suspect is lying.⁵ Many Fifth Amendment scholars find this a displeasing prospect. Departing from Justice Brennan’s famous observation about polygraph tests — “To compel a person to submit to testing in which an effort will be made to determine his guilt or innocence on the basis of physiological responses, whether

¹ See *United States v. Wade*, 388 U.S. 218 (1967).

² See *Gilbert v. California*, 388 U.S. 263 (1967).

³ See *United States v. Hubbell*, 530 U.S. 27, 36-37 (2000) (holding that the compelled disclosure of documents does not violate the privilege against self-incrimination so long as the act of disclosure has no “testimonial aspect”); *Fisher v. United States*, 425 U.S. 391 (1976) (holding that compelling production of tax documents from plaintiff’s attorney does not violate plaintiff’s right against self-incrimination).

⁴ For an excellent summary of the gradient of relevant brain-imaging technologies, see Sarah E. Stoller & Paul R. Wolpe, *Emerging Neurotechnologies for Lie Detection and the Fifth Amendment*, 33 AM. J.L. & MED. 359, 360-64 (2007). See also Sean K. Thompson, *A Brave New World of Interrogation Jurisprudence*, 33 AM. J.L. & MED. 341, 341-47 (2007); Matthew B. Holloway, Comment, *One Image, One Thousand Incriminating Words*, 27 TEMP. J. SCI. TECH. & ENVTL. L. 141, 144-53 (2008).

⁵ See Stoller & Wolpe, *supra* note 4, at 359-64 (outlining the science behind so-called “Neurological Lie Detection” technologies). In fact, a similar technique has already been implemented in India. Dov Fox, *The Right to Silence as Protecting Mental Control*, 42 AKRON L. REV. 763, 765-67 (2009) (discussing the role that brain imaging played in a murder trial in 2008). See also Anand Giridharadas, *India’s Novel Use of Brain Scans in Courts is Debated*, N.Y. TIMES, Sept. 1, 2008, <http://www.nytimes.com/2008/09/15/world/asia/15brainscan.html?pagewanted=all>.

willed or not, is to evoke the spirit and history of the Fifth Amendment”⁶ — these scholars argue that extracting cognitive evidence from an unwilling suspect would offend the Self-Incrimination Clause to its pith. To rehearse but a few examples: Sarah Stoller and Paul Wolpe find the Machine “a chilling concept”;⁷ Nita Farahany believes the Machine to violate basic “intuitions about mental privacy and autonomy of self”;⁸ Ronald Allen and Kristen Mace discern “universal agreement” that the Machine is unacceptable;⁹ and Michael Pardo goes so far as to call the Machine a “*reductio ad absurdum*” for narrow theories of self-incrimination.¹⁰

I am skeptical. Against the scholarly chorus, this Article offers a tempered constitutional defense of mind-reading on both doctrinal and normative grounds. Doctrinally, self-incrimination analysis turns on the distinction between “physical evidence” and “testimonial communication.” Only the latter is privileged.¹¹ The difficulty, however, is that “testimonial” invites competing constructions. The first focuses on the cognitive *product* of disclosure, the second on the communicative *process* of

⁶ *Schmerber v. California*, 384 U.S. 757, 765 (1966).

⁷ Stoller & Wolpe, *supra* note 4, at 371.

⁸ Nina Farahany, *Incriminating Thoughts*, 64 STAN. L. REV. 351, 354 (2012).

⁹ Ronald J. Allen & Kristen Mace, *The Self-Incrimination Clause Explained and its Future Predicted*, 94 J. CRIM. L. & CRIMINOLOGY 243, 249 (2003).

¹⁰ Michael S. Pardo, *Disentangling the Fourth Amendment and the Self-Incrimination Clause*, 90 IOWA L. REV. 1857, 1879 (2005). Although this sounds extreme, in describing the view this way, Pardo simply literalizes the view that other scholars implicitly embrace. *See, e.g.*, Allen & Mace, *supra* note 9, at 249 (justifying their view that mind-reading violates the Constitution with the naked observation that a “universal intuition” supports it); Farahany, *supra* note 8, at 354 (making no argument against the Machine except to say that its use seems “amiss” of privacy norms); Fox, *supra* note 5, at 767 (citing the “widely held intuitions that the Fifth Amendment should protect against brain imaging” as what “propels [his] inquiry” into why the Machine is unacceptable).

¹¹ *United States v. Hubbell*, 530 U.S. 27, 35 (2000); *Pennsylvania v. Muniz*, 496 U.S. 582, 588-89 (1990); *Doe v. U.S.*, 487 U.S. 201, 208 (1988); *Fisher v. U.S.*, 425 US 391, 409 (1976); *see* U.S. CONST. amend. V. For an overview of the textual history of the Self-Incrimination Clause, *see* Akhil Amar & Renee Lettow, *Fifth Amendment First Principles: The Self-Incrimination Clause*, 93 MICH. L. REV. 857 (1995). In the shadow of the Mind Reader Machine, many scholars have begun to reconsider this framework. Indeed, according to the strongest of these accounts, the Mind Reader Machine demands nothing short of full overhaul – scrapping the physical-testimonial distinction and reinventing the privilege on other grounds. *See, e.g.*, Farahany *supra* note 8, at 354-55; Fox, *supra* note 5, at 792 (“Brain imaging is difficult to classify because it promises distinctly testimonial-like information about the content of a person’s mind that is packaged in demonstrably physical-like form.”). I disagree. In my view, the physical-testimonial divide reflects a construction of the privilege that is both sound in the abstract and suitable for analyzing the forcible extraction of cognitive evidence.

disclosure.¹² Existing doctrinal arguments against the Mind Reader Machine rely on the first construction. I demonstrate, by contrast, that the second construction — the “communication-based” view of testimony — better integrates the case law and stands up more persuasively to metaphysical scrutiny. From there, I unpack what the communication-based view entails, concluding that “testimonial communication” stems from an intentional act on the suspect’s part that discloses information about the suspect’s mental states. Finally, I apply this definition to various forms of the Machine, some more realistic, others more fanciful. Certain versions of the Machine, I argue, would be wholly permissible under the communication-based view of testimony; others would present more difficult scenarios and, like all hard questions of law, be amenable to good faith dispute. What is definitively *wrong*, however, is the currently reigning view: that the Mind Reader Machine presents a paradigm case for the Fifth Amendment, and that all of its incarnations would run afoul of the self-incrimination privilege.

After establishing my doctrinal position, I justify its conclusion against normative alarm. The strongest freestanding indictment of the Machine is that its use would violate individual privacy. This argument, while analytically forceful, militates in favor of restrictions on the Machine, not outright prohibition. In other words, the privacy argument finds proper accommodation in the Fourth Amendment, not the Fifth. The second normative tack against the Mind Reader Machine is that it would frustrate guilt-innocence determinations in practice. This position takes a variety of forms, all of which provide interesting (and possibly compelling) foundations for the self-incrimination privilege in general – but none of which are apposite to mind-reading.¹³

¹² See, e.g., Stoller & Wolpe, *supra* note 4, at 367.

¹³ See *infra* Part III.B. Broadly, the arguments are as follows. First, the state should bear the burden of fully proving its case rather than relying on a defendant to furnish the state with evidence – and the Mind Reader Machine inverts this dynamic. *Infra* note 174. This, I argue, simply begs the question it purports to resolve. Second, the self-incrimination privilege aims to protect suspects from facing the “cruel trilemma” of incrimination, perjury, and contempt. Even if this claim is persuasive in other Fifth Amendment settings, I argue that it is unpersuasive in setting of the Mind Reader Machine. The whole point of the Machine is that it deprives a suspect of choice – vacating any concern about *compromised* choice. Third, the privilege operates as a constructive “excuse” doctrine. See William J. Stuntz, *Self-Incrimination and Excuse*, 88 COLUM. L. REV. 1227 (1988). Even assuming this to be so *arguendo*, it makes no contact with the Mind Reader Machine for the same reason as the “cruel trilemma” complaint. Fourth, in a world without a right to silence, guilty suspects would have a strong incentive to lie, creating a dilutive “pooling effect,” making it harder for fact-finders to distinguish between authentic and inauthentic proclamations of innocence. See Daniel J. Seidmann & Alex Stein,

Ronald Allen and Kristen Mace begin their seminal article on self-incrimination by observing that the Mind Reader Machine has “bedeviled analysis of the Fifth Amendment,” despite the “universal intuition” that its use would be unconstitutional.¹⁴ This observation strikes me as correct. But unlike Allen and Mace, who take the intuition as a guiding light for doctrinal reconstruction, I proceed in the opposite direction. I argue that it is the *intuition*, not the current state of doctrine, which collapses under strain. The error here is understandable enough. Mind-reading sounds in dystopia, totalitarianism, the stuff of our political nightmares.¹⁵ In response to these specters, most scholars, including Allen and Mace, have refrained from building a careful case against the Mind Reader Machine. Instead, they have *assumed* that its use would be unconstitutional and reverse-engineered theories of self-incrimination from there.¹⁶ And this assumption has provoked little resistance, not so much because the constitutional arguments against mind-reading are self-evident, but because something in the larger dynamic evoked by the Machine — the image of state power that it conveys — simply *feels* unacceptable.¹⁷

The Right to Silence Helps the Innocent: A Game-Theoretic Analysis of the Fifth Amendment Privilege, 114 HARV. L. REV. 430 (2000). In actuality, this observation cuts in *favor* of the Machine, insofar as its use would help distinguish guilt and innocence more sharply. Finally, there is a fifth normative argument, more indirect than the first four, which I take up only briefly. Namely, the physical-testimonial divide hinges on an antiquated, non-scientific distinction between body and mind and, for that reason, should be discarded. See, e.g., Fox *supra* note 5, at 793; Holloway, *supra* note, at 166-67; Stoller & Wolpe, *supra* note 4, at 365-67. Even assuming that characterization to be true, however, it does not follow that the physical-testimonial divide is inapt to its legal task. On the substantive view of “testimony,” the status of evidence turns on whether it discloses something physical or cognitive, a question that neuroscience has left nettled. But on the communication-based view of testimony — that is, on my view — the status of evidence turns only on the role the criminal suspect plays in its production. To the best of my knowledge, neuroscience has left this inquiry unscathed. The deconstructive approach to the physical-testimonial distinction assumes that “testimony” refers to an intrinsic quality of evidence rather than the process by which it is obtained. Yet this is precisely what is at stake.

¹⁴ Allen & Mace, *supra* note 9, at 249.

¹⁵ See, e.g., Fox, *supra* note 5, at 798 (calling the Mind Reader Machine “not so different, and less radical in fact, than similar possibilities portrayed in contemporary film and literature such as George Orwell’s 1984 and Steven Spielberg’s *Minority Report*.”); William Federspiel, Note, *1984 Arrives: Thought (Crime), Technology, and the Constitution*, 16 WM. & MARY BILL OF RTS. J. 865 (2008); Thompson, *supra* note 4.

¹⁶ Michael S. Pardo is the most explicit in this orientation: he openly refers to the Mind Reader Machine as a “*reductio ad absurdum*.” Pardo, *supra* note 10, at 1879. See *supra* note 10.

¹⁷ Many of the arguments develop in an overtly *aesthetic* vein. Many begin with cosmic proclamations about the role of mind-reading (and truth-telling) in the

In what follows, I take this assumption to task. On scrutiny, I argue that the categorical case against the Mind Reader Machine

West. See, e.g., Federspiel, *supra* note 15, at 865-68; Stoller & Wolpe, *supra* note 4, at 374-76 (the article begins by noting that “[t]he development of a successful lie detector has been a dream of governments and law enforcement since ancient times,” and then proceeds to cite a text from 900 B.C. and expound on the role of lie detection in Ancient Greece). The effect is to present mind-reading less as a concrete possibility than as a counterfactual scenario, the stuff of literary dystopia – frightening because it is abstractly proximate, but also, making no contact with our world, safely at bay. This is true of the construction of fact patterns as well. They introduce the issue of mind-reading, they weave complicated narratives of police interrogation, often melding different legal problems together into a composite hypothetical designed to “set the stage.” Ronald Allen and Kristen Mace, for example, jumpstart their analysis with an involved, four-paragraph hypothetical about compelled polygraph tests – floating on its own, literally set apart from the rest of the text. Allen & Mace, *supra* note 9, at 248-49. Nina Farahany does similarly, spinning a fact pattern about two masked men murdering a woman in her home, and she imagines the various interrogation methods that police might use to gather evidence about the crime. Farahany, *supra* note 8, at 353-54. Matthew Holloway opens his Comment, *One Image, One Thousand Incriminating Words*, with a vivid doomsday scenario about a bomb going off in the Constitution Center in Philadelphia, from which he quickly pivots to a new hypothetical, adduced for the same point, about an everyday mugging. Holloway, *supra* note 4, at 141-42.

Each of these snapshots goes far beyond what is necessary to convey the relevant legal issue. What is more, each snapshot contains surplus content that produces distinct and confusing strands of legal controversy. For example, imagining a scenario in which “John Doe” is compelled to sit for a polygraph test, Allen and Mace include the following sentences: “The officers try to physically restrain him, but he resists. Eventually, they strap Doe to a gurney and attach a polygraph machine.” Allen & Mace, *supra* note 9, at 248. If the point is to explore the implications of mind-reading under the Court’s view of “testimonial communication,” why introduce the variable of physical roughness from the police? What does this possibly add? Farahany takes a similar tack when envisioning the extraction techniques that police officers might employ to gather information from the “masked men” in her hypothetical. These include obtaining structural brain images and measuring automatic physiological responses to stimuli. Farahany, *supra* note 8, at 354. So far, so good – but the final extraction technique that Farahany imagines is the “elicit[ation of] brain-based but interpretable responses to their questions by whatever means necessary, including torturous ones.” *Id.* (emphasis added). Where is this hyperbole coming from? Just as with Allen and Mace, if the point is to expound on mind-reading, I am not sure what purpose it serves to evoke the specter of an entirely different form of governmental abuse – it seems only to muddy the doctrinal waters. Indeed, Holloway’s version is the most over-the-top of all. Imagining a bomb going off in the Constitution Center, he muses that in “an emotionally loaded situation such as this it is easy to ignore the subtle legal issues surrounding the use of neuroimaging in interrogation. We want the terroristic act avenged, whatever the cost.” Holloway, *supra* note 4, at 141. He also justifies his project with similarly highfalutin rhetoric: “[t]he awesome” — at another point, he calls it “Orwellian” — power an irresponsible government might wield with an unhindered ability to use brain-imaging technology must be addressed.” *Id.* at 143.

unravels, resolving into a more nuanced — and lawyerly — bundle of technology-specific issues. The endpoint is neither to purge the Machine of all constitutional alarm, nor to vindicate its use in every circumstance. The goal is substantially more modest: to shift the debate over mind-reading to more granular terrain and, in the same swoop, to crystallize the Court’s self-incrimination jurisprudence. Part One situates the Mind Reader Machine in the context of modern self-incrimination doctrine. Because the genealogy has already been well documented elsewhere,¹⁸ and because Part Two burrows into many of the cases independently, this overview is brief. Part Two defends mind-reading on doctrinal grounds; Part Three, on normative grounds. Part Four concludes.

I. A BRIEF HISTORY OF THE PHYSICAL-TESTIMONIAL DIVIDE

The modern era of self-incrimination jurisprudence began with *Schmerber v. California*.¹⁹ In *Schmerber*, the Court confronted an issue that would become a touchstone for later cases: Does a compelled blood test violate the Fifth Amendment? Writing for the plurality, Justice Brennan characterized the privilege as “a bar against compelling ‘communications’ or ‘testimony’” but clarified that “compulsion which makes a suspect or accused the source of ‘real or physical evidence’ does not violate it.”²⁰ Applying this standard to blood tests, Justice Brennan reasoned that the extraction and analysis of blood required “not even a shadow of testimonial compulsion upon or enforced communication by the accused.”²¹ Therefore, despite being compulsory and incriminating, blood tests pose no cause for Fifth Amendment concern. *Schmerber* gave birth to an entire precedential line following in its spirit: the so-called exemplar cases, which have shaped the bounds of what evidence the state can extract by compulsion. The examples are familiar to anyone who has ever seen a police drama. For example, the state may

¹⁸ See, e.g., Holloway, *supra* note 4, at 157-66; Farahany, *supra* note 8, at 356-66.

¹⁹ 384 U.S. 757 (1966). Although the ruling in *Schmerber* was novel — and initiated a new era of self-incrimination jurisprudence — it did not come from the ether. The Court drew on previous case law to substantiate its distinction between physical and testimonial evidence. See *Breithaupt v. Abram*, 352 U.S. 432 (1957) (holding that a mandatory blood test to determine intoxication does not violate due process); *Holt v. United States*, 218 U.S. 245 (1910) (holding that it does not violate the Fifth Amendment to compel a defendant to try on a blouse).

²⁰ *Schmerber*, 384 U.S. at 764.

²¹ *Id.* at 765.

force criminal suspects to participate in line-ups,²² to submit handwriting examples,²³ to make voice recordings,²⁴ and so on, all without piquing Fifth Amendment scrutiny.

United in their conformity to the same rationale, the exemplar cases represent a bright spot in the self-incrimination canon. The remainder is considerably murkier. Ten years after *Schmerber*, in *Fisher v. United States*, the Court held that a subpoena compelling the defendant's attorney to produce tax documents did not violate the defendant's Fifth Amendment rights.²⁵ This was so, the Court reasoned, because compliance with the subpoena would require no testimonial act from the defendant; it was directed to, and would only require action from, the defendant's attorney.²⁶ In the course of rendering this holding, however, the Court recognized the principle that "act[s] of producing evidence in response to a subpoena [] [can have] communicative aspects of [their] own, wholly aside from the contents of the papers produced."²⁷ Inasmuch, the *Fisher* Court reserved the possibility that compliance with a subpoena (or any other production order) could trigger the privilege. The issue would turn, the Court said, on whether the production required by the subpoena would involve a "testimonial declaration" from the defendant.²⁸

The standard from *Fisher* has twice since been clarified. First, in *Doe v. United States*, the Court examined the implications of an order requiring the defendant to sign a consent directive authorizing the release of information about his foreign bank accounts.²⁹ It was illegal for the bank to release information to the United States government without the accountholder's consent; gaining access to relevant bank records, therefore, required the suspect's cooperation. In *Fisher*, it was the defendant's attorney, not the defendant himself, to whom the order was directed. In *Doe*, by contrast, it was the defendant who would be required to act. The question was whether the called-for action, authorizing the release

²² *United States v. Wade*, 388 U.S. 218 (1967).

²³ *Gilbert v. California*, 388 U.S. 263 (1967).

²⁴ *United States v. Dionisio*, 410 U.S. 1 (1973).

²⁵ *Fisher v. United States*, 425 U.S. 391 (1976). *Fisher* effectively overturned the 19th century precedent *Boyd v. U.S.*, which held that the government is barred from compelling a criminal suspect from turning over incriminating documents (or, in the vernacular of the times, "private papers"). See 116 U.S. 616 (1886). Since *Fisher*, the analytical retreat from *Boyd* has only crystallized further. See Richard Nagareda, *Compulsion "To Be A Witness" and the Resurrection of Boyd*, 74 N.Y.U. L. REV. 1575, 1578 (1999).

²⁶ *Fisher*, 425 U.S. at 399-401.

²⁷ *Id.* at 410.

²⁸ *Id.* at 409.

²⁹ *Doe v. United States*, 487 U.S. 201 (1988).

of information, would require a “testimonial declaration” from the defendant. The Court held that it would not, on the theory that while the consent directive would allow the *bank* to disclose information, the act of signing it did not disclose any information — and thus was not testimonial — in and of itself.³⁰

Twelve years later, *United States v. Hubbell* raised a similar question.³¹ The defendant was prosecuted for mail fraud and tax evasion based on documents that had come to light because of his compliance with an earlier subpoena; he argued that the evidence derived from the documents should be privileged as fruits of a testimonial act of production.³² In opposition, the government relied on *Fisher* and *Doe*, arguing that the incriminating evidence was not privileged because it was the “fruit only of a simple physical act – the act of producing the documents.”³³ The Court agreed with defendant. Focusing on the fact that the government had no preexisting knowledge of the documents produced in the response to the subpoena, the Court reasoned that the subpoena required the defendant “to make extensive use of the contents of his own mind in identifying the hundreds of documents responsive to the requests in the subpoena.”³⁴ The issue was essentially one of tailoring. In the Court’s view, compliance with the subpoena was testimonial because the subpoena was vague to an extent that compliance required the defendant to take “mental steps.”³⁵ Those mental steps, not the content of the documents themselves, triggered the privilege.

So stands the Court’s “act of production” jurisprudence.³⁶ The other two self-incrimination cases of important note — both discussed in great detail below — are *Estelle v. Smith* and *Pennsylvania v. Muniz*. In *Estelle*, the Court held that the privilege obtains during psychiatric evaluation because answering a

³⁰ *Id.* at 215-16.

³¹ *United States v. Hubbell*, 530 U.S. 27 (2000).

³² *Id.* at 31-32.

³³ *Id.* at 29.

³⁴ *Id.* at 43.

³⁵ *Id.* at 40.

³⁶ The “mental steps” standard from *Hubbell* is not without its detractors. *See, e.g.*, Michael S. Pardo, *Testimony*, 82 TUL. L. REV. 119, 184-88 (2007) (arguing that the *Hubbell* Court has a less than precise view of what testimony entails). The standard also raises new and evolving questions about the production of digital information and cyber-evidence. *See* Vivek Mohan & John Villasenor, *Decrypting the Fifth Amendment: The Limits of Self-Incrimination in the Digital Era*, 15 U. PA. J. CONST. L. HEIGHT. SCRUTINY 11 (2012). *See also* Lance Cole, *The Fifth Amendment and Compelled Production of Personal Documents After United States v. Hubbell - New Protection for Private Papers?*, 29 AM. J. CRIM. L. 123 (2002) (arguing that *Hubbell* essentially overruled *Fisher* and exploring its possible implications moving forward).

psychiatrist's questions constitutes a testimonial act.³⁷ In *Muniz*, the defendant was stopped while suspected of driving under the influence and subjected to a variety of sobriety tests. Among them was a verbal interrogation designed to assess intoxication: The stopping officer asked the defendant, "Do you know what the date was of your sixth birthday?" to which the defendant responded, "No, I don't."³⁸ A plurality of the Court held that the sixth birthday question required a testimonial response from the defendant – and was therefore privileged.³⁹ Conceptually, *Muniz* is something of a Pandora's Box; I explore its holding systematically in the next Part.

II. REASSESSING THE DOCTRINE: A COMMUNICATION-BASED VIEW OF "TESTIMONY"

For now, my goal is not to ask whether the physical-testimonial distinction ought to be discarded. It is to examine what the distinction, left intact, implies for the Mind Reader Machine. Two prominent articles have taken up this question, reconstructing the case law to theorize what motivates the Court: Michael Pardo's "Neuroscience Evidence, Legal Culture, and Criminal Procedure,"⁴⁰ and Ronald Allen and Kristen Mace's "The Self-Incrimination Clause Explained and Its Future Predicted."⁴¹ Pardo interprets the Court's holdings to suggest that "[the] government may not compel for use as evidence the content of a suspect's . . . beliefs, thoughts, doubts, hopes, wishes, desires, knowledge, and so on."⁴² Allen and Mace, meanwhile, construe "testimony," in the self-incrimination context, to refer to "the substantive results of cognition."⁴³ These views trace the same orbit. They suggest that in addition to a suspect's well-established right to refuse to *disclose* cognitive evidence, a suspect also has the right to shield certain cognitive evidence from extraction – even if the extraction requires no intentional act of disclosure. On both accounts, the question for Fifth Amendment purposes is what relationship the evidence bears to the suspect's cognition: whether it expresses mental states with propositional content (Pardo), or it reflects the

³⁷ *Estelle v. Smith*, 451 U.S. 454 (1981). This opinion is explored at some length *infra* in Part II.

³⁸ *Pennsylvania v. Muniz*, 496 U.S. 582, 586 (1992).

³⁹ *Id.* at 582-606.

⁴⁰ Michael S. Pardo, *Neuroscience Evidence, Legal Culture, and Criminal Procedure*, 33 AM. J. CRIM. L. 301 (2006).

⁴¹ Allen & Mace, *supra* note 9.

⁴² Pardo, *supra* note 40, at 330.

⁴³ Allen & Mace, *supra* note 9, at 246.

substantive results of cognition (Allen and Mace). If so, it is privileged *ipso facto*.

My skepticism about this view of “testimony” begins with the architecture of Allen and Mace’s and Pardo’s articles. Both endeavor (a) to synthesize the existing case law, and (b) to solve the “puzzle” of why the Mind Reader Machine is unacceptable. That is, they posit *as a premise* that the Machine is constitutionally forbidden and, from there, elaborate constructions of the case law. What neither article accounts for — not at all surprisingly, given their starting point — are interpretations of “testimony” that explain existing jurisprudence but *permit* the possibility of the Mind Reader Machine. They fail, in other words, to examine whether their interpretations of “testimony” are actually the most plausible constructions of the case law, once the auxiliary premise about the impermissibility of the Mind Reader Machine disappears. Taking up that mantle, I argue that the case law is ambiguous between (1) a substantive view of “testimony,” which locates the privilege in the content of what is disclosed, and would thus disallow mind-reading; and (2) a communication-based view of “testimony,” which locates the privilege in the process of disclosure, and would accordingly permit certain forms of mind-reading.⁴⁴ I argue that the latter more crisply integrates the case

⁴⁴ I am certainly not the first commentator to notice this ambiguity. However, previous treatments have tended toward the cursory side. *See* Fox, *supra* note 5; Stoller & Wolpe, *supra* note 4. Given that Pardo’s and Allen and Mace’s articles are prominent works in the field, the Court’s embrace of the communication-based view of testimony deserves a full exposition. It also bears note that “testimonial communication” does not hang in limbo because of any jurisprudential error. It is the straightforward outcome of unforeseen technological change. In their article on emerging neurotechnologies, Sarah Stoller and Paul Wolpe put the point nicely: “Although courts have generally interpreted the self-incrimination clause as protecting against the use of “testimonial” or “communicative” evidence, it is not entirely clear whether the defining quality of “communicative” is the *act* of communicating or the *product* of the communication. When courts speak of the clause as prohibiting the forced ‘disclos[ure of] the contents of [one’s] own mind,’ they refer both to the act of communicating (the disclosing) and the product of the communication (the contents of one’s mind). Until now of course, the two have been inextricably linked; in order for the contents of a person’s mind to be exposed, he had to communicate that content actively, whether by speaking, writing, gesticulating, or some other deliberate means.” Stoller & Wolpe, *supra* note 4, at 367 (quoting *Pennsylvania v. Muniz*, 496 U.S. 582,594) (1990) (internal citations omitted). In other words, in previous ages, when the extraction of cognitive evidence without a suspect’s cooperation was the stuff of fantasy, the Court could reasonably rely on the moniker “communication” to encapsulate both the process *and* the product of disclosure. *See* Fox, *supra* note 5, at 786; Stoller & Wolpe, *supra* note 4, at 367. No longer — the possibility of forcibly extracted cognitive evidence has split this dyad in two. In this sense, consternation surrounding the Mind Reader Machine goes deeper than its totalitarian valences. It raises, as no other interrogation method has before, the question of what grounds “testimony”

law — in particular, by accommodating the Court’s holding in *Muniz* and more convincingly reconstructing the Court’s theory in *Estelle* — and that it also avoids a host of line-drawing problems that vex its substantive counterpart.

A. *Pardo’s Substantive View of “Testimony”*

Pardo arrives at his theory by combining two broad principles. The first principle, reflected in *Schmerber* and the exemplar cases, is that purely physical evidence garners no protection under the Self-Incrimination Clause, even if its seizure requires a suspect to produce something “from [his] body.”⁴⁵ The second principle, codified in the “act of production” cases, is that evidence is protected if its production requires a “testimonial act,” regardless of whether the evidence would be privileged independently.

For Pardo, these two principles resolve into one overarching principle: the government “may not compel for use as evidence the content of a suspect’s propositional attitude.”⁴⁶ The concept of “propositional attitudes” refers to mental states with propositional content — for example, that “so and so is the case (e.g., that the victim was out of town during the robbery) or knowledge that such and such is the case (e.g., that the subject robbed the house).”⁴⁷ The legal principle, therefore, is that evidence is “testimonial,” and thus triggers the privilege, when two conditions are met: (a) the evidence discloses the content of a suspect’s “propositional attitudes,” and (b) the government adduces the evidence *for* that propositional content.

Pardo glosses his overarching principle with two concrete examples from the case law. The first is *Estelle v. Smith*, in which the Court held that a criminal suspect’s statements during a court-ordered psychiatric evaluation were “testimonial” for self-incrimination purposes.⁴⁸ Of specific importance to the Court — and what Pardo takes to vindicate his theory of testimony — is that the prosecution used the “substance of the suspect’s disclosures,” not some other aspect of his expression, to incriminate him.⁴⁹ Pardo’s second example is the “sixth birthday question” from *Pennsylvania v. Muniz*. After pulling over a driver suspected of driving while intoxicated, the officer asked the driver if he could

in the first place: the substance of what is produced, or the method by which it is?

⁴⁵ Pardo, *supra* note 40, at 329.

⁴⁶ *Id.* at 330.

⁴⁷ *Id.*

⁴⁸ See *Estelle v. Smith*, 451 U.S. 454 (1981).

⁴⁹ Pardo, *supra* note 40, at 330-31.

recall the date of his sixth birthday; he replied “No, I don’t [know]”; and that locution was later used as evidence of the driver’s intoxication level.⁵⁰ A four-member plurality of the Court held that the driver’s response was testimonial — and thus privileged — because it required the suspect “to communicate an express or implied assertion of fact or belief.”⁵¹ Pardo disagrees with this result. Although the answer, “No, I don’t [know],” certainly required the suspect to express *something*, it did not go to the content of the driver’s mental states, only to his level of intoxication. Therefore, under Pardo’s “propositional attitude” metric, the response was not testimonial.

B. Allen and Mace’s Substantive View of “Testimony”

Allen and Mace offer a more sweeping, if less systematic, summary of the case law. In essence, their view is that self-incrimination reaches the “substantive results of cognition,” a proposition they cull from a long genealogy of case law, beginning with Justice Brennan’s contention, in *Schmerber*, that “the privilege protects an accused only from being compelled to testify against himself, or otherwise provide the State with evidence of a testimonial or communicative nature.”⁵² To say that Allen and Mace consider *Schmerber* less than an exemplary work of legal reason would be substantial understatement. They openly ridicule Justice Brennan’s articulation of the physical-testimonial divide.⁵³ Nevertheless, following the Court, Allen and Mace take the divide as an axiomatic starting point for analyzing the self-incrimination case law.

The second case on Allen and Mace’s docket is *Estelle*, which they believe buttresses their theory. Because the Court’s evaluation of the psychiatric examination “specifically rejected the claim that the psychiatrist [in a court-ordered examination] was observing the patient’s communications simply to infer facts of his mind, rather than to examine the truth of the patient’s statements,”⁵⁴ Allen and Mace conclude that what mattered in *Estelle* was not the fact that the defendant *made* disclosures, but rather, “[what] the defendant’s communication to the doctor disclose[d],” namely, “the substantive results of [his] cognition.”⁵⁵

⁵⁰ See 496 U.S. 582 (1990).

⁵¹ *Id.* at 597.

⁵² Allen & Mace, *supra* note 9, at 260 (citing *Schmerber v. California*, 384 U.S. 757, 761).

⁵³ *Id.* at 260 (referring to the “obvious flaw” in Justice Brennan’s view).

⁵⁴ *Id.* at 269 (citing *South Dakota v. Neville*, 459 U.S. 553, 562 n.12 (1983) (citing *Estelle v. Smith*, 451 U.S. 454 (1981)).

⁵⁵ *Id.*

Allen and Mace's next case is *U.S. v. Doe*. They draw strength from the Court's holding that an order that compelled a defendant to authorize account disclosures did not involve a testimonial act. This harmonizes, Allen and Mace argue, with their substantive view of testimony: the important point is that by complying with the order, defendant "had to use his will or faculty of deliberate action to follow directions in signing his name," but that he did not have to "disclose the substantive results of cognition."⁵⁶ And this distinction replicates itself, they argue, in the other "act of production" cases as well.⁵⁷

Last, but most definitely not least, Allen and Mace turn to *Muniz*, which they regard as "the only datum not obviously explained by [their] theory" – specifically, the sixth birthday question. *Muniz* is problematic for Allen and Mace for the same reason that it is problematic for Pardo: although "[i]t is true that cognition is involved in knowing one's [birthday, the] revelation of the substantive knowledge is not incriminating."⁵⁸ However, while Pardo concedes that his theory predicts a different result than the *Muniz* plurality and leaves it at that, Allen and Mace rail against the plurality's view. First, they make sure to emphasize that only four Justices signed on to the content of Justice Brennan's plurality opinion.⁵⁹ Second, they explain the whole case away as an aberration: "Never before or since," write Allen and Mace, "has the Court held that a physical or psychological process deserves protection independent of its substantive results."⁶⁰ Whether this is entirely accurate, I examine in more detail below.

C. Why Both Substantive Views Are Ambiguous

A common current of ambiguity runs through Pardo's and Allen and Mace's theories. In both articles, virtually every data point offered in defense of the substantive view of testimony is

⁵⁶ *Id.* at 271.

⁵⁷ "All subpoenas," they write, "involve cognition." *Id.* at 272. The question, post-*Hubbell*, is what the parameters of "testimony" will be – which is exactly what Allen and Mace believe future jurisprudence about subpoena compliance vis-à-vis the self-incrimination privilege will address. In fact, they dedicate the entire end of their article to this question. *Id.* at 277-93.

⁵⁸ *Id.* at 276.

⁵⁹ Indeed, they go so far as to suggest that Justice Marshall's opinion — formally the fifth vote for the Court — should be read against the grain of its literal meaning. *Id.* at 275-76 ("Although Marshall stated that the sixth birthday question is testimonial, his vote on this issue is undermined by his failure to agree with Brennan about the distinction between this question and the sobriety tests. Marshall's concurrence should be read as a vote for bolstering the *Miranda* prophylactic rule and not as a vote on the competing theories of the testimonial/physical distinction."). See *infra* Part II.D.1.

⁶⁰ *Id.* at 276.

also accommodated — and predicted — by a communication-based view. Indeed, the only data point of which this is not true is the impermissibility of the Mind Reader Machine — which, of course, is not a data point drawn from the case law, but rather, a supposition of the authors’ imaginations. Once we correct for that supposition, the substantive and communication-based views of testimony fall back into conceptual parity.⁶¹

Consider the two principles that comprise Pardo’s theory. The first — that purely physical evidence is not privileged — plainly comports with the proposition that evidence is testimonial only if its production requires a suspect to engage in a communicative act. By definition, the extraction of physical evidence requires no communication from a suspect: so, it is unprivileged. Pardo’s second principle — that evidence is privileged, as in *Hubbell*, if the act of its production embeds testimonial content — also jibes with a communication-based view. In fact, the communication-based view captures the spirit of the “act of production” cases much *better* than the substantive view. On a straightforward reading of *Hubbell*, *Doe*, and *Fisher*, the fulcrum of self-incrimination analysis is the role that a suspect plays in the act of production — “mak[ing] extensive *use* of the contents of his own mind” — not the content of what is produced.

I am not saying that Pardo and Allen and Mace are necessarily wrong to marshal *Hubbell* and the rest of the “act of production” canon as evidence to their view. It is possible to parse the phrase “mak[ing] extensive use of the contents of his own mind”⁶² to refer to the content, rather than the process, of disclosure. But this is plainly the more circuitous interpretation, since it requires reading *around* the word “use.” Indeed, the *Doe* Court arrived at essentially the same conclusion when it disclaimed a content-based view of the privilege, holding, instead, that it turned on what role the suspect played in the production of evidence.⁶³ “Contrary to petitioner’s urging,” Justice Blackmun wrote, “the *Schmerber* line of cases *does not draw a distinction between unprotected evidence sought for its physical characteristics and protected evidence sought for its content.*” Rather, he continued, “the Court distinguished between the

⁶¹ In other words, if the substantive view only maintains greater explanatory power than the communication-based view insofar as the Mind Reader Machine is assumed to be unacceptable, two inferences are equally likely: first, that the substantive view of testimony is superior to the communication-based view (as Pardo and Allen and Mace conclude); and second, that mind-reading is constitutional. Without knowing more, it is simply wrong to suggest that the first inference is more natural than the second.

⁶² *United States v. Hubbell*, 530 U.S. 27, 43 (2000) (emphasis added).

⁶³ *Doe v. United States*, 487 U.S. 201, 209-10 (1988).

suspect's being compelled himself to serve as evidence and the suspect's being compelled to disclose or communicate information or facts that might serve as or lead to incriminating evidence,” and only the latter is protected.⁶⁴ Again, this is not to say that act of production cases cannot be reconciled with the substantive view of testimony. At least as to their core *holding*, if not their logic, reconciliation is certainly possible – but it is just as certainly the less parsimonious route.

Finally, and most importantly, the communication-based view accounts for *Estelle* and *Muniz* far more naturally than either Pardo's theory or Allen and Mace's. With respect to *Muniz*, this comes as little surprise, since both Pardo and Allen and Mace explain away the sixth birthday question as wrongly decided. With respect to *Estelle*, the analysis is slightly more intricate. Although the substantive view can account for the case's broad holding — that psychiatric evaluations triggers the privilege — Pardo and Allen and Mace both gloss over the full texture of the Court's reasoning. A careful reading of *Estelle* demonstrates that the Court in fact distinguishes between evaluations during which the suspect speaks and — hypothetically — evaluations during which the suspect remains silent while the psychiatrist documents observations. Insofar as this distinction hinges on the presence or absence of communication, it is strong evidence in support of the communication-based view. Indeed, as I argue in more detail below, the “silent psychiatric evaluation” hypothetical serves as a fruitful analogy for mind-reading.

D. Why the Communication-Based View of “Testimony” Is More Plausible

My claim is simple enough. If the case law does, in fact, cleave to competing interpretations of “testimony” — substantive and communication-based — the weaknesses introduced above, and expounded below, cut against Pardo's and Allen and Mace's theories, and in favor of a communication-based view. To unpack this claim, it will be useful to keep in mind the two possible forms that a substantive construction of testimony can take. The first form, which I will call the “narrow” variant of the substantive view, is what both Pardo and Allen and Mace propound: evidence

⁶⁴ *Id.* at 211, n.10 (emphasis added). For an overview of how this understanding of testimony squares with the Court's previous interpretations, see Charles Geyh, *The Testimonial Component of the Right Against Self-Incrimination*, 36 CATH. U. L. REV. 611, 634 (1987) (“In *Holt*, *Schmerber*, *Wade*, *Gilbert*, and *Byers*, the Court had referred to communications and testimony in the same breath, drawing no distinctions between them as far as their eligibility for fifth amendment protection was concerned.”).

is “testimonial” if it discloses the *content* of a suspect’s cognition, but not if it discloses only background mental states.⁶⁵ The second form, which I will call the “wide” variant of the substantive view, is broader in scope: evidence is “testimonial” if it discloses either the content of a suspect’s cognition *or* his background mental states. Although the latter construction is virtually never defended in the scholarship or the case law,⁶⁶ it serves an important analytical purpose. Namely, it encapsulates a metaphysical distinction between types of mental states that the narrow variant of the substantive view, if it is to prevail, must sustain.

1. *Reconsidering Pennsylvania v. Muniz*

The first weakness of Pardo’s and Allen and Mace’s theories is their inability to contend with the sixth birthday question from *Muniz*. The case is a puzzling one, comprised of three, uncomfortably overlapping opinions. First, Justice Brennan’s plurality opinion holds that the “sixth birthday question,” unlike the physical aspects of the field sobriety test (like walking a line), violated the Fifth Amendment because it required the driver to engage in a testimonial act.⁶⁷ Second, Justice Marshall’s concurrence formally incorporates Justice Brennan’s logic — or purports to — but also offers a different, far broader rationale: left to his own devices, Justice Marshall would privilege every aspect of the field sobriety as “testimonial,” not just the sixth birthday question, because all of the evidence goes equally to the driver’s mental state.⁶⁸ Third, Chief Justice Rehnquist, writing for the four dissenters, argues that the sixth birthday question was merely a means of ascertaining the driver’s intoxication level — and is therefore equivalent, for Fifth Amendment purposes, to the physical components of the field sobriety test.⁶⁹

In light of case’s layered complexity, and the appearance, at points, that none of the three opinions knows quite *what* to make of “testimony,” Pardo and Allen and Mace both attempt to jettison *Muniz*. On their view, the plurality erred in holding the sixth birthday question testimonial — and in any event, this view was

⁶⁵ Pardo uses the term “propositional” to denote the importance of content over form, and Allen and Mace, the term “substantive.”

⁶⁶ The best example, perhaps the only example, is Justice Marshall’s concurrence in *Muniz*, which argues for the most latitudinous construction of “testimony” that I have encountered. Justice Marshall would privilege *all* evidence that goes to a driver’s intoxication level. *See Pennsylvania v. Muniz*, 496 U.S. 582, 608 (1990) (Marshall, J., concurring in part, dissenting in part).

⁶⁷ *Id.* at 592-600.

⁶⁸ *Id.* at 608-16 (Marshall, J., concurring in part and dissenting in part).

⁶⁹ *Id.* at 606-08 (Rehnquist, C.J., concurring in part, concurring in the result, and dissenting in part).

unable to hold five votes, so it is not binding law.⁷⁰ Unfortunately for Pardo and Allen and Mace, the plurality's communication-based view of testimony is not so easily explained away. For a simple reason: it is not only the plurality in *Muniz* that embraces this view; the dissenting opinion does so as well, even as they advocate the opposite concrete holding. On scrutiny, it becomes clear that Justice Brennan and Chief Justice Rehnquist both believe that the presence of a "communicative act" is what triggers the privilege – they simply disagree about how that view applies, in practice, to the sixth birthday question. Thus, whatever else might be said of *Muniz*'s chaotic patchwork, neither bloc of Justices seems concerned, as Pardo and Allen and Mace would predict, about whether the driver's response disclosed something about his "propositional" or "substantive" mental states. Indeed, no Justice seemed interested in what the driver's response disclosed at all.

To begin with, the plurality opinion: Justice Brennan's analysis of the sixth birthday question opens by considering the government's theory that the question "Do you know what the date was of your sixth birthday?"⁷¹ was simply aimed to procure evidence about the driver's intoxication level and should therefore be permitted. Justice Brennan believes this theory to "address[] the wrong question."⁷² To his mind, the observation

"that the 'fact' to be inferred might be said to concern the physical status of Muniz's brain merely describes the way in which the inference is incriminating. The correct question for present purposes is whether the incriminating inference of mental confusion is drawn from a testimonial act or from physical evidence."⁷³

The question, in other words, is not what the answer "No, I don't [know]" might allow a fact-finder to infer, but rather, whether the act of answering was physical or testimonial in the first place.⁷⁴

⁷⁰ Or, one might say, it received four *and a half* votes, since it is not clear how far, or to what exactly, Justice Marshall intended his concurrence to reach. As Allen and Mace point out, "Although Marshall stated that the sixth birthday question is testimonial, his vote is undermined by his failure to agree with Brennan about the distinction between this question and the sobriety tests." Allen & Mace, *supra* note 9, at 276. For this reason, they advocate disregarding the literal meaning of Justice Marshall's words in favor of an analytically favorable meaning. *Id.* See also *supra*, note 59.

⁷¹ *Muniz*, 496 U.S. at 583.

⁷² *Id.* at 593.

⁷³ *Id.*

⁷⁴ See Stoller & Wolpe, *supra* note 4, at 367 ("[T]he [*Muniz*] Court found that it is the testimonial (or communicative) aspect of the evidentiary *act* that garners

And as to *that* question, Justice Brennan found the answer obvious: trying and failing to recall the date of one's birthday is a clear instance of "testimony."

Next, Justice Brennan doubles down on this view of testimony by reconstructing *Schmerber*, which also concerned the offense of driving while intoxicated.⁷⁵ In that case, the Court (Justice Brennan, in fact) held that a compelled blood test, designed to measure intoxication level, was not privileged because it required no testimonial act.⁷⁶ Revisiting the *Schmerber* result in *Muniz*, Justice Brennan draws a categorical distinction between the two cases. In his words, "[H]ad the police [in the *Schmerber* case] instead asked the suspect directly whether his blood contained a high concentration of alcohol" — that is, instead of physically drawing his blood and testing it — the suspect's "affirmative response would have been testimonial even though it would have been used to draw the same inference concerning his physiology."⁷⁷ So, too, in *Muniz*: the proper inquiry regarding the sixth birthday question is not "whether a suspect's 'impaired mental faculties' can fairly be characterized as an aspect of his physiology, but rather whether [the suspect's] *response* to the sixth birthday question that gave rise to the inference of such an impairment *was testimonial in nature*."⁷⁸ For Justice Brennan, the answer is a resounding yes. Defining communication as an act that "explicitly or implicitly relate[s] a factual assertion or disclose[s] information,"⁷⁹ he holds the driver's answer, "No, I don't [know]," to fall under the privilege's scope.

It comes as no surprise, of course, that this holding cuts against Pardo's and Allen and Mace's substantive construction of "testimony." Both articles openly admit of their inability to explain the *Muniz* holding, and both, likewise, take steps to downplay the opinion's salience to their theories.⁸⁰ The success of these efforts, however, rises and falls on the implicit proposition that Chief Justice Rehnquist's dissenting opinion in *Muniz* rejects Justice Brennan's communication-based view of testimony. No, alas. It is true that, as to the concrete question of whether the answer "No, I don't [know]" is testimonial, Chief Justice Rehnquist disagrees with Justice Brennan: he would hold the answer non-testimonial because it goes to the same basic issue as the physical sobriety test

Fifth Amendment protection. What the act conveys (the level of *Muniz*'s intoxication or the physiological status of his brain) is irrelevant.").

⁷⁵ *Muniz*, 496 U.S. at 591-93.

⁷⁶ *Schmerber v. California*, 384 U.S. 757 (1966).

⁷⁷ *Muniz*, 496 U.S. at 593.

⁷⁸ *Id.* at 593-94 (emphasis added).

⁷⁹ *Id.* at 594 (quoting *Doe v. United States*, 487 U.S. 201, 210 (1988)).

⁸⁰ See *supra* notes 50-51 & 59-60 and accompanying text.

— impairment due to intoxication — and the fact that one test measures the impairment of a physical faculty, while the other test measures the impairment of a mental faculty, is irrelevant. The crucial point, however, is that Chief Justice Rehnquist actually *agrees*, in broad strokes, with Justice Brennan’s understanding of “testimony” — he simply disagrees, on a more granular level, about its application to the sixth birthday question in particular. Criticizing the plurality opinion, Chief Justice Rehnquist argues that “[t]he need for the use of the human voice does not automatically make an answer testimonial,”⁸¹ and that the real question is whether the answer was “communica[tive]” and extort[ed]” from the suspect using “physical or moral compulsion.”⁸² In this respect, Chief Justice Rehnquist finds *Muniz* to fall short on the facts: the sixth birthday question, in his view, was nothing more than an ad hoc means of assessing sobriety, and the response “No, I don’t [know]” is the same, for self-incrimination purposes, as, say, the locution “I can’t see the letters” uttered by a suspect forced to undergo an vision exam — which would clearly not be privileged.⁸³

The dissent’s underlying theory of testimony is thus no different *in concept* from that of the plurality opinion; it is different only in result. Although Justice Brennan asserts that, “the vast majority of verbal statements [] will be testimonial,” he also acknowledges, echoing Chief Justice Rehnquist, that not *every* verbal statement is testimonial.⁸⁴ In fact, Justice Brennan is perfectly comfortable reserving space for non-testimonial verbal acts. Just as there is a difference between asking a suspect to produce a prescribed handwriting sample and asking a suspect to compose his own composition — the latter would be privileged, where the former would not be — so, too, is there a difference between verbal acts that are nothing more than mechanical and verbal acts that require the speaker to make a communicative assertion.⁸⁵ For Justice Brennan, the sixth birthday question is an example of the latter. He would distinguish between, on the one hand, an officer asking a DWI suspect “What was the date . . . of your sixth birthday?” and on the other hand, the same officer asking the same suspect to repeat a tongue twister, even if both go

⁸¹ *Id.* at 607 (Rehnquist, C.J., concurring in part, concurring in the result, and dissenting in part) (citing *United States v. Wade*, 388 U.S. 218, 222-23 (1967)).

⁸² *Id.* (citing *Holt v. United States*, 218 U.S. 245, 252-53 (1910)). In the same analysis, Chief Justice Rehnquist approvingly cites *Schmerber* as well.

⁸³ *Id.* at 608.

⁸⁴ *Id.* at 597 (majority opinion) (citing *Doe v. United States*, 487 U.S. 201, 213 (1988)). (“There are very few instances in which a verbal statement, either oral or written, will not convey information or assert facts”).

⁸⁵ *Id.* at 597-98.

to the underlying issue of intoxication.⁸⁶ Ultimately, it is *this* distinction, not Justice Brennan’s background conception of testimony, with which Chief Justice Rehnquist takes issue. He rejects the formalism of Justice Brennan’s approach – and instead emphasizes the functional equivalence of a physical sobriety test and the sixth birthday question.⁸⁷

In this light, *Muniz* becomes far more problematic for Pardo and Allen and Mace than initial appearances imply. If it is not just the plurality opinion but also the dissent that has to be explained away, their rhetorical strategy — disparaging the force of Justice Brennan’s opinion — fails to shoulder its burden. In addition to sidelining the plurality’s communication-based view of “testimony,” Pardo and Allen and Mace would either have to (a) demonstrate that Chief Justice Rehnquist’s dissent does not adopt the same communication-based view, or (b) disparage the dissent alongside the plurality opinion. For the reasons just described, I find route (a) untenable; it seems to me that Chief Justice Rehnquist openly pledges fealty to the same communication-based view of testimony as the plurality opinion, even as his conclusion diverges from Justice Brennan’s. And route (b) would require Pardo and Allen and Mace to justify why their theories — self-styled as “descriptive”⁸⁸ — persist unscathed despite being manifestly unable to *describe* the motivations of virtually the entire Court.⁸⁹

⁸⁶ See *id.*

⁸⁷ In fact, the dispute between the plurality and dissent can be delineated even more narrowly. Not only do Justice Brennan and Chief Justice Rehnquist concur on the “enforced communication” view of testimony, *compare id.* at 607 (Rehnquist, C.J., concurring in part, concurring in the result, and dissenting in part) (citing *Schmerber v. California*, 384 U.S. 757, 765 (1966)), *with id.* at 593; they also agree about what separates testimonial communication from non-testimonial communication. Namely, the former, unlike the latter, “subject[s] [a] suspect to the truth-falsity-silence predicament,” *id.* at 608 (Rehnquist, C.J., concurring in part, concurring in result, and dissenting in part), that is, to the “cruel trilemma” of perjury, self-incrimination, or contempt. Thus, the only lasting difference between the two views is that Justice Brennan believes the sixth birthday question “confronted [the driver] with the trilemma,” *id.* at 599 (majority opinion), whereas Chief Justice Rehnquist does not. *Id.* at 608 (Rehnquist, C.J., concurring in part, concurring in the result, and dissenting in part). Neither Justice interprets “testimony” in substantive terms, of either the wide or narrow variety discussed above. Rather, *both* interpret “testimony” in terms of communication and quibble, from there, about the practical implications of that view.

⁸⁸ See Allen & Mace, *supra* note 9 at 249-50; Pardo, *supra* note 40, at 328-36.

⁸⁹ Nor does it help their cause that *Muniz* — along with *Estelle* — is one of the only cases in existence that speaks directly to the question of “testimonial communication.” It would be one thing to prune away an on-point precedent in a doctrinally lush area of law. It is quite another to prune away one of the *only* on-point precedents in a relatively sparse area.

I have my doubts. While one ruling, promulgated by one particular composition of Justices, does not determine the whole of doctrine, neither is one ruling irrelevant, especially in so fallow a jurisprudential landscape. Perhaps in tacit recognition of this predicament, Allen and Mace close their discussion of *Muniz* with one final gambit: writing *Muniz* off as an aberration. “Never before or since,” they write, “has the Court held that a physical or psychological process deserves protection independent of its substantive results.”⁹⁰ This, however, is not necessarily true. It would be more accurate to say that the Court has never squarely had the *opportunity* to decide whether a physical or psychological process deserves protection independent of its substantive results. When it has upheld the use of compelled “physical” evidence like blood tests and handwriting samples, the Court has not commented on the intricacies of protection – sensibly, since there was no protection on which to expound. And when the Court has held acts of production (like responses to subpoenas) protected, its opinions have been ambiguous.⁹¹ Indeed, after *Muniz*, the closest the Court has come to directly confronting the issue of what protection “psychological processes [deserve] independent of [] substantive result” is *Estelle*,⁹² which addressed the Fifth Amendment status of psychiatric evaluations. I read *Estelle* in some detail below. The short answer, however, is that it, too, hews toward a communication-based view of testimony.

2. *Reconstructing Estelle v. Smith*

The second weakness of Pardo’s and Allen and Mace’s theories is their reliance on a tenuous metaphysical distinction between the content of cognition — knowledge *of* or believe *that* — and background states of mind like drunkenness or agitation. Much turns on this distinction. It is what divides the narrow variant of the substantive view from its wider counterpart. Indeed, absent this distinction, Pardo’s and Allen and Mace’s theories would reach all evidence that discloses something about a suspect’s background state of mind. Which is to say, all observations — by any party, and under any circumstance — that invite speculation about how a suspect feels (e.g., that a suspect was upset, that a suspect was tired, etc.) would be privileged. This understanding of “testimony” might be normatively endearing. But it bears no relation to doctrinal reality.

⁹⁰ Allen & Mace, *supra* note 9, at 260.

⁹¹ *Supra* Part II.C

⁹² *Estelle v. Smith*, 451 U.S. 454, 454 (1981)

Like many metaphysical distinctions, the difference between specifiable knowledge and beliefs, on the one hand, and background “states of mind,” on the other, has enormous intuitive appeal. Surely, the thought goes, there *must* be difference between my being angry or intoxicated, and, say, my belief that President Obama has done a good job as President, or my knowledge that a body is buried in my backyard. While types of data speak, in a broad sense, to my cognition, the latter, unlike the former, seems to be the outcome of cognitive processes – approval of President Obama represents a belief to which I have consciously come, just the presence of a body in my backyard represents a piece of knowledge of which I am consciously aware. However they are precisely characterized, the important point is that both mental states seem “higher level” than anger or intoxication – a stratification that enjoys a rich legacy in Western thought.⁹³

I reserve the fuller contours of this distinction to the metaphysicians.⁹⁴ For our purposes, the important point is that at an *evidentiary* level, the boundary between higher-level cognition and background mental states often becomes blurry. In a particular way: evidence about higher-level cognition often serves as evidence *of* background mental states, or vice versa. When this happens, a puzzle arises: What is the test for determining if a piece of evidence is substantively “testimonial”? Is it whether the evidence records the content of higher-order knowledge or belief states? Or is it whether the evidence is used to demonstrate the existence of particular knowledge or belief states? Or, finally, must both elements be met simultaneously?

To concretize this distinction, consider *Estelle v. Smith*. In *Estelle*, the Court held that the right to silence applies to post-conviction psychiatric evaluations, since they compel a convicted suspect to make potentially incriminating disclosures.⁹⁵ *Estelle*

⁹³ See Stephen Schiffer, *Propositional Content*, in OXFORD HANDBOOK OF PHILOSOPHY OF LANGUAGE 267 (Ernest Lepore & Barry Smith eds., 2008) (reviewing scholarly accounts of higher-order cognition). Something of this is also captured in the classic philosophical distinction between *zoe* and *bios*, which both translate from Greek as “life.” *Zoe* refers to bare life, the life of animals, while *bios* refers to the life that is particular to humans – the good life. In much ancient philosophy, what distinguishes *bios* from *zoe* is precisely *logos*, the capacity of human beings to rationally interpret their world. See GIORGIO AGAMBEN, *HOMO SACER: SOVEREIGN POWER AND BARE LIFE* (1998).

⁹⁴ Indeed, it might be said to be a weakness, in itself, that Pardo’s and Allen and Mace’s theories embed a distinction that requires a large helping of metaphysics to parse. At the same time, of course, it is precisely distinctions like these — however fleeting or spurious — that lawyers are paid handsomely to draw. Cf. ANTHONY KRONMAN, *THE LOST LAWYER* (1992).

⁹⁵ Because of the posture of *Estelle*, the Court’s holding only reached the issue of whether a Miranda warning was required before the evaluation. The point, however, stands.

showcases the complexity that can result from the dynamic between background mental states and higher-order cognition. The Court held the psychiatrist's report privileged because "[his] diagnosis, as detailed in his testimony, was not based simply on his observations of respondent. Rather, [the psychiatrist] drew his conclusions largely from respondent's account of the crime during their interview."⁹⁶ On the substantive view of testimony, however, this formulation is already ambiguous. Which is the important variable for determining the "testimonial substance" of the psychiatric evaluation, (1) the content of the psychiatrist's report, or (2) the content of the conversation that took place between the psychiatrist and the defendant? If both the report and the conversation disclose higher-order cognition, or both disclose background mental states, there is no issue. Things get trickier, however, if the two are misaligned. Suppose the content of the psychiatrist's report goes to a background mental state — like drunkenness — but the conversation between psychiatrist and defendant required the latter to disclose higher-order cognition. Which variable governs? In fact, the central question in *Estelle* is similar in posture to the sixth birthday question in *Muniz*. Both raise the question of what it means, for self-incrimination purposes, when higher-order cognition is *used as evidence of* background mental states.

The psychiatric evaluation in *Estelle* was adduced at a post-conviction sentencing hearing. Pursuant to Texas state law, the purpose of the hearing was to assess the defendant's "future dangerousness."⁹⁷ As a matter of fact, what the psychiatrist's report concluded about "future dangerousness" was that Smith, the defendant, "[was] a severe sociopath."⁹⁸ The psychiatrist cites many data points to support his conclusion: "[Smith] will continue his previous behavior" and "only get worse"; "[Smith has no] regard for another human being's property or for their life, regardless of who it may be"; he "is going to go ahead and commit other similar or same criminal acts if given the opportunity to do so"; and he "has no remorse or sorrow for what he has done."⁹⁹ All of these discrete propositions are drawn from the psychiatric evaluation. In other words, they stem from Smith's disclosure of his higher-order belief states to the psychiatrist. If those disclosures were adduced to prove the truth of their content, they would be undeniably "testimonial" on the narrow-substantive view of testimony. The difficulty is that they were *not* adduced to prove the

⁹⁶ *Estelle*, 451 U.S. at 464.

⁹⁷ *Estelle*, 451 U.S. at 456 (citing TEX. PENAL CODE ANN. § 1257(b)(2)(Vernon 1974)).

⁹⁸ *Id.* at 458-59.

⁹⁹ *Id.* at 459-60.

truth of their content; they were adduced to prove that Smith, if released, would continue to pose a danger to society.

How, then, should the psychiatrist's conclusions be evaluated? Some of them certainly go to the content of Smith's higher-order cognition — for example, that Smith lacks remorse — so those, presumably, should be privileged. Yet other of the psychiatrist's conclusions — like the proposition that Smith is likely to continue his behavior in the future — are more ambiguous. This proposition seems to have less to do with Smith's higher-order cognition (what belief or knowledge does it embed?) than with his general state of mind. The psychiatrist's contention that Smith is likely to commit the same kinds of crime in the future might *rely on* Smith's higher-order cognition — it was the psychiatrist's construction of Smith's disclosures that allowed him to reach the conclusion he did — but it is not clear that this renders the psychiatrist's contention “testimonial” under the narrow-substantive view. The *Muniz* case nicely illustrates this point. Both Pardo and Allen and Mace understand the answer to the sixth birthday question as non-testimonial because it is adduced to establish the driver's intoxication level, not to prove anything about the content of the driver's cognition. As Pardo puts it: “[the] answer would not be ‘testimonial’ because the *content* of the answer would not be incriminating; the question would only test the defendant's mental acuity at the time, which may be incriminating for reasons other than content.”¹⁰⁰ On this interpretation, what matters is whether a piece of evidence (in this case, the answer “No, I don't [know]”) is used to demonstrate the existence of a particular knowledge or belief state; that the evidence records the content of a suspect's belief or knowledge is insufficient, on its own, to render the evidence testimonial.

Fair enough — but now *Muniz* and *Estelle* have splintered apart. When the psychiatrist relied on Smith's higher-order disclosures to conclude that he is likely to commit crimes in the future, I fail to see a distinction between this — in terms of its formal operation — and the police officer relying on the driver's higher-order disclosures to conclude that he is drunk. To be clear, on the actual facts of *Estelle*, the psychiatrist's evaluation did report Smith's higher-order mental states — I am not saying, therefore, that the holding in *Estelle* is irreconcilable with the narrow-substantive view. What I *am* saying is that a slightly modified version of the psychiatric evaluation, one that involves only conclusions that go to background mental states, poses a problem for the narrow-substantive view. Imagine a psychiatric report that simply concludes a defendant is “unstable” and “likely

¹⁰⁰ Pardo, *supra* note 40, at 331.

to commit felonies in the future.” Imagine, further, that this report is based on a lengthy interview with a suspect — which required the suspect to disclose the content of his higher-order cognition — but that no mention is made, in the report itself, of the content of those disclosures.

Here, just as in the sixth birthday question from *Muniz*, a record of higher-order cognition would be used to establish the existence of a background mental state. What, then, should we make of this hypothetical psychiatric report?¹⁰¹ If it is impermissible, then I fail to see how the answer to the sixth birthday question can be permissible. On Pardo’s and Allen and Mace’s account, both should be problematic for the same reason, namely, that they use the substance of a suspect’s disclosures against him, to infer something about his background mental state. If, on the other hand, the hypothetical psychiatric report is permissible, the underlying metric of “testimony” has subtly transformed. Substance has given way to *function*: testimony does not turn on what type of mental state (background or higher-order) a piece of evidence records, but rather, on whether the purpose of the evidence is to establish the existence of higher-order mental states. Resolving one problem, however, this solution produces another. Namely, if the state may use a defendant’s higher-order knowledge and belief against him as long as it is for the purpose of establishing background mental states, then *any* method of seizing cognitive evidence — including the Mind Reader Machine — ought to be allowed. In other words, if the privilege is construed to reach the use rather than the content of propositional mental states, the narrow-substantive view is really no argument against mind-reading. It is an argument, rather, about how evidence procured from a Mind Reader Machine can be used. For example, it would be permissible on this view to use the Machine to determine whether a suspect is intelligent or has a learning disorder, since both of these are background mental states, not higher-order knowledge or belief. And it would also be permissible to use the Machine to find out incriminating physical information — for example, that the suspect’s right fist hurts (in, say, an assault case) or that he recently had plastic surgery (in a case where identity is under dispute).

In short, if “testimony” turns on what a piece of evidence causes a finder of fact to *infer*, rather than the knowledge or belief states that the evidence records, all of these uses of the Mind Reader Machine — and presumably a great many others — would

¹⁰¹ Notably, it is only “hypothetical” in its specific contours, not its essence — it shares a conceptual core with the actual report from *Estelle*. See *infra* Part II.E.

be allowed.¹⁰² And if the opposite is true, and testimony turns on what a piece of evidence records, then the sixth birthday question from *Muniz* cannot possibly be allowed. Either way, proponents of the narrow-substantive view have much to explain.

3. *Shoring Up the Communication-Based View*

Keeping all of the foregoing in mind, I now reconstruct the communication-based view of testimony more carefully. As a preliminary matter, it bears noting that the communication-based view effortlessly predicts the holdings of both *Estelle* and *Muniz*: both the psychiatric evaluation and the answer to the sixth birthday question are problematic because they force the suspect to engage in a potentially incriminating communicative act, namely, verbally reporting the results of his higher-order cognition.¹⁰³ What is more, the communication-based view would predict that *Muniz* is a far more difficult case than *Estelle*, since the “communicative act” in *Muniz* could easily be re-described as non-communicative while the equivalent act in *Estelle* could not. In other words, there is room within the communication-based interpretation of testimony to interrogate what counts as “communication” – and it is easy to see how Chief Justice Rehnquist and his co-dissenters decided that the driver’s answer to a programmatic question like “Do you know the date of your sixth birthday?” is best understood as non-communicative, the equivalent of participating in a line-up and being forced to read from a script.¹⁰⁴ In *Estelle*, by contrast, the psychiatric evaluation unquestionably required the suspect to engage in communicative acts; the very purpose of the examination was to induce Smith to share his experience with the psychiatrist, in dialogue form. This clearly falls within the privilege’s scope.

If the communication-based view renders *Muniz* a closer case than *Estelle* — just as the Court’s composition of opinions attested to — it also predicts that *Estelle* would become far more difficult if the psychiatrist observed Smith in silence instead of

¹⁰² This view may be conceptually sound, but it plainly fails to capture the intuition that Pardo and Allen and Mace mean to vindicate. *See, e.g.*, Allen and Mace, *supra* note 9, at 248-49 (painting a hypothetical Mind Reader Machine scenario in which only physiological data is extracted).

¹⁰³ Of course, for Fifth Amendment purposes, it would not have to be “speech” in the sense of a fully formed verbal act. It could be any form of gesture or conveyance. *See, e.g.*, United States v. Wade, 388 U.S. 218, 223 (1967) (describing the privilege as extending to “an accused’s ‘communications’ in whatever form, vocal or physical”) (citing *Schmerber v. California*, 384 U.S. at 757, 764 (1966)).

¹⁰⁴ *Pennsylvania v. Muniz*, 496 U.S. 582, 607 (1990) (Rehnquist, C.J., concurring in part, concurring in the result in part, and dissenting in part).

asking him verbal questions. This would be a more difficult case because it would be less clear, under those facts, that a “communicative act” had transpired. This prediction, too, is borne out by *Estelle*. The Court’s opinion rests on the view that the psychiatrist’s observations “[were] not based simply on his observation of respondent,” but rather, on listening to “[Smith’s] account of the crime during their interview.”¹⁰⁵ In crafting this conclusion, the Court explored the possibility that had the psychiatrist merely observed Smith, the analysis might be different for Fifth Amendment purposes.¹⁰⁶ Indeed, the Fifth Circuit, in its opinion below, suggested explicitly that if the psychiatrist had simply “drawn his conclusion from Smith’s manner or deportment, his attention span or facial expressions,” the evidence would likely pose no Fifth Amendment problem.¹⁰⁷

The *Estelle* Court neither endorsed nor disparaged the Fifth Circuit’s view; it left the matter unresolved.¹⁰⁸ But this, in and of itself, is salient. That the Court recognized a doctrinally meaningful distinction between cognitive evidence drawn from observation and cognitive evidence drawn from communicative acts *already* suggests the cogence of the communication-based view of testimony. Pardo and Allen and Mace both seek refuge in the *Estelle* Court’s use of the term “substance” in the following statement of law: “[t]he Fifth Amendment privilege . . . is directly involved here because the State used as evidence against respondent the substance of his disclosures during the pretrial psychiatric examination.” This statement, however, is ambiguous all the way down – the phrase “the substance of his disclosures” integrates *both* interpretations of testimony, since it invokes both substance and communication (“disclosures”) simultaneously. Does the Court mean that the psychiatric evaluation was problematic because it disclosed the content of Smith’s mental states — as the word “substance” implies — or does it mean that the evaluation was problematic because it required Smith *himself* to disclose his mental states — as the word “disclosures” implies? The former interpretation would bar the evaluation outright, regardless of the method by which Smith’s mental states were

¹⁰⁵ *Estelle v. Smith*, 451 U.S. 454, 464 (1981).

¹⁰⁶ In other words, the Court accepted the government’s theory that observational evidence is non-testimonial; it simply disagreed with the application of that standard.

¹⁰⁷ *Smith v. Estelle*, 602 F.2d 694, 704 (5th Cir. 1979).

¹⁰⁸ It did raise concerns, briefly, about the reliability of purely observational evidence. *Estelle*, 451 U.S. at 472. But these concerns, of course, are inapplicable to the Mind Reader Machine; they pertain to exactly the shortcoming the Mind Reader Machine is supposed to help overcome.

recorded; the latter interpretation would only bar an evaluation that required Smith to *offer* his mental states for recording.

The Court's treatment of the "observation-only" hypothetical cuts strongly in favor the latter interpretation. If the point of *Estelle* were what Pardo and Allen and Mace suggest — that any evidence from a psychiatric evaluation that discloses the suspect's mental states is disallowed — the Court's discussion of the difference between observation and communication would be in vain.¹⁰⁹ It would not be necessary to even flirt with this distinction, because on the substantive view, nothing turns on it. Whether or not the suspect is *communicating* anything when the psychiatrist observes him, the extracted evidence — the psychiatrist's report — certainly discloses the suspect's cognition.¹¹⁰ That is just the point: the psychiatrist's skills are being used precisely to interpret something about the suspect's mental world.

To support the construction of *Estelle* as supportive of their substantive view, Allen and Mace cite to *South Dakota v. Neville*, a case that came down two years after *Estelle*. The question presented in *Neville* was whether it violated the Fifth Amendment for the state to introduce a suspect's refusal to submit to a voluntary blood sample as incriminating evidence.¹¹¹ Justice O'Conner wrote for the Court; in dictum, she invoked the psychiatric evaluation in *Estelle* as an example of "of seemingly physical evidence that nevertheless invokes Fifth Amendment protection."¹¹² According to Justice O'Conner, the *Estelle* Court "specifically rejected the claim that the psychiatrist was observing the patient's communications simply to infer facts of his mind, rather than to examine the truth of the patient's statements."¹¹³

It is easy to see why Allen and Mace take Justice O'Conner's words to bolster their substantive view. She appears to be saying that psychiatric examinations pique Fifth Amendment scrutiny insofar as they go to the content — in Allen and Mace's vernacular, the "substance" — of the suspect's disclosures. As they put it, while the information extracted from the psychiatric

¹⁰⁹ It is a well-established canon of construction that legal texts ought to be construed in a manner that renders inclusions meaningful rather than redundant. See, e.g., Nancy Staudt, *Judging Statutes: Interpretive Regimes*, 38 LOY. L.A. L. REV. 1909, 1932-34 (2005).

¹¹⁰ The same ambiguity from above, of course, is reproduced here. Do the psychiatrist's observations go to the content of the suspect's cognition, or only to his background mental states? I examine this issue more fully in the next Section, when I explore the full implications of the analogy between the Mind Reader Machine and the observation-only psychiatric exam. See *infra* Part II.E.

¹¹¹ *South Dakota v. Neville*, 459 U.S. 553 (1983).

¹¹² *Id.* at 562 n.12.

¹¹³ *Id.*

evaluation “could be considered medical like the blood in *Schmerber*,” the privilege “is still implicated [because the suspect] is compelled to compare the meaning of the doctor’s statements with his own knowledge and experiences and to arrive at incriminating substantive answers which are then extracted through compulsion.”¹¹⁴ And the *Neville* Court, Allen and Mace argue, “concluded that those answers would be used substantively.”¹¹⁵

This reading, however, imputes to Justice O’Conner’s words an ambition they do not independently embed. Her claim is not about the status of psychiatric evaluations in general. Rather, it goes to — and is constrained by — the specific facts of *Estelle*. It is true that in *that* case, the Court “specifically rejected the claim that the psychiatrist was observing the patient’s communications simply to infer facts of his mind.”¹¹⁶ But that is because the psychiatrist in *Estelle*, as matter of fact, did *not* just observe the patient — he talked to the patient, and he based his conclusions on what the patient communicated. The more important point is that the *Estelle* Court did not foreclose the possibility of an observation-only psychiatric evaluation. It precisely *invited* that possibility. Allen and Mace thus have the point backwards: by “reject[ing] the claim that the psychiatrist was observing the patient’s communications simply to infer the facts of his mind,” *Estelle* did not settle the issue of observation-only psychiatric evaluations. Just the opposite: *Estelle* implies that if the psychiatrist *had* observed the patient simply to infer the facts of his mind, the case might resolve differently.

I am not saying that it follows from *Estelle* that an observation-only psychiatric examination poses no Fifth Amendment concerns. I am saying that in contemplating the difference between the two scenarios — observation-only psychiatric exams and other psychiatric exams — the Court makes clear that the salient variable is the presence or absence of communication. It is still possible of course, that even an observation-only evaluation would be construed to involve communication, in which case it would trigger the privilege — but the inquiry would differ materially from the way that Allen and Mace imagine. Consider the Fifth Circuit’s opinion below in *Estelle*, which explores the practical implications of the observation-only distinction more fully. To illustrate the issue posed by the observation-only exam, the Fifth Circuit sketches a spectrum of communicative acts. It suggested (1) that a

¹¹⁴ Allen & Mace, *supra* note 9, at 269.

¹¹⁵ *Id.*

¹¹⁶ *Neville*, 459 U.S. at 562 n.12.

psychiatrist’s conclusion drawn only from “manner or deportment, [] attention span or facial expressions” would most likely be admissible under the Fifth Amendment; (2) that an equivalent conclusion drawn from “the patterns of the defendant’s speech, his grammar, organization, logical coherence, and similar qualities” would be a “closer [question],” but that “arguably the Fifth Amendment would still not apply”; and finally (3) that an equivalent conclusion drawn from “the content of [a suspect’s] statements” — as in the actual facts of *Estelle* — would be privileged.¹¹⁷ As surely as these categories would be difficult to apply in practice,¹¹⁸ their basic orientation is clear: for the Fifth Circuit explicitly, and the Supreme Court implicitly, evidence from a psychiatric examination should be judged on the basis of the type of communication, if any, that it requires from a suspect.¹¹⁹

E. Applying the Communication-Based View to the Mind Reader Machine

Even if I am right, and the communication-based view of testimony prevails over its substantive counterpart, the next question is obvious: for Fifth Amendment purposes, what counts as “communication”? Black’s Law Dictionary defines “communication” as “the sharing of knowledge by one with another.”¹²⁰ This definition comports with the gloss that the Court has given “communication.” To count as a “testimonial,” communication must either “relate a factual assertion or disclose information.”¹²¹ It is clear, moreover, that “sharing” is the key component of this definition. What is it to share knowledge? The *Schmerber* plurality, for its part, suggested that communication necessarily involves “participation” from the suspect.¹²² It also

¹¹⁷ *Smith v. Estelle*, 602 F.2d 694, 704 (5th Cir. 1979).

¹¹⁸ I take this up in the next Section. *Infra* Part II.E.

¹¹⁹ See also *Jones v. Dugger*, 839 F.2d 1441, 1443-46 (11th Cir. 1988) (holding that a detective’s observational evidence of a defendant’s sanity level did not violate the Fifth Amendment because it was based solely on observations); *Cunningham v. Perini*, 655 F.2d 98 (6th Cir. 1981) (holding that it was permissible for a prosecutor to reference the defendant’s reaction to in-court testimony, even if that reaction might lead to an incriminating inference about the defendant’s decision not to testify on his own behalf, because the prosecutor’s reference was purely observational); *Mauro v. State*, 766 P.2d 59, 69 (Ariz. 1988) (incorporating *Jones* and *Cunningham* to hold that a sanity determination based on a psychiatrist’s observations did not violate the Fifth Amendment).

¹²⁰ BLACK’S LAW DICTIONARY 349 (4th ed. 1968).

¹²¹ *Pennsylvania v. Muniz*, 496 U.S. 582, 589 (citing *Doe v. United States*, 487 U.S. 201, 210 (1988))

¹²² *Schmerber v. California*, 384 U.S. 757, 765 (1966).

made reference to a suspect's "testimonial capacities,"¹²³ an invocation that Sarah Stoller and Paul Wolpe have read to imply that "the suspect must have some sort of control over the information [he or she communicates] in order to implicate the privilege against self-incrimination."¹²⁴ I agree with this inference. In a similar vein, the *Muniz* plurality held that to be "testimonial," communication must reflect a "volitional act on the part of the suspect,"¹²⁵ which Dov Fox has interpreted to mean that "evidence [counts] as "testimonial" only when it conveys a suspect's intention to communicate her thoughts."¹²⁶ Again, I agree. Finally, similar principles are at play in the act of production cases. In the words of the *Hubbell* Court, by producing documents in compliance with a subpoena, a suspect would, by his own volition, "admit that the papers existed, were in his possession or control, and were authentic."¹²⁷

These fragments orbit an elusive center. Indeed, it is precisely because the formal contours of "testimonial communication" remain so obscure that the Mind Reader Machine poses such a fruitful thought experiment for self-incrimination. Synthesizing the various strands of case law and scholarly commentary, I propose the following definition: to be "testimonial," communication must stem from an intentional act on the suspect's part that discloses information about the suspect's mental states.¹²⁸ This definition has three basic parts. First, the act must be intentional. The suspect does not necessarily have to intend to disclose the thing disclosed, but the disclosing act does have to be intentional; it cannot be unconscious. Second, the act must in actuality assert or disclose something. Third, the assertion or disclosure must reveal the content of the suspect's mind.

I have tried to render this definition as innocuously as possible, erring on the side of broadness. If the scope of intention were changed slightly, so that testimony required the suspect not

¹²³ *Id.*

¹²⁴ Stoller & Wolpe, *supra* note 4, at 368.

¹²⁵ *Muniz*, 496 U.S. at 591.

¹²⁶ Fox, *supra* note 5, at 765.

¹²⁷ *United States v. Hubbell*, 530 U.S. 27, 36 (2000).

¹²⁸ And per the doctrinal status quo, "communication" would not be limited to verbalizations. It would, rather, encompass the whole gamut of possible communicative acts. See *Braswell v. United States*, 487 U.S. 99, 122 (1988) (Kennedy, J., dissenting) ("Those assertions [contained within the act of producing subpoenaed documents] can convey information about that individual's knowledge and state of mind as effectively as spoken statements, and the Fifth Amendment protects individuals from having such assertions compelled by their own acts"); *Schmerber*, 384 U.S. at 761 n.5 ("A nod or head-shake is as much a 'testimonial' or 'communicative' act in this sense as are spoken words.").

only to act intentionally, but also to intend specifically to disclose the factual assertion or information disclosed, I might be reasonably accused of stacking the deck in my favor. On this type of narrower definition — which would only trigger the privilege in case of communicative acts that intend to convey exactly what they in fact convey to the listener — it would be substantially harder to characterize evidence from the Machine as “testimonial,” since testimony would turn on the suspect’s *intention to disclose* in the context of a mostly involuntary act.¹²⁹ More importantly, this narrower definition would fail, in my view, to capture the proposition at the heart of the Court’s act of production cases. As I read *Hubbell*, the point was not that by complying with the subpoena, the defendant necessarily *intended* to disclose potentially incriminating information about the “existence, custody, and authenticity of [] documents.”¹³⁰ The point, rather, was that by acting intentionally to produce the documents, per the subpoena’s dictate, the defendant’s intentional act of compliance *ended up* disclosing incriminating content about his mental states.¹³¹ In other words, the Court was concerned that whether or not Mr. Hubbell, in complying with subpoena order, *intended* to communicate knowledge about the alleged crime, the fact that he was able to consolidate the documents required by the subpoena — an indisputably intentional act — implies such knowledge. There was not necessarily a causal relationship between intention and

¹²⁹ The problems associated with this view would not be solely jurisprudential. The question of where to localize meaning, as between the speaker and the listener, has long plagued linguistic theory. *See, e.g.*, JOHN SEARLE, *SPEECH ACTS: AN ESSAY ON THE PHILOSOPHY OF LANGUAGE* (1969). As it stands, the question is a much closer one, namely, whether responsiveness to the Mind Reader Machine counts as an intentional act. I discuss this in the next Section. *See infra* Section III.

¹³⁰ *Hubbell*, 530 U.S. at 37-38.

¹³¹ Michael Pardo has argued quite compellingly that the *Hubbell* Court departs from an analytically murky conception of “testimony.” *See* Pardo, *supra* note 36, at 184-88. Pardo argues, *inter alia*, that the Court erroneously focuses on how *much* the act of document production required the suspect to “use his mind” rather than on the testimonial nature (or lack thereof) of the disclosures. *Id.* at 184-85. *Cf.* Geyh, *supra* note 64, at 634-36 (arguing that the physical-testimonial distinction has painted the Court into the strange position of inquiring after how much testimony is “sufficient” to trigger the privilege). Pardo’s argument is rigorous and elegant – more rigorous, in every meaningful sense, than the Court’s words. But be that as it may, Pardo’s point is essentially academic; the spirit of the *Hubbell* Court’s holding is obvious: how precisely or imprecisely the point is expressed, the Court believes that (and is concerned in their belief that) compliance with subpoena required an intentional act of information disclosure on the suspect’s part – i.e., testimony. My view, in other words, is that the *Hubbell* Court can accommodate the whole of Pardo’s epistemological critique without unsettling its doctrinal result.

communication; it was sufficient for the two to simply be coterminous in the same act of production.

This definition of “testimonial communication” also explains the three most important data points in the case law: *Schmerber* and the exemplar cases, *Muniz*, and *Estelle*. With respect to *Schmerber* — and all the exemplar cases — the definition is easy to apply. The act of, say, offering a blood sample is an intentional act, and it does disclose information (the information contained in the suspect’s blood), but the disclosure does not reflect the content of the suspect’s mind.¹³² The blood itself might allow fact-finders to draw an *inference* about the suspect’s mind, but the act of disclosure — that is, sitting for the blood sample — does not intrinsically convey information about the suspect’s mind. In both *Muniz* and *Estelle*, by contrast, the defendants were compelled to engage in intentional acts that disclosed information about their mental states. In *Muniz*, this act was answering the sixth birthday question. In *Estelle*, it was answering the psychiatrist’s questions during an evaluation.

Under the communication-based view, the Mind Reader Machine is similar to purely “observational” psychiatric exams. That is to say, the status of the evidence under the Fifth Amendment is not obvious one way or another — and the answer turns on distinctions of a finer grain than treatment of mind-reading has thus far inspired. When it comes to observation-only psychiatric evaluations, lower courts have adopted different analytical frames and come to different conclusions about their constitutional status. For example, in *Gholson v. Estelle*, the Fifth Circuit interpreted an observation-only examination to trigger the privilege, focusing on the fact that the exam was conducted *in order to* produce physiological responses as a stand-in for verbal disclosures; the psychiatrist interrogated the suspect and then observed his physiological responses, much in the same way a sophisticated polygraph would.¹³³ For the Fifth Circuit, these physiological responses, despite being in some sense purely “physical,” were in fact “testimonial in nature.”¹³⁴ The

¹³² It is possible, of course, to argue that a suspect’s compliance with a blood test, in addition to disclosing the information contained in his blood, also discloses his ability to comply with the test, which goes to the suspect’s mental state (e.g., that he has enough knowledge of the English language to understand the sentence “please lift your arm”). See Geyh, *supra* note 64, at 614-15 (characterizing virtually every act as “communicative”). To be sure, any act can be re-characterized as a “disclosure” of the ability to perform that act — but that just abuses the English language. Certain acts are disclosures (they stem from intentional, communicative origins) and others are not.

¹³³ *Gholson v. Estelle*, 675 F.2d 734 (5th Cir. 1982).

¹³⁴ *Id.* at 740.

interrogation served as a constructive “extract[ion]” of the “the defendant’s thoughts.”¹³⁵

Six years later, *Jones v. Dugger* provided a counterexample. In *Dugger*, Eleventh Circuit — following Fifth Circuit precedent — held that an observation-only psychiatric evaluation did not trigger self-incrimination concerns.¹³⁶ It distinguished *Gholson* on the grounds that in that case, the questioning had been designed to elicit physiological responses as a substitute for internal thoughts, whereas in *Dugger*, the psychiatrist had simply observed the defendant’s demeanor during conversation.¹³⁷ It was crucial to the Eleventh Circuit that none of the defendant’s disclosures — only the psychiatrist’s observations of his behavior — were used as incriminating evidence. Had the former been adduced, the court reasoned, the privilege would have triggered.¹³⁸ In drawing this conclusion, the court specifically relied on the words of the *Estelle* Court, which it understood — as I outlined above — to draw a constitutionally salient distinction between observation-only evaluations and evaluations (like in *Estelle*) that require a suspect to verbally disclose his thoughts.¹³⁹

Doctrinally, the governing question in both cases was whether the psychiatric evaluation required the defendant to engage in a “testimonial communication.” Synthesizing the cases together, and reading them through *Estelle*, three typologies of psychiatric evaluation emerge. The first is a regular evaluation: a conversation between patient and psychiatrist which allows the psychiatrist, relying on the patient’s disclosures, to draw conclusions about the patient’s mental state. This version plainly triggers the privilege. The second version is an observation-only evaluation that is designed to provoke physiological responses in the patient that stand-in for propositional disclosures. Under current Fifth Circuit law, this version also triggers the privilege. And the third version is an observation-only evaluation that is not

¹³⁵ *Id.* at 741.

¹³⁶ *Jones v. Dugger*, 839 F.2d 1441 (5th Cir. 1988).

¹³⁷ *Id.* at 1444 n. 7.

¹³⁸ *Id.* at 1444 (“[U]nlike the testimony of the examining physician in *Estelle v. Smith* that he based his conclusions on the *details* of the story that Smith had told him, [the psychiatrist] gave no indication that his opinion of Jones’ sanity was grounded in the details of Jones’ statement.”).

¹³⁹ *Id.* at 1445. The *Dugger* court embarks on a long genealogy of the relevant case law over the course of crafting its distinction between different types of observation-only evaluations. *See id.* at 1444 n.7; *see also* *Muniz v. Procnier*, 760 F.2d 588, 589 (5th Cir. 1985) (replicating the holding of *apropos* of a psychiatric evaluation that, in the court’s estimation, was clearly intended to elicit communicative physiological responses). *Cf.* *United States v. Byers*, 740 F.2d 1104 (D.C. Cir. 1984) (holding that evidence from a psychiatric evaluation may be used, even if it would violate the Fifth Amendment, to rebut an insanity defense).

designed to provoke surrogate-thought responses, but rather involves neutral observation. Under *Dugger*, this version does not trigger the privilege.

The lines separating these typologies of psychiatric evaluation, far from being settled, are ripe for debate. Whatever view one ultimately takes, it seems fair to say that observation-only psychiatric examinations provide an apt analogy for mind-reading. Both extract cognitive evidence from suspects who are not voluntarily sharing it, at least not in the form of self-reporting, and in both cases, the relevant doctrinal question is whether the mechanism, although it clearly does not involve “communication” in the everyday sense of verbal activity, induces a “communicative act” on the suspect’s part. That is, would an observation-only psychiatric evaluation, and likewise would the Mind Reader Machine, cause the suspect to engage in an intentional act that discloses information about his mental states? Of those three variables — intentionality, disclosure, and mental states — the confusing variable is intentionality. It is far from clear whether the suspect, in submitting to the Mind Reader Machine, is forced to engage in an intentional act. At least with respects to certain versions of the Machine, I believe the answer to be no. In other words, I believe there are uses of the Machine that involve no intentional communication and thus, on the definition I have proposed, are not “testimonial” for self-incrimination purposes.

Consider four different scenarios:¹⁴⁰

First scenario (“dream-catcher”): The government devises a machine that is able to capture the content of a suspect’s dreams while he sleeps. Assuming *arguendo* that the captured dream-content, as well as the subsequent interpretation of that content, is reliable, the government plans to use the captured dream-content as evidence about already-committed crimes.

Second scenario (“basic polygraph”): The government devises a machine that takes detailed biometric data from suspects — data designed to measure stress, agitation, involuntary responsiveness, etc.¹⁴¹ When the police hook up a suspect to the machine and ask him questions, his body will provide them (involuntarily) with information that may be germane to his guilt.

Third scenario (“smart polygraph”): Same as the third scenario, except that instead of taking biometric data, the machine can

¹⁴⁰ These are roughly patterned on the gradient of existing technology. See *supra* note 4.

¹⁴¹ This is almost exactly the hypothetical that Allen and Mace lay out. See Allen & Mace, *supra* note 9. It is also very similar to a traditional polygraph.

“read” the content of cognition in real time. When a suspect is hooked up to the machine and asked questions, the police will enjoy full access to his thoughts – though there is no guarantee that the thoughts are truthful.

Fourth scenario (“digital serum”): The government devises a machine that hooks up to a suspect’s brain and, at the flip of a switch, makes synapses fire in the suspect’s brain that replicate the neuronal patterns of the mental states corresponding to “interpretation,” “answer formulation,” and “truthful disclosure.” If a police officer asks a suspect a question and then flips the switch, the suspect will have no choice — because of the machine’s synaptic effect — but to interpret the question and to answer truthfully.

Of these scenarios, only the basic polygraph is remotely possible at present.¹⁴² Each scenario, however, presents novel and interesting issues, and each contributes to the overall construction of the Fifth Amendment. The first and the last, in particular, help to clarify our intuitions about what it means, or could mean, for a suspect to engage in a communicative act. How would each fare under the definition of “testimonial communication” above? In my view, evidence gathered by the dream-catcher would clearly be non-testimonial; there is no coherent sense in which it forces the suspect to engage in an intentional act. By the same token, it seems to me that the digital serum would likewise produce only non-testimonial evidence; it is designed precisely to circumvent the suspect’s intentionality.¹⁴³

In any event, the dream-catcher and the digital serum are fanciful thought-experiment, the stuff of science fiction. The polygraph scenarios, by contrast, simultaneously loom closest to reality *and* present the most perplexing type of middle case. These are scenarios in which the suspect does not appear to be “communicating” because his disclosures are not, in the usual sense, intentional.¹⁴⁴ At the same time, there is a nagging sense that the disclosures at some level require the suspect’s participation – he does, after all, have to be conscious, awake, and thinking for the extraction to work. Examining an fMRI scanner analogous to polygraphs imagined above, Sean Thompson observes that although “[t]he [suspect] may be restrained and forced into an fMRI scanner,” he is “not in any common sense ‘forced’ to do

¹⁴² See, e.g., Stoller & Wolpe, *supra* note 4, at 360-64.

¹⁴³ Of course, it is also possible to imagine arguments that cut exactly the opposite way, construing the digital serum hypothetical as the most *unacceptable* incarnation of “mind-reading,” insofar as it induces, by necessity, a communicative act. This depends, once again, on the elements of “communication.”

¹⁴⁴ See, e.g., Fox, *supra* note 5, at 792-93.

anything else, as the reactions measured are involuntary.”¹⁴⁵ Therefore, despite the “temptation” to conclude that the scanner “violat[es] [the suspect’s] thoughts,” it is “hard to avoid the characterization that an fMRI scanner is acquiring physical evidence because that is, in fact, what it is doing.”¹⁴⁶ Stoller and Wolpe reach a similar result. They tread cautiously, due to the fact that “[p]ast judicial decisions and legal commentaries do not present a clear answer as to whether [brain imaging] would be covered by the Fifth Amendment’s protection.”¹⁴⁷ But they conclude, nonetheless, that on either a “communicative act” theory of the privilege or a theory focused on “the control the suspect has over the [evidence],” brain-imaging data likely “falls outside the Fifth Amendment’s scope.”¹⁴⁸

Matthew Holloway, for his part, disagrees. Contra Thompson and Stoller and Wolpe, Holloway argues that the kind of brain activity produced by the polygraph scenarios would be “communicative” in nature.¹⁴⁹ On scrutiny, however, it becomes clear that Holloway’s metric is substantive, not communication-based. He argues that criminal suspects “should be able to invoke the privilege and prevent the government from compelling participation in a brain scan” because “[brain-imaging] technology allows [] physical operations to be expressed to third parties in a manner that *discloses a suspect’s beliefs and knowledge*.”¹⁵⁰ Holloway therefore believes the Mind Reader Machine runs afoul of the Fifth Amendment for the same reason that Pardo and Allen and Mace do: he is focused on what extracted evidence records, instead of the process by which it is recorded.

In erring, Holloway’s analysis is instructive, for it makes clear what communication is *not*. The central problem with his view is that it conflates “being stimulated” with “engaging in communication” – that is, it takes the presence of mental stimulation to imply an occurrence of a communicative act. But this difference makes all the difference. There can be no doubt that the Mind Reader Machine, even in its lighter variants, records stimulation. That is the point of the Machine: it allows law enforcement to parse how a suspect responds internally or physiologically to different *stimuli*. But what does the presence of stimulation mean doctrinally? For Holloway, stimulation is what separates brain-imaging from physical evidence. Physical evidence, he says, is “stagnant,” while evidence from brain-

¹⁴⁵ Thompson, *supra* note 4, at 346-47.

¹⁴⁶ *Id.* at 349.

¹⁴⁷ Stoller & Wolpe, *supra* note 4, at 374.

¹⁴⁸ *Id.*

¹⁴⁹ See Holloway, *supra* note 4, at 166-74.

¹⁵⁰ *Id.* at 169 (emphasis added).

imaging is “stimulus specific; it varies according to what stimuli are shown.”¹⁵¹ This, surely, is true. Less sure is its implication. From the observation that brain activity “is not a stagnant physical characteristic but a dynamic process” — because it changes with shifts in stimuli — Holloway infers that evidence of brain activity (i.e., brain-imaging) “communicates information.”¹⁵² It is, Holloway writes, the “stimulus specificity of changes” that “allows [brain-imaging] to communicate information concerning the beliefs and knowledge of the suspect.” Therefore, brain-imaging evidence is “communicative” and, by extension, protected.¹⁵³

Here, however, Holloway employs the term “communication” quite differently than the Court does. His description casts evidence as “communicative” insofar as *a viewer is able to interpret it*. But this is backwards. For the Fifth Amendment purposes, the Court has made clear that “communication” turns on the role the *communicating* subject plays, not the role the listening or observing subject plays. Holloway’s view is that brain-imaging evidence is communicative because (a) it changes dynamically in response to different stimuli, and (b) a viewer can interpret content from those changes. But these conditions are insufficient. As for (b), the observer’s role is irrelevant, and as for (a), the “dynamism” of evidence goes only to the presence of stimulation. An act of communication requires something *more* than the presence of stimulation. It requires intention on the suspect’s part; it requires him to *convey* information, above and beyond being stimulated in a way that simply *produces* information. The way the Court uses the term, as I demonstrated above, communication requires an intentional act from the suspect. By (wrongly) defining communication otherwise, Holloway’s argument implicitly highlights the importance of *intentionality* in communication: it is what distinguishes an act of communication from the mere presence of stimulation. Both may appear the same from an observer’s perspective, just as a blood sample might suggest intoxication to the same effect that asking a suspect about his sixth birthday does. But that is exactly the *point*

¹⁵¹ *Id.* at 169-70.

¹⁵² *Id.* at 170.

¹⁵³ *Id.* This “stimulus specificity” conception of “communication” invites an amusing *reductio*. Holloway’s proposition that a suspect has engaged in a “communicative act” by submitting physical evidence of brain activity cannot be kept distinct, by its own lights, from the proposition that the physical evidence of brain activity is *itself* engaged in a “communicative act.” If that were so, the logic would presumably apply to any piece of physical evidence that (a) discloses information about a suspect’s mental states and (b) has the trait of “stimulus specificity.” Blood swirling around in a test tube, for example, would be “communicating” on Holloway’s theory. Not only does this fail to sustain the relevant doctrinal boundary; it also fails the threshold test of semantic absurdity.

of the communication-based view. It does not turn on substantive output. It turns on the process of disclosure.

Of course, the distinction between communication and stimulation provides no standalone justification for the Mind Reader Machine. The distinction must be applied. To do so, the operative question is whether the production of biometric data (in the basic polygraph scenario), or the triggering of mental states (in the smart polygraph scenario), involves an intentional act on the suspect's part. In both cases, the suspect would produce information, but in neither case would the production be "intentional." The results would not be the product of his will; they would be the product, precisely, of his *un*-willed response. Another way to put the same point is to say that no aspect of the basic polygraph or the smart polygraph is *forced* on the suspect. To be forced is to have one's volition redirected. It makes sense to say, "When the sun became too bright, I was forced to close my eyes," because by that I mean, a change in external circumstances made it necessary for me, as a willing agent, to intentionally close my eyes. It does *not* make sense, by contrast, to say, "When the doctor hit my knee with her mallet, I was forced to lift my leg." If the doctor hits my knee with a mallet, I *do* lift my leg – but "force" does not perspicuously describe why. The same is true of the polygraph scenarios: in both cases, the suspect experiences stimulation in response to external stimuli (e.g., the police officer's questions), but in neither case is he forced to engage in an intentional act. Therefore, because it involves no intention, the act of producing evidence in the polygraph scenario is not "communicative." So it is unprotected.

Arguments the other way are imaginable, but they face a steep upward grade. To claim that either polygraph scenario involves communication on the suspect's part requires showing that the involuntary responses they produce are "intentional." What would this mean? The *Gholson* court provided one version of this argument when it held that an observation-only psychiatric evaluation in fact required the suspect to engage in acts of "communication."¹⁵⁴ Although those acts were "physiological" in nature, the *Gholson* court concluded that they stemmed from the suspect's "testimonial capacities."¹⁵⁵ It is unclear exactly what the Fifth Circuit has in mind here – and the mere fact that the Fifth Circuit wrote it does not, of course, make it conceptually sound. In any case, a fuller version of the argument would likely fall along the following lines. Unwilled responses from a suspect can constitute "communicative acts" if those responses are understood

¹⁵⁴ *Gholson v. Estelle*, 675 F.2d 734, 740 (5th Cir. 1982).

¹⁵⁵ *Id.*

to involve inherent “intentionality.” For this to be true, the underlying theory of intention would have to be something like this: I act intentionally whenever my heart begins to race, or whenever a thought flashes through my mind, regardless of whether these outcomes stem from my will. In other words, the theory of intentionality must be one that makes it possible to speak coherently of intentionality that inheres in the *background* mental and physical processes, rather than acting as the causal impetus *for* mental and physical processes. Thus, my heart racing, or a thought flashing through my mind, could be “intentional” acts, even if they do not stem from “intention” in the everyday sense. This view is certainly not indefensible, but it is counterintuitive. And it strikes a dissonant chord against the backdrop of criminal laws that distinguish so sharply between actions and intentions.¹⁵⁶

Ultimately, I am not trying to suggest that it is easy to define the formal elements of a “communicative act.” Nor am I trying to suggest that it will be easy to apply that definition, once formulated, to specific types of mind-reading devices. What I *am* suggesting is that (a) it is certainly not self-evident that mind-reading devices would induce “communicative acts” in a sense germane to the Fifth Amendment, and furthermore (b) to my mind, the argument runs more intuitively the other way. In any case, whatever conclusions one draws about the hypothetical devices discussed in this section, my aim is not to resolve the controversy surrounding mind-reading devices once and for all. It is to highlight, going forward, how factually and technologically specific we should expect the constitutional analysis of such devices to be – and by implication, how poorly suited the categorical approaches offered by other scholars have been to the actual task at hand.

III. JETTISONING THE NORMATIVE ARGUMENTS

Having laid out my doctrinal claim, I now turn to the normative arguments against the Mind Reader Machine. Even if my construction of the doctrine is persuasive, it could be the case — as is everlastingly true in constitutional law — that the doctrine itself stands in need of revision. A handful of scholars, after all, believe the physical-testimonial distinction to be in need of full replacement.¹⁵⁷ And many others believe that whatever doctrinal categories guide self-incrimination analysis, the Mind Reader

¹⁵⁶ See, e.g., Winnie Chan & A.P. Simester, *Four Functions of Mens Rea*, 70 CAMBRIDGE L.J. 381 (2011) (surveying the different reasons that we embed most crimes with an intentional aspect).

¹⁵⁷ See, e.g., Thompson, *supra* note 4, at 344-45.

Machine serves essentially as a *reductio* argument against overly narrow interpretations. In response, this Part works one by one through the most common normative arguments against the Mind Reader Machine. By doing so, I demonstrate that none provides lasting grounds for an outright prohibition on mind reading, although some may militate in favor of limiting its use.

One note before diving in: I have consciously shied away from normative arguments surrounding “reliability.” This is not because reliability concerns are non-existent or trivial – to the contrary, one could make a compelling case that reliability fundamentally grounds the Self-Incrimination Clause,¹⁵⁸ and likewise a reasonable prediction that reliability will be what governs the use of Mind Reader Machines (or the equivalent) in practice.¹⁵⁹ Rather, I refrain from addressing the issue of reliability for two distinct reasons. First, reliability issues permeate *all* types of evidence. As an analytical frame, therefore, reliability has nothing of specific interest to add to discussions of the Mind Reader Machine; nor is it responsive to the existing scholarly discussion of the Machine, which has pushed reliability issues to the margins in the rare instance that it has raised them at all. Second, in theory, reliability concerns plainly cuts both ways. It is easy to imagine a Mind Reader Machine that is detrimentally unreliable, but also easy to imagine a Mind Reader Machine that is far *more* reliable than other methods of extraction. Which way the arc bends in practice is an empirical question beyond the scope (or competency) of this Article.

A. *Concerns About Privacy*

The most powerful normative argument against the Mind Reader Machine is that its use would unduly encroach on individual privacy.¹⁶⁰ This claim takes a variety of forms. Sarah

¹⁵⁸ See Amar & Lettow, *supra* note 11.

¹⁵⁹ This is mainly what has guided the Court’s treatment of polygraphs and the like to date. See, e.g., Federspiel, *supra* note 15, at 870-72. And the discourse on reliability with respect to brain-imaging has already begun. See, e.g., J.R.H. Law, *Cherry-Picking Memories: Why Neuroimaging-Based Lie Detection Requires a New Framework for the Admissibility of Scientific Evidence Under FRE 702 and Daubert*, 14 YALE J.L. & TECH. 1 (2011) (discussing reliability concerns about brain-imaging as it relates to pretrial and trial admissibility).

¹⁶⁰ N.B. For the purposes of this and upcoming sub-sections, I am putting to one side the Supreme Court’s disregard — or rejection — of the normative theories discussed. See, e.g., *Fisher v. United States*, 425 U.S. 391, 399 (1976) (“the Court has never on any ground, personal privacy included, applied the Fifth Amendment to prevent the otherwise proper acquisition or use of evidence which, in the Court’s view, did not involve compelled testimonial self-incrimination of some sort.”). I aim to dissect them on a theoretical level.

Stoller and Paul Wolpe maintain that “technologies capable of uncovering cognitive information from the brain threaten to violate our sense of privacy in a new and profound way.”¹⁶¹ Robert Gerstein exhorts the importance, on privacy grounds, of allowing individuals to retain “control over information about [themselves].”¹⁶² Peter Arenella suggests that the “core value underlying the [self-incrimination] privilege’s historical development” is that of “mental privacy.”¹⁶³ Louis Michael Seidman submits that “[a]lthough a defendant who commits a crime may justly be punished and used by the state to deter others . . . his mental life remains private and immune from public coercion,” and that “compelled self-incrimination” is an example of such coercion.¹⁶⁴ B. Michael Dann, in his famous article on self-incrimination, draws reference to the “zone of privacy” safeguarded by the Self-Incrimination Clause.¹⁶⁵ And most recently, Nina Farahany laments the “discomfiting fate” that would befall “a sphere of mental privacy” if the compulsory production of cognitive evidence were allowed.¹⁶⁶

These views are deeply intuitive. Who, after all, would *not* find the Mind Reader Machine invasive? Yet the constitutionally meaningful question is not whether the Machine would impinge on privacy — which it inescapably would — but whether that impingement would be cause for constitutional alarm, and if so, what *kind* of constitutional alarm. I believe that privacy-based arguments run up against two problems. The first is that they offer no way of distinguishing background mental states from higher-order knowledge and belief. The second is that they mistake, for a Fifth Amendment problem, what is actually an issue of the Fourth.

As for the first problem, suppose, *arguendo*, that “[t]he connection that we feel to our brain is unlike the connection that we feel to any other aspect of ourselves [because the brain] enables the consciousness that that we perceive as constituting the ‘self’ or ‘I,’”¹⁶⁷ or likewise that “mental control has normative significance because our thoughts are what anchor each of us as an individual

¹⁶¹ Stoller & Wolpe, *supra* note 4, at 372.

¹⁶² Robert S. Gerstein, *Privacy and Self-Incrimination*, 80 ETHICS 87, 89 (1970).

¹⁶³ Peter Arenella, *Schmerber and the Privilege Against Self-Incrimination: A Reappraisal*, 20 AM. CRIM. L. REV. 32, 41 (1983).

¹⁶⁴ Louis Michael Seidman, *Points of Intersection: Discontinuities at the Junction of Criminal Law and the Regulatory State*, 7 J. CONTEMP. LEGAL ISSUES 97, 131 (1996).

¹⁶⁵ B. Michael Dann, *The Fifth Amendment Privilege Against Self-Incrimination: Extorting Physical Evidence from a Suspect*, 43 S. CAL. L. REV. 597, 604 (1970).

¹⁶⁶ Farahany, *supra* note 8, at 353.

¹⁶⁷ Stoller & Wolpe, *supra* note 4, at 371.

person with an uninterrupted autobiographical narrative.”¹⁶⁸ And suppose, furthermore, that these observations are strong enough to ground a constitutional privacy interest. Is there anything in these conceptions of “mental privacy” that can tell higher-order cognition (believe *that*, or knowledge *of*) apart from background mental states (like intoxication)? To answer this question, the privacy theorists propose an experiential rubric; they are concerned, quite explicitly, with the way one *feels* cognition to be important. Although it is possible to distinguish, say, my being agitated from my knowledge that a body is buried in my backyard on metaphysical or epistemological grounds,¹⁶⁹ on experiential grounds, the task is considerably harder.

But if the brain is, indeed, a constitutionally special domain of evidence, and the seizure of evidence from the brain would interfere unacceptably with “control over . . . mental life,”¹⁷⁰ I fail to see what distinguishes a desire to “control” feelings of agitation from a desire to “control” specific knowledge states. Any distinction would have to arise independently from concerns about mental privacy, and moreover, it would have to justify itself *against* concerns about mental privacy the other way. That is, a distinction would have to rationalize why background mental states are *not* worthy of protection, despite the desire for “control” that someone might feel toward them.¹⁷¹ And if background mental states *are* worthy of protection, advocates of mental privacy certainly bear the burden of demonstrating why something like a sobriety test, or a compulsory psychiatric evaluation, is not contemplated by their theory.

The second problem is far more damning than the first. Namely, privacy-based theories conflate the location of seizure — the mind — with the essence of the thing seized. That a piece of evidence comes from a location regarded as private or sacred is not grounds, customarily, for erecting a *substantive* protection. It is, rather, grounds for erecting a *procedural* protection, exercisable by the individual from whom the evidence was seized, and designed to enforce certain standards of conduct among state actors. The identification of private or sacred space, in other words, goes to the

¹⁶⁸ Fox, *supra* note 5, at 796.

¹⁶⁹ Cf. Michael S. Pardo, *Self-Incrimination and the Epistemology of Testimony*, 30 CARDOZO L. REV. 1023, 1034-35 (2008) (outlining the metaphysical problems with the physical-testimonial divide).

¹⁷⁰ Fox, *supra* note 5, at 796.

¹⁷¹ See Jed Rubenfeld, *The Right of Privacy*, 102 HARV. L. REV. 737 (1989). Rubenfeld argues that on its own, the usual accounts of privacy — such as “autonomy” or “personhood” — provide scant grounds to resolve the line-drawing problems endemic to liberalism. Conceptually, these invocations tend not to resolve the problem of governmental intrusion so much they *restate* it.

Fourth Amendment, not the Fifth.¹⁷² The natural analogy is to the home. Many people consider their homes to be sacred spaces – off limits, under normal circumstances, to state intrusion. In fact, many of our most sacrosanct privacy cases originate from intrusions into the home;¹⁷³ and the salience of the home as a private sphere is one of the few constitutional ideals that transcends partisan dispute.¹⁷⁴

Nevertheless, the sacredness of the home has never been taken to justify a “substantive” protection,¹⁷⁵ or a right of “control,”¹⁷⁶ resulting in an absolute prohibition on evidentiary seizure. Instead, what the spatial sanctity of the home justifies is precisely robust *constraints* on evidentiary seizure – and this is true not *in spite of* but *because of* the seriousness of the underlying privacy concerns.¹⁷⁷ So it is with cognitive evidence. The mind, like the home, is a place where seizures occur.¹⁷⁸ And just as

¹⁷² This is the view that Michael Pardo lays out in his article “disentangling” the Fourth and Fifth Amendments. See Pardo, *supra* note 10 at 1860, 1878-80. (observing that “[b]oth Amendments regulate government attempts to gather information from citizens,” and that the self-incrimination privilege therefore “applies to a subset of events *within* the universe of potential Fourth Amendment events” and proposing a “two-step test” for applying the Amendments, the first to ask if the search or seizure was reasonable, the second to ask if it runs up against the self-incrimination privilege). Although I disagree — for reasons thoroughly documented above — with Pardo’s interpretation of the self-incrimination privilege, I agree with his architectonic view of the Fourth and Fifth Amendment. See also Amar & Lettow, *supra* note 11, at 920-21.

¹⁷³ See, e.g., *Kyllo v. United States*, 533 U.S. 27 (2001) (holding that thermal scans of a home - to find evidence of marijuana growing - counts as a “search” for Fourth Amendment purposes); *Welsh v. Wisconsin*, 466 U.S. 740 (1984) (holding that the government bears the burden of demonstrating exigent circumstances for a warrantless arrest in the home); *Washington v. Chrisman*, 455 U.S. 1 (1982) (holding that government agents are prohibited in general from searching the home of an arrested suspect when the arrest is made outside the home). In a broad sense, *Griswold* also speaks to these themes. *Griswold v. Connecticut*, 381 U.S. 479 (1965).

¹⁷⁴ See, e.g., Orin Kerr, *An Equilibrium Adjustment Theory of the Fourth Amendment*, 125 HARV. L. REV. 476, 482-85 (2011); Orin Kerr, *The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution*, 102 MICH. L. REV. 801, 808-13 (2004); see generally Stephanie M. Stern, *The Inviolable Home: Housing Exceptionalism and the Fourth Amendment*, 95 CORNELL L. REV. 905 (2010).

¹⁷⁵ See Farahany, *supra* note 8, at 406. See also Arenella, *supra* note 163, at 42.

¹⁷⁶ See generally Fox, *supra* note 5.

¹⁷⁷ See, e.g., *Silverman v. United States*, 365 U.S. 505, 512 (1961) (“This Court has *never* held that a federal officer may without warrant and without consent physically entrench into a man’s office or home, there secretly observe or listen, and relate at the man’s subsequent criminal trial what was seen or heard.”) (emphasis added). Nor has it so held since. See *Kyllo*, 533 U.S. at 31.

¹⁷⁸ See Pardo, *supra* note 10, at 1889 (“If one has an expectation of privacy anywhere, it is likely to be in the contents of one’s own mind. Moreover, the Court has made clear that it is not necessary that for a search to occur there must

people have a reasonable expectation of privacy in their homes, which imposes on the state the burden of establishing adequate grounds for a search, people have a reasonable expectation of privacy with respect to the content of their minds.¹⁷⁹ Under standing Fourth Amendment doctrine, this expectation of privacy enacts important procedural safeguards. I operate under the assumption that the search and seizure of cognitive evidence, like the search and seizure of evidence from the home, would necessitate probable cause, either codified in the form of a warrant, or justified notwithstanding the absence of a warrant. What proponents of a substantive, privacy-based view of the Self-Incrimination Clause want is to extend the protection of cognitive evidence (or a certain sub-category of cognitive evidence) beyond this procedural threshold. They want to cast its seizure as *inherently* unreasonable. That is, even assuming that cognitive searches would be subject to the usual Fourth Amendment strictures — and perhaps tighter strictures than usual, given the sensitivities of mental intrusion — the privacy theorists argue for something more robust still: an absolute prohibition.¹⁸⁰

The proposition motivating this call for “substantive” protection is, it seems, that certain domains are *so* private, and certain types of evidence *so* sacred, that searches of those domains or seizures of those types of evidence are *never* warranted, even if the criminal justice system suffers for it. This proposition is not without intuitive force. But taking a step back, what relationship does this proposition bear to our laws of criminal procedure? Only a few types of evidence — and no spatial domains — are substantively protected in this way, but it is not because the evidence is intrinsically sacred; it is because the evidence is privileged for reasons related to the social relationships they implicate. For example, the attorney-client privilege and the doctor-patient privilege are both justified in light of the incentives

be a physical trespass or touching. Many Fifth Amendment events may qualify as seizures as well.”) (internal citations omitted).

¹⁷⁹ Presumably one that covers both higher-order knowledge and belief and background mental states. I have not seen this issue addressed explicitly. But let us assume it for the sake of argument – it only makes my claim stronger.

¹⁸⁰ It is notable that their proposals do not center on stricter elements for the issuance of warrants. This argument, it seems to me, would be considerably easier to defend. And as a practical matter, I will say that this seems like an enterprise of which we stand sorely in need. For one thing, because the doctrine is in shambles. See Craig M. Bradley, *Two Models of the Fourth Amendment*, 83 MICH. L. REV. 1468 (1985) (calling the doctrine a “mass of contradictions”). For another thing, its protections have eroded over time. See Jed Rubenfeld, *The End of Privacy*, 61 STAN. L. REV. 101, 103-07 (2008) (showing ways in which Fourth Amendment protections, under the longstanding privacy-based regime, have effectively collapsed).

they create, not any right to silence or privacy; absent such privileges, we fear that lawyers and doctors will be unable to effectively play their professional roles.¹⁸¹ The spousal privilege is more intricate because it seems grounded in something beyond sheer prudence. Although the spousal privilege does have certain valences to individual privacy, it is better understood to safeguard the integrity of the marital relationship as a whole. Two features, in particular, militate in this direction. First, in many jurisdictions, the privilege attaches to *both* spouses, not just the spouse facing prosecution, suggesting that it intends to protect the integrity of the union, not the privacy interest of one spouse or the other.¹⁸² Second, under certain circumstances, the privilege can disappear — for example, in the context of a legal action between married parties — an observation that substantially undermines the “privacy” theory.¹⁸³

In light of all that, what militates in favor of extending a substantive protection to cognitive evidence, given the absence of parallel protections in the rest of our evidentiary laws? The most interesting argument is Robert Gerstein’s claim that individuals have a right, in essence, to repent before God, a guarantee that can only be sustained in private, absent governmental intrusion. For Gerstein, “a man ought to have absolute control over the making of [certain] revelations,” such as “the admission of wrongdoing, the self-condemnation, the revelation of remorse.”¹⁸⁴ These, in Gerstein’s view, “have generally been regarded as [matters] between a man and his conscience or his God, very much as have

¹⁸¹ *Upjohn Co. v. United States*, 449 U.S. 383, 389 (1981) (describing the privilege as codifying the proposition that ““sound legal advice or advocacy serves public ends and that such advice of advocacy depends upon the lawyer’s being fully informed by the client””); *see also In re Grand Jury Proceeding*, Cherny, 898 F.2d 565, 569 (7th Cir. 1990); *United States v. Buckley*, 586 F.2d 498, 502 (5th Cir. 1978) (both advancing similar policy rationales). Another example of an evidentiary privilege with an obviously prudential cast is the privilege on evidence that involves state secrets or classified information. *Cf. United States v. Nixon*, 418 U.S. 683, 710 (1974) (stating that, in general, privileges act as “exceptions to the demand for every man’s evidence” which “are not lightly created nor expansively construed, for they are in derogation of the search for truth”).

¹⁸² *See MCCORMICK ON EVIDENCE* § 83 (Kenneth S. Broun ed., 6th ed. 2006) (noting that ““most jurisdictions now provide that both spouses hold the privilege””). Interestingly, this is not true as a matter of federal law. *See Trammel v. United States*, 445 U.S. 40, 53 (1980) (holding that only the testifying spouse holds the privilege).

¹⁸³ *See MCCORMICK ON EVIDENCE*, *supra* note 182, at § 84 (outlining types of controversies in which the spousal privilege is generally inapplicable, including, *inter alia*, ““actions by one spouse against the other””); *see also* R. Michael Cassidy, *Reconsidering Spousal Privileges After Crawford*, 33 AM. J. CRIM. L. 339, 355-64 (2006) (outlining rationales for the privilege).

¹⁸⁴ Gerstein, *supra* note 162, at 90.

been religious opinions. This . . . is a very important part of what lies behind the privilege against self-incrimination.”¹⁸⁵ This argument is fecund and thought-provoking. As an anthropological musing about the cultural norms that undergird our constitutional system, I believe Gerstein’s account has much to offer. As a legal argument, however, it is unrecognizable. Nowhere in the Court’s jurisprudence, or in the surrounding commentary, has there been any whiff of possibility that Gerstein’s view should be doctrinally incorporated. However rich an explanatory account it may offer, his view makes no contact with the privilege’s actual operation.

On the other hand, the more recognizably legal arguments are hardly more than a magic show. Nina Farahany claims that “[a] sphere of private rumination is essential to our fundamental concepts of freedom of thought, freedom of expression, freedom of will and individual autonomy,” for reason of which we need “substantive [safeguards] to adequately protect mental privacy.”¹⁸⁶ Farahany offers no citations in defense of this view, nor does she make any attempt to show why “a sphere of private rumination” is more important to thought, expression, will, and autonomy than, say, a sphere of private existence in one’s home, or an expectation of not being arrested for no reason while walking down the street. Both of these *are* of course important to thought, expression, will, and autonomy, but in neither case does this entail — or even invite serious discussion of — an absolute privilege, or its analytical twin, a “substantive” protection.

Sarah Stoller and Paul Wolpe, along with Dov Fox, mount similarly conclusory arguments about the centrality of cognition. Mental states, in their view, differ from other forms of evidence in how intimately they relate to personhood. According to Fox and Stoller and Wolpe, my brain and my mind are inextricable from my essential being in a way that my blood and DNA are not, and the forcible extraction of evidence from my brain therefore constitutes a different class of violation than the extraction of evidence from my blood.¹⁸⁷ As Fox puts it, “our blood is readily separable from what we think important about us, whereas our thoughts are not,”¹⁸⁸ and in Stoller and Wolpe’s words, “bleeding is something that ‘I’ can watch or take note of,” whereas consciousness is not.¹⁸⁹ Again, no effort is made to distinguish cognition, in this respect, from other domains to which we ascribe enormous value, and from which we extrapolate conceptions of our selfhood, but to which only a procedural right of privacy attaches.

¹⁸⁵ *Id.*

¹⁸⁶ Farahany, *supra* note 8, at 406.

¹⁸⁷ See Stoller & Wolpe, *supra* note 4, at 369-72; Fox, *supra* note 5, at 793-98.

¹⁸⁸ Fox, *supra* note 5, at 796.

¹⁸⁹ Stoller & Wolpe, *supra* note 4, at 371.

And absent such a distinction, the cognition-is-special paradigm is *ipse dixit*.¹⁹⁰

What is more, even if the foregoing accounts are correct, and the fulcrum of Fifth Amendment analysis truly is *felt sacredness* from the perspective of an individual compelled to produce evidence, bizarre consequences follow. Unless these scholars purport to speak for every person living subject to the laws of our Constitution — surely not — the argument must resolve into a subjective test about what individual people consider sacred. What if, for instance, I come from a culture that reared me to believe the essence of a person lies in his or her blood, and that depriving someone of control over his or her blood constitutes an egregious offense to personhood?¹⁹¹ Suddenly, *Schermber* would become problematic on the same grounds that Farahany, Fox, and Stoller and Wolpe want to problematize the Mind Reader Machine. I doubt, however, that we would pay this argument much regard. Nor do I think that anyone would be inclined to extend a substantive privacy protection to objects that embed religious or spiritual significance, or to objects with profound sentimental value. Such objects might be experienced as “sacred” — whatever that quite means — and their seizure may well register as an acute violation. The question, however, is not whether sacredness describes phenomenological reality; it is whether (and how) sacredness bears on the criminal justice system.¹⁹² On that score, the commentary has fallen far short of persuasive. Indeed, even

¹⁹⁰ Notably, Stoller and Wolpe’s article concludes, as does Farahany’s, with a proposal for legislative reform — a hedge in case the Court breaks from their assessment of cognition as special. See Farahany, *supra* note 8, at 406; Stoller & Wolpe, *supra* note 4, at 375. In both cases, it is hard not to read the proposals as concessions of jurisprudential flimsiness.

¹⁹¹ As pluralists, we ought to account for this possibility, however strange it may seem. But even metaphysically — lest Farahany, Fox, and Stoller and Wolpe become too satisfied that Western philosophy militates in their favor — there exist strong reasons to regard the distinction between cognitive evidence and bodily evidence as fundamentally arbitrary. See, e.g., SUSAN EASTON, *THE CASE FOR THE RIGHT TO SILENCE* 217-25 (2d ed. 1998).

¹⁹² On this front, apart from all its other shortcomings, the “felt sacredness” theory enjoys the distinct honor of not only muddying Fifth Amendment analysis, but also initiating new and untold First Amendment problems. If experience of the sacred were to become an alarm bell for self-incrimination, controversies about freedom of expression and the free exercise of religion would surely be quick to follow. Compare *Employment Division v. Smith*, 494 U.S. 872 (1990) (holding that the Free Exercise clause permits states to prohibit the sacramental use of peyote) with *Lukumi Babalu Aye v. City of Hialeah*, 508 U.S. 520 (1993) (holding that the Free Exercise clause prohibits states from proscribing animal sacrifices with religious significance).

more than that: it has made essentially no effort to defend its core conclusions.¹⁹³

Dov Fox's article, to its credit, takes stock of the immense line-drawing problems that plague his "sacredness" view. The end of his article makes a few faint-hearted gestures toward resolution - - for example: "[M]uch in modern political theory has devoted itself to the proposition that each person possesses rights over which considerations of the common good cannot take precedence," from which it follows that "[w]orthy and serious though the goals of the criminal justice system are, they fail to outweigh the injury to the individual that is done when the state deprives a suspect of control over his mental life."¹⁹⁴ The trouble, of course, is that the state customarily encroaches on citizens' liberty, privacy, and autonomy interests when a valid prerogative outweighs them - and far from being an aberration, this style of encroachment is going on everywhere, all the time.¹⁹⁵ Criminal prosecution, furthermore, is no throwaway example. It is a *lodestar* example, second only to national security in terms of centrality to the state's function. In fact, this is precisely *why* Fourth Amendment doctrine takes a procedural rather than substantive cast: its purpose is to modulate the inherent tension that arises between due process, on the one hand, and the administration of justice, on the other.¹⁹⁶ This enterprise eschews categorical lines; it calls for contextual, not formal, analysis. Inasmuch, Fox's observation about the delicate balance between "the goals of criminal justice" and the "[rights] each person possesses" is quite sound - but it cuts in favor of the opposite conclusion from the one he seeks to defend. It is precisely *because* the balance is so delicate that the vindication of privacy, when it comes to procuring evidence for criminal prosecution, lies in qualifications of context rather than prohibitions outright.¹⁹⁷

¹⁹³ I have been focusing on the pitfalls of the privacy account with respect to the cognitive-physical distinction. But there is another problem as well: a substantive privacy right is extraordinarily difficult to square with the immunity exception to self-incrimination. If privacy is indeed animating concern behind the right to silence, it is odd - fatally odd - that we feel comfortable compelling testimony as long as the consequences are innocuous. See Stuntz, *supra* note 13, at 1232-34; Ronald Allen, *Theorizing About Self-Incrimination*, 30 CARDOZO L. REV. 729, 734 (2008).

¹⁹⁴ Fox, *supra* note 5, at 800.

¹⁹⁵ Cf. Allen, *supra* note 193, at 732.

¹⁹⁶ See Kerr, *An Equilibrium-Adjustment Theory of the Fourth Amendment*, *supra* note 174 (arguing that the Fourth Amendment acts as a membrane between individual and state that changes, as technologies change, in order to maintain the same basic balance of power).

¹⁹⁷ See, e.g., Thompson, *supra* note 4, at 344-45.

B. Guilt, Innocence, and the “Cruel Trilemma”

The second normative tack against the Mind Reader Machine is to focus on the differentiation of guilt and innocence. This thread laces a variety of arguments, all addressed to how the self-incrimination privilege impacts criminal trials. Abstractly, the issues cut both ways. On the one hand, by hemming in the state’s ability to gather evidence, the privilege makes prosecutions more difficult and, on the margins, allows guilty parties to walk free. On the other hand, the privilege also serves as a loose “guarantee” against perjury — most importantly, against false proclamations of innocence — which helps, arguably, to keep guilt and innocence cleanly delineated.¹⁹⁸ Against this bivalent backdrop, arguments surrounding guilt and innocence divide into two sets, one concerned with the impact of the privilege on guilty parties, the second with the impact on innocent parties. I address each set in turn. The upshot is that none of the arguments, whether motivated by concern for guilty parties or innocent parties, apply to the Mind Reader Machine, no matter how directly and urgently they might apply to other self-incrimination settings.

1. Concern For Guilty Parties

The first argument born of concern for guilty parties has to do with the state’s prosecutorial burden of proof. Namely, the government should bear the full burden of demonstrating that a criminal suspect is guilty — rather than forcing a suspect to demonstrate his innocence — and that use of the Mind Reader Machine would effectively flip this principle around. As for the basic claim about where the burden of proof lies, the Court has written, for instance, that “[among the] basic purposes that lie behind the privilege against self-incrimination [is] preserving the integrity of a judicial system in which even the guilty are not to be convicted unless the prosecution ‘shoulder the entire load.’”¹⁹⁹ In a

¹⁹⁸ See Seidmann & Stein, *supra* note 13.

¹⁹⁹ *Tehan v. United States*, 382 U.S. 406, 415 (1966); *Murphy v. Waterfront Comm’n*, 378 U.S. 52, 54-57 (1964) (outlining the role the Self-Incrimination Clause plays in modulating the relationship between individual and state during prosecutions); *Culombe v. Connecticut*, 367 U.S. 568, 581-82 (1961) (describing “the requirement that the state which proposes to convict and punish an individual produce the evidence against him by the independent labor of its officers”); see also *Kimm v. Rosenberg*, 363 U.S. 405, 412-14 (Brennan, J., dissenting) (arguing that the purpose of the self-incrimination is partly to ensure that in criminal proceedings, the burden of proof not “shift” to become the defendant’s “laboring oar”). *Cf.* *United States v. Hubbell*, 530 U.S. 27, 40 (2000) (noting that the Self-Incrimination Clause requires the state to bear the entire burden of proof in establishing the proper use of testimonial evidence).

similar vein, the Court has also lauded our “our accusatory system of criminal justice” for “demand[ing] that the government seeking to punish an individual produce the evidence against him by its own independent labors, rather than by the cruel, simple expedient of compelling it from his own mouth.”²⁰⁰ In the abstract, however, this means quite little. The observation that the state must gather the evidence required to build its case — rather than relying on a defendant to produce it — does not resolve the question of what type of evidence is privileged. It begs that question.²⁰¹ If the state’s evidence falls within the privilege’s scope, the state has failed to meet its burden by definition. In other words, inquiry as to whether the state has borne the “laboring oar” of prosecution just *is* inquiry about the bounds of the privilege.²⁰²

The second argument born of concern for guilty parties is the widespread notion that the self-incrimination privilege protects suspects from facing a “cruel trilemma” of *incrimination* (in case of an honest confession), *perjury* (in case of a false proclamation of innocence), and *contempt* (in case of the decision to remain silent).²⁰³ Putting to one side the question of how “cruel” this decision really is,²⁰⁴ even if concerns over the “trilemma” *do* ground (or partially ground) the privilege against self-incrimination under normal circumstances, they are inapposite to the Mind Reader Machine. Simply put, the trilemma is only cruel

²⁰⁰ *Schmerber v. California*, 384 U.S. 757, 762 (citing *Miranda v. Arizona*, 384 U.S. 436, 460).

²⁰¹ See Geyh, *supra* note 64, at 612 (pointing out that in and of itself, the “presumption of innocence” rationale does not resolve any of the line-drawing problems).

²⁰² Picking up where the Court’s flashpoint rhetoric leaves off, Michael Pardo has developed a much more sophisticated account of the “presumption of innocence” theory from the vantage point of epistemology. See Pardo, *supra* note 169. Pardo argues that prosecutions should begin from an “epistemic blank slate,” and that “[a]ttempting to compel the defendant to assume epistemic authority for incriminating propositions (or to assume epistemic authority for contrary propositions, which can then be attacked in order to suggest guilt) violates this initial [] presumption.” *Id.* at 1043-44. In Pardo’s view, this provides an epistemologically rigorous foundation for the distinction between testimonial and physical evidence – testimonial evidence being evidence that effectively “passes” the government’s epistemic burden to the defendant. *Id.* at 1044. I agree. But this does not help to resolve the substantive question of what “testimony” means. If I read Pardo correctly, we agree on this point.

²⁰³ This point mainly appears in Court opinions. But it also has some support among scholars. See, e.g., Stephen J. Schulhofer, *Some Kind Words for the Privilege Against Self-Incrimination*, 26 VAL. U. L. REV. 311 (1991); see also George M. Dery, *Lying Eyes: Constitutional Implications of New Thermal Imaging Lie Detection Technology*, 31 AM. J. CRIM. L. 217, 248 (2004) (arguing that the “cruel trilemma” framework applies to cognitive evidence by analogy).

²⁰⁴ I am not alone in my skepticism. See, e.g., Allen, *supra* note 193, at 732 n.16; Farahany, *supra* note 8, at 360.

— indeed, it only *exists* — insofar the criminal suspect faces a choice about whether to “stay silent” and, if not, what to say. Although the Mind Reader Machine could take any number of different forms, and each form (per my discussion in the last Part) might carry different substantive consequences for privilege, *all* forms of the Machine strip away a suspect’s volition. That is just the point. The Machine poses no “trilemma” for the just same reason that it would make for an effective interrogation device: in practice it minimizes, and in theory eliminates, room for deceit.

The third argument born of concern for guilty parties is William Stuntz’s innovative “excuse” theory of the privilege.²⁰⁵ This argument is conceptually similar to the “trilemma” argument, and it is inapposite to the Mind Reader Machine for the same basic reason. Stuntz’s argument is as follows. Insofar as our criminal law and procedure embeds the principle that “people should not be held to a standard higher than that which their judges can meet,” there is a strong case to be made that “[i]f even honest people would commit perjury when asked under oath to confess to criminal conduct, then a serious argument for excusing perjury in such cases would exist.”²⁰⁶ Yet for a variety of reasons, it does not make prudential sense to immunize perjury — most notably, that it would undermine public confidence in the criminal justice system — so instead we immunize silence.²⁰⁷ Stuntz’s article is both elegant and descriptively forceful. However, because it examines the role of *choice* in the criminal justice system, his excuse theory runs orthogonal to the central problem of the Mind Reader Machine. As in the “trilemma” argument above, the whole point of Machine is that it *removes* a suspect’s choice. It is just as senseless, therefore, to talk about “excusing” a suspect’s refusal to submit to the Mind Reader Machine as it is to talk about “excusing” a suspect’s refusal to submit to a blood or DNA test – not because it is unimaginable that a person of average moral standing would want to avoid the Machine or the DNA tests, but because there is no act of perjury (or constructive perjury) to excuse. Stuntz himself made a similar point apropos of blood samples, “Since one cannot falsify physical characteristics such as blood, there is no falsehood to excuse and therefore no need to immunize noncooperation.”²⁰⁸ The same goes, *mutatis mutandis*, for the Mind Reader Machine.

²⁰⁵ Stuntz, *supra* note 13. See also Farahany, *supra* note 8, at 364-66.

²⁰⁶ Stuntz, *supra* note 13, at 1229.

²⁰⁷ *Id.*

²⁰⁸ *Id.* at 1276.

2. *Concern For Innocent Parties*

On the other side, the main defense of the privilege born of concern for innocent parties is Seidmann and Stein's famous "game-theoretic" view.²⁰⁹ Against the intuition that the self-incrimination privilege helps the guilty by barring certain types of inculpatory evidence, Seidmann and Stein maintain that it also helps the innocent by operating as an "anti-pooling device" on confessions.²¹⁰ The argument hinges on four premises: (a) that for crimes that carry harsh penalties, a rationally acting guilty party would always claim to be innocent, even if doing so required perjury; (b) that most guilty parties are rational actors; (c) that the aggregate impact of false claims to innocence, past a certain threshold, will be to undermine fact-finders' confidence in the veracity of true claims to innocence; and (d) that given the option of silence rather perjury, many rationally acting guilty parties would choose the former. From these premises, it follows that the right to silence helps to maximize the epistemic value of claims to innocence. Seidmann and Stein's article made an intellectual splash upon publication and has since attracted a bevy of follow-up commentary, both laudatory and critical.²¹¹ Here, however, it is not necessary to address the inner workings of Seidmann and Stein's view, because even assuming their view is correct, it cuts in *favor* of the Mind Reader Machine. Seidmann and Stein are centrally concerned with the systemic properties that make it easier or harder for fact-finders to accurately determine criminal liability. They are concerned, in other words, about ensuring that guilt and innocence are as sharply distinguishable as is practically possible. This aligns with the aim of the Mind Reader Machine.

C. *Coda: Mind-Body Dualism and its Discontents*

The final claim against mind-reading is not addressed to the Machine *per se*, but to the distinction between physical and testimonial evidence. A handful of scholars argue that the dichotomy, first articulated by Justice Brennan in *Schmerber*, has outgrown its cogence in the age of neuroscience. Dov Fox, for example, suggests that the "distinction between physical and testimonial evidence presupposes a flawed dualism between body and mind," because it predicates the idea that only "mental (and

²⁰⁹ See Seidmann & Stein, *supra* note 13.

²¹⁰ *Id.* at 430-42.

²¹¹ For an overview of these responses and a substantive reply, see Alex Stein, *The Right to Silence Helps the Innocent: A Response to Critics*, 30 CARDOZO L. REV. 1115 (2008).

not bodily) processes comprise communicative meaning.”²¹² Nita Farahany echoes this view, though in a less systematic form, in her discussion of the “conflict between emerging neuroscience and current self-incrimination doctrine.”²¹³ Stoller and Wolpe do likewise in their discussion of “testimonial-like” evidence.²¹⁴

As a threshold matter, it is worth observing (a) that the Court has shown absolutely no interest in this type of metaphysical speculation, and (b) that law has no mandate, in principle, to justify itself to neuroscience. Putting those issues to one side, the deeper problem with these recent “deconstructions” of the physical-testimonial distinction is that they rely on a substantive construction of “testimony,” which, for reasons already discussed, I believe to be wrongheaded. Evidence from the Mind Reader Machine only poses a middle-case — it is only “testimonial-like” — insofar as testimony refers to the aspect of evidence that records the content of cognition. If testimony refers, instead, to the act of communication required to produce evidence, ostensible middle cases cease to be, in the proper sense, “middle.” A piece of evidence is either produced by a communicative act or it is not. Evidence can only be “testimonial-like” — even in theory — if one begins from the assumption that testimony turns on content. If so, then we can imagine evidence as an alloy, composed of multiple parts, some of which are testimonial, others of which are physical. But this possibility evaporates once the fulcrum becomes communication — the presence of which is simply binary.²¹⁵

Ultimately, it is hard to avoid the somewhat cynical conclusion that invocations of neuroscience are more about rhetorical firepower than analytical force. The proposition that technological change has undone a doctrinal distinction is vogue and — if the adjective can be risked in an article about the Fifth

²¹² Fox, *supra* note 5, at 793. Somewhat ironically, the upshot of Fox’s theory is that we need to retrench the line separating body from mind in order to bootstrap a theory of mental privacy. After taking apart the “mind-body dualism” that apparently plagues Justice Brennan’s view in *Schmerber*, Fox circles back and exhorts the importance of consciousness, as opposed to physicality, to “who we are.” One dualism is merely swapped for another.

²¹³ Farahany, *supra* note 8, at 354.

²¹⁴ Stoller & Wolpe, *supra* note 4, at 367.

²¹⁵ The other problem with these arguments is that they end swapping one dualism for another — consciously or unwittingly, it is hard to say. In each account, the analytical purpose of pointing out the fallibility of the mind-body distinction is to carve out a space of increased protection for the mind. They want to maintain that (a) the mind-body distinction is incoherent, and (b) mental evidence deserves heightened protection, vis-à-vis bodily evidence, in virtue of the more acute privacy concerns it poses. It is not logically *impossible* to reconcile these two propositions. But it is not easy. Surely, at the very least, those who want to reconcile them bear the burden of proof, not the other way around.

Amendment — sexy. To be sure, there are examples of technology rendering previously workable legal categories unworkable. The law of searches and seizures under the Fourth Amendment, for example, has come under strain in the face of technologies like GPS.²¹⁶ It is important, however, to distinguish between technologies that deconstruct law, on the one hand, and technologically complex scenarios that present difficult questions of law, on the other. GPS could be said to genuinely deconstruct Fourth Amendment doctrine, in the sense it divests the doctrinal anchor — reasonable expectations of privacy — of the purpose for which it was originally designed.²¹⁷

I do not think, however, that the same can be said of mind-reading devices with respect to the Self-Incrimination Clause. They present hard questions of law, but nothing that pushes beyond the threshold of difficulty presented by other, non-technological scenarios. Mind-reading devices, at least in their foreseeable form, occupy the same Fifth Amendment status as observation-only psychiatric evaluations. Both raise the same fundamental question about the extraction of cognitive evidence from an unwilling suspect. The legal issues are thorny in both settings, but the difference between them is factual, not conceptual:

²¹⁶ See, e.g., *United States v. Jones*, 132 S.Ct. 945 (2012) (holding that the installation of a GPS-tracking device constitutes a “search” under the Fourth Amendment). The inappositeness of existing doctrine made the Court’s treatment of the issue verge on comical. During oral argument, for example, the Chief Justice distinguished between GPS technology and so-called “beepers” (devices that allow police to track cars at a close distance) on the theory that the former require too little work from police. Transcript of Oral Argument at 4, *United States v. Jones*, 132 S.Ct. 945 (2012) (No. 10-1259). How this can serve as the fulcrum of a constitutional distinction, I leave to the imagination of readers with more creative minds than my own. Ultimately, it seems to me that the lesson to be drawn from GPS-related controversies is that a “reasonable expectation of privacy” framework, as well as the emphasis on discrete instances of “search,” simply cannot respond to a world where technology allows police to procure continuous streams of information, in real-time, almost anywhere in the world. Cell phone surveillance cases have raised similar issues – and have had similarly deconstructive effects. See RICHARD THOMPSON, CONG. RESEARCH SERV., R42109, *THE GOVERNMENT TRACKING OF CELL PHONES AND VEHICLES: THE CONFLUENCE OF PRIVACY, TECHNOLOGY, AND LAW*, 8 n.60 (Dec. 1, 2011); Note, *Who Knows Where You’ve Been? Privacy Concerns Regarding the Use of Cellular Phones as Personal Locators*, 18 HARV. J.L. & TECH. 307, 308 (2004) (outlining the difference between GPS-based tracking and triangulation-based tracking of cell phones). Just as in *Jones*, the lesson here is that extant paradigms of Fourth Amendment law make little sense when applied in these settings.

²¹⁷ As though in tacit acknowledgment of this problem, the Court has taken to modulating the scope of Fourth Amendment privacy in response to technological change. See Kerr, *An Equilibrium-Adjustment Theory of the Fourth Amendment*, *supra* note 174. If Professor Kerr’s view is correct, it is evidence for the point I am making here: an example of how courts respond to the process of technology unraveling previous doctrinal distinctions.

for one, mind-reading devices have the capacity to reach different kinds of evidence than human observers; for another, mind-reading devices differ from human observers in the precision with which they extract information.²¹⁸ The important point, however, is that while the physical-testimonial dichotomy is not *easy* to apply in this setting — in the same way that it is not easy to apply to observation-only psychiatric evaluations — it still makes conceptual sense.

CONCLUSION

This Article has advanced three claims. *First*, the Court has consistently interpreted “testimony” in communication-based rather than substantive terms. *Second*, under a communication-based view of testimony, certain uses of the Mind Reader Machine would likely be permitted, others would likely be prohibited, and either way, the determination would be contextual and technology-specific. *Third*, existing doctrine, and thus my conclusions drawn from existing doctrine, stand up to normative scrutiny. Analytically, these claims are modest. In fact, they are noticeably modest. Boiled down to its essence, my argument is that the Court’s view of self-incrimination coheres, and that mind-reading should be analyzed the same way that any interrogation method — or, really, any legal question — is analyzed in our courts: carefully, using a scalpel rather than a sledgehammer.

I have not argued, in other words, for an extreme position. I have argued for moderation *against* an extreme position — but it is an extreme position that enjoys near-universal favor. To date, the consensus against the Machine has verged on histrionic. Although almost every article published on the subject contains some discussion of the gradient of possible technologies to which its central indictment might apply, few have actually considered how differences in the underlying technology might change the way the doctrine plays out. This makes sense: the projects do not depart in search of nuance. They seek to draw categorical lines. But there is something puzzling in this. Why bother outlining the possible typologies of mind-reading, a discerning reader may well wonder, when the point is to impugn the whole enterprise?

My approach has been just the inverse. Instead of offering a lush catalog of technologies, I have endeavored to craft a doctrinal argument in favor of paying greater attention to the subtle

²¹⁸ This, of course, could cut either way — it depends on the specific aspects of the relevant technology.

discrepancies among them. If you are persuaded that those discrepancies matter, I consider this Article a success.