THE SIGNIFICANCE (IF ANY) FOR THE FEDERAL CRIMINAL JUSTICE SYSTEM OF ADVANCES IN LIE DETECTOR TECHNOLOGY

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Against a backdrop of accelerating developments in the science of lie detection certain to reopen the debate on the reliability and therefore admissibility of lie detector evidence in the federal courts, this Article examines whether the prohibition on hearsay evidence (or other evidentiary objections) will preclude admissibility of even scientifically reliable lie detector evidence. The Article concludes that the hearsay prohibition, which has been largely ignored by courts and commentators, is the primary obstacle to the future admission of scientifically valid lie detector evidence. The Article also suggests a potential solution to the hearsay problem that may allow admission of lie detector evidence in narrowly defined circumstances.

Cross-examination is often described as the "'greatest legal engine ever invented for the discovery of truth,'"[1] but few would deny that it has achieved this exalted status largely by default. Science has simply failed to produce any valid alternative, leaving the criminal justice system to dutifully rely on this age-old practice in the hope that it will enable juries to distinguish lies from truth.

Recent scientific advances herald the arrival of a more modern "engine" for the discovery of truth—scientific lie detectors based on modern medical technologies such as magnetic resonance imaging, i.e., brain scans. These advances may constitute the first signs of a revolution in the criminal trial system. If permitted by the courts, evidence developed through scientifically valid lie detector examinations could become a ubiquitous legal tool that would aid juries to evaluate witness credibility and permit defendants to conclusively demonstrate their innocence (or guilt).

It is not clear, however, how courts will react to a scientifically valid lie detector. For decades, so-called "lie detector" evidence has been barred in federal and state courts on the ground that traditional lie detector technology is unreliable, amounting to little more than junk science.[2] Given the availability of

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1. California v. Green, 399 U.S. 149, 158 (1970) (quoting 5 JOHN HENRY WIGMORE, EVIDENCE § 1367 (3d ed. 1940)).

2. *See, e.g.*, United States v. Scarborough, 43 F.3d 1021, 1026 (6th Cir. 1994) ("Results of a polygraph are not admissible for the reason that the District Court gave—they are inherently unreliable."). The Supreme Court has described the "common form of polygraph test" as one that:

measures a variety of physiological responses to a set of questions asked by the examiner,

this facile response to any effort to place lie detector evidence before a jury, courts have rarely gone beyond the reliability determination to evaluate whether, once the science of lie detection improves, lie detector evidence will be admissible. This Article attempts to undertake that analysis with respect to the admissibility of scientifically valid lie detector evidence in the federal courts.[3] In doing so, the Article notes a potentially devastating objection to lie detector evidence that has been largely unaddressed by courts and commentators—that lie detector evidence is inextricably intertwined with inadmissible hearsay. This objection is particularly significant because if courts conclude that traditional evidentiary principles, such as the prohibition of hearsay, preclude admissibility of lie detector evidence, advances in lie detector technology will prove to be largely irrelevant to the courts of law—ironically, the very setting where such technology could have the greatest impact.

Part I of the Article examines the threshold "scientific validity" requirements for the admission of expert testimony such as lie detector evidence, set out in the Supreme Court's decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[4] and Federal Rule of Evidence 702.[5] It then discusses recent scientific advances that signal that lie detector evidence may soon satisfy these threshold requirements, eliminating the traditional barrier to the admission of lie detector evidence in federal courts.

Part II examines three commonly cited evidentiary objections to lie detector evidence that courts have relied on in addition to, or in concert with, an objection to the underlying validity of lie detector science: (1) lie detector evidence impermissibly invades the traditional province of the jury to evaluate witness credibility, (2) it is barred under Federal Rule of Evidence 403 because it is likely to "mislead" the jury, and (3) it violates Federal Rule of Evidence 704's prohibition of expert testimony regarding the "ultimate issue." Part II concludes that these objections are unlikely to constitute a continuing obstacle to the admission of scientifically valid lie detector evidence.[6]

> who then interprets these physiological correlates of anxiety and offers an opinion to the jury about whether the witness—often, as in this case, the accused—was deceptive in answering questions about the very matters at issue in the trial.

United States v. Scheffer, 523 U.S. 303, 313 (1998).

3. Although this Article focuses primarily on the admissibility of lie detector evidence in federal criminal trials, its analysis would apply equally to federal civil trials, where the evidentiary rules are essentially identical, and to state court proceedings in jurisdictions with evidentiary rules that parallel the federal rules.

4. 509 U.S. 579, 591 (1993).

5. *See* FED. R. EVID. 702 (listing criteria that should be satisfied to establish that scientific evidence is valid); *Daubert*, 509 U.S. at 591 n.9 (indicating that evidentiary reliability of scientific evidence will be based on assessment of scientific validity).

6. As used throughout this Article, the phrase "scientifically valid" lie detector evidence refers simply to lie detector evidence that has met the requirements of Rule 702 and *Daubert*. *See Daubert*, 509 U.S. at 594-95 (noting that "overarching subject" of Rule 702 inquiry "is the *scientific validity*—and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission" (emphasis added)).

Part III analyzes the key remaining obstacle to the admission of scientifically valid lie detector evidence—the prohibition against hearsay. The hearsay problem arises because lie detector evidence consists of expert analysis of out-of-court statements offered for their truth (i.e., hearsay) and is consequently inadmissible under Federal Rule of Evidence 801 absent an applicable hearsay exception.[7] Part III concludes that in almost all cases, the only potentially applicable exception will be the residual hearsay exception found in Federal Rule of Evidence 807, which although rarely utilized presents a potentially viable (and perhaps the only viable) legal basis for admission of scientifically valid lie detector evidence. Consequently, in Part IV, the Article concludes that if modern advances in lie detector science are to have any impact in the federal courts (or in the courts of the numerous states that have adopted evidentiary rules analogous to the federal rules),[8] that impact will be funneled through the narrow and relatively obscure gateway of Rule 807, with significant consequences for future proponents of lie detector evidence.

I. SCIENTIFIC ADVANCES IN LIE DETECTION AND THE *DAUBERT*/RULE 702 THRESHOLD FOR ADMISSIBILITY OF SCIENTIFIC EVIDENCE

The convergence of two trends has only recently created the potential for widespread admissibility of lie detector evidence. The first of these trends is the gradual recognition during the past two decades of the "'liberal thrust' of the Federal Rules [of Evidence] and their 'general approach of relaxing the traditional barriers to "opinion" testimony.'"[9] The second trend is the sudden and rapid evolution of lie detector technology. Both of these trends are briefly summarized below.

A. Daubert *and the "Liberal Thrust" of Federal Rule of Evidence 702*

The framework for the admissibility of lie detector evidence, like that of all expert testimony, is set out in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*[10] which provided the first definitive analysis of the admissibility of expert opinion testimony under Federal Rule of Evidence 702.[11] In *Daubert*, the Supreme Court explained that under Rule 702, "expert scientific testimony" is admissible if it constitutes "(1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue."[12]

7. See *infra* Part III for a comprehensive analysis of the hearsay problem.

8. *See* Julie A. Seaman, *Triangulating Testimonial Hearsay: The Constitutional Boundaries of Expert Opinion Testimony*, 96 GEO. L.J. 827, 836 n.36 (2008) (noting that "[f]orty-two states have adopted rules of evidence patterned on the Federal Rules").

9. *Daubert*, 509 U.S. at 588 (quoting Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 169 (1988)).

10. 509 U.S. 579 (1993).

11. *Daubert*, 509 U.S. at 589-95; *see also* United States v. Call, 129 F.3d 1402, 1405 (10th Cir. 1997) ("[P]olygraph examinations, like all other scientific evidence, must be subjected to the Rule 702 analysis set forth in *Daubert*.").

12. *Daubert*, 509 U.S. at 592.

The "'scientific knowledge'" component of the *Daubert* analysis "establishes a standard of evidentiary reliability."[13] To ensure that evidence meets this standard, a district court must conduct a "flexible" inquiry into the scientific theory or technique that will be presented to the jury with reference to at least five factors: (1) "whether [the] theory or technique . . . can be (and has been) tested," (2) "whether the theory or technique has been subjected to peer review and publication," (3) "the known or potential rate of error" for that theory or technique, (4) "the existence and maintenance of standards controlling the technique's operation," and (5) whether the theory or technique has attained "'general acceptance'" within the relevant scientific community.[14] The "overarching subject" of the *Daubert* inquiry "is the scientific validity—and thus the evidentiary relevance and reliability—of the principles that underlie a proposed submission,"[15] or, stated another way, an "assessment of whether the reasoning or methodology underlying the testimony is scientifically valid and of whether that reasoning or methodology properly can be applied to the facts in issue."[16]

In addition to meeting the threshold requirement of "scientific validity," an expert's proffered testimony must also satisfy the second component of the *Daubert* analysis, that it will "'assist the trier of fact.'"[17] This second component represents a relatively minor evidentiary hurdle, however, because "[w]hether evidence assists the trier of fact is essentially a relevance inquiry,"[18] a requirement already imposed by Federal Rule of Evidence 402.[19] In essence, this second component of the *Daubert* inquiry states only an obvious point—that even valid scientific evidence must be excluded if it is not relevant to the issues in dispute.

The holding of *Daubert* has been incorporated into the amendments to Rule 702 enacted in 2000. Rule 702, as amended, permits a qualified expert to testify in the form of an opinion if that testimony "will assist the trier of fact to understand the evidence or to determine a fact in issue," and if: "(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case."[20] In a lengthy annotation to the rule that draws heavily from *Daubert* and the subsequent Supreme Court case of *Kumho Tire Co. v. Carmichael*,[21] the drafters emphasized that the new rule is

13. *Id.* at 590 (quoting FED. R. EVID. 702).

14. *Id.* at 593-94; *see also* Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141 (1999) (reiterating that *Daubert*'s "test of reliability is 'flexible,' and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case" (quoting *Daubert*, 509 U.S. at 594)).

15. *Daubert*, 509 U.S. at 594-95.

16. *Id.* at 592-93.

17. *Id.* at 591 (quoting FED. R. EVID. 702).

18. United States v. Posado, 57 F.3d 428, 432 (5th Cir. 1995); *see also id.* at 433 ("If polygraph technique is a valid (even if not certain) measure of truthfulness, then there is no issue of relevance.").

19. *See* FED. R. EVID. 402 ("Evidence which is not relevant is not admissible.").

20. FED. R. EVID. 702.

21. 526 U.S. 137 (1999).

"broad enough to require consideration of any or all of the specific *Daubert* factors where appropriate."[22]

While largely derivative of preexisting case law, amended Rule 702 contributes to the analytical framework by rendering explicit what was, at most, implicit in *Daubert*—that Rule 702's scientific validity analysis requires not only an assessment of the reliability of the science (or technique)[23] behind the proffered evidence as a general matter but also of the reliability of the *application* of that science to the facts in dispute. As the drafters explained, "[t]he amendment specifically provides that the trial court must scrutinize not only the principles and methods used by the expert, but also whether those principles and methods have been properly applied to the facts of the case."[24]

B. Modern Lie Detector Evidence Under Rule 702

Measured against Rule 702's relatively permissive threshold for scientific validity, lie detector evidence stands on the precipice of admissibility as demonstrating sufficient scientific reliability for consideration by juries. Already, in response to *Daubert* and its emphasis of "the 'liberal thrust' of the Federal Rules,"[25] most circuits have disavowed the pre-*Daubert* norm of a per se exclusion of lie-detection evidence.[26] All that remains for wide-scale

22. FED. R. EVID. 702 advisory committee's note on 2000 amendment.

23. In *Kumho Tire*, the Supreme Court held that "*Daubert*'s general holding—setting forth the trial judge's general 'gatekeeping' obligation—applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." 526 U.S. at 141 (quoting FED. R. EVID. 702; Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 597 (1993)). Consequently, whether future lie detector experts are characterized as scientists, technicians, or specialists, their testimony will be analyzed under the same framework.

24. FED. R. EVID. 702 advisory committee's note on 2000 amendment. "'[*A*]*ny* step that renders the analysis unreliable . . . renders the expert's testimony inadmissible. *This is true whether the step completely changes a reliable methodology or merely misapplies that methodology*.'" *Id.* (quoting *In re* Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994)).

25. Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 588 (1993) (quoting Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 169 (1988)); *see also* Nimely v. City of New York, 414 F.3d 381, 395 (2d Cir. 2005) (recognizing that "[i]t is a well-accepted principle that Rule 702 embodies a liberal standard of admissibility for expert opinions, representing a departure from the previously widely followed, and more restrictive, standard" (citing *Daubert*, 509 U.S. at 588)).

26. *See* United States v. Call, 129 F.3d 1402, 1404 (10th Cir. 1997) (stating that "*Daubert* framework" would be applied to determine admissibility of polygraph evidence in place of old general application rule); United States v. Cordoba, 104 F.3d 225, 228 (9th Cir. 1997) (holding that per se rule against admission of polygraph evidence under Rule 702 was effectively overruled by *Daubert*); United States v. Posado, 57 F.3d 428, 429 (5th Cir. 1995) (ruling that "rationale underlying this circuit's per se rule against admitting polygraph evidence did not survive *Daubert*"); United States v. Piccinonna, 885 F.2d 1529, 1535 (11th Cir. 1989) (finding that per se exclusion of polygraph evidence is "no longer warranted"); *cf.* United States v. Thomas, 167 F.3d 299, 308 (6th Cir. 1999) (noting that Sixth Circuit never had per se ban of polygraph evidence); United States v. Rea, 958 F.2d 1206, 1224 (2d Cir. 1992) (noting Second Circuit has "intimated" that there is per se prohibition against admission of polygraph evidence but affirming district court's ruling "[e]ven assuming that such test results are not *per se* inadmissible"). *But cf.* United States v. Prince-Oyibo, 320 F.3d 494, 501 (4th Cir. 2003) (noting that *Daubert* calls into question Fourth Circuit's per se prohibition on lie detector evidence while affirming district court's application of ban because "only the en banc Court has the

admissibility (under Rule 702) of expert lie detector testimony in federal court is for the science of lie detection to move incrementally forward from its present state and for these advances to be recognized by the relevant scientific community.[27]

There is reason to believe that lie detector technology is poised to make substantial advances in the near future. After the terrorist attacks of September 11, 2001, the Departments of Defense and Homeland Security provided "tens of millions to hundreds of millions of dollars" in funding to scientists to develop improved lie detector technologies.[28] In the wake of this funding explosion, it has been reported that there are over fifty laboratories in the United States alone now dedicated to the detection of deception.[29]

Among the most promising of the emerging new lie detection technologies is Functional Magnetic Resonance Imaging ("fMRI"), described as "a new kind of lie detector that's more probing and accurate than the polygraph."[30] FMRI,

authority to consider whether, '[a]fter *Daubert*, a per se rule is not viable'" (quoting *Posado*, 57 F.3d at 433)).

With the exception of New Mexico, states that have specifically addressed the admissibility of polygraph evidence have generally deemed it inadmissible. *See* N.M. STAT. ANN. § 11-707 (LexisNexis 1994) ("[T]he opinion of a polygraph examiner may in the discretion of the trial judge be admitted as evidence as to the truthfulness of any person called as a witness . . . ."); *see, e.g.*, CAL. EVID. CODE § 351.1 (West 1995) (prohibiting both "the results of a polygraph examination" and "the opinion of a polygraph examiner" as evidence in any criminal proceeding absent stipulation); State v. Lyon, 744 P.2d 231, 231 (Or. 1987) ("[P]olygraph test results are inadmissible as evidence in the courts of this state, even when admissibility has been stipulated by the parties.").

27. In fact, a handful of courts has already found that traditional lie detector techniques meet the *Daubert* standard. *See* United States v. Galbreth, 908 F. Supp. 877, 896 (D.N.M. 1995) (concluding that specific polygraph test offered by defendant was admissible under *Daubert*); United States v. Crumby, 895 F. Supp. 1354, 1361 (D. Ariz. 1995) (finding "polygraph evidence" to be "sufficiently reliable under *Daubert* to be admitted as scientific evidence under [Rule] 702"); Lee v. Martinez, 96 P.3d 291, 304 (N.M. 2004) (holding that control question polygraph technique satisfies *Daubert* test).

28. Jeffrey Kluger & Coco Masters, *How to Spot a Liar*, TIME, Aug. 28, 2006, at 46, 46; *accord* Steve Silberman, *Don't Even Think About Lying*, WIRED, Jan. 2006, at 142, 147 (discussing post-2001 Department of Defense- and Homeland Security-funded lie detection technology research).

29. Silberman, *supra* note 28, at 147.

30. *Id.* at 142; *accord* Andre A. Moenssens, *Brain Fingerprinting – Can It Be Used to Detect the Innocence of Persons Charged with a Crime?*, 70 UMKC L. REV. 891, 920 (2002) (describing potential uses of brain scan technology to detect innocent defendants and contending that this technology satisfies *Daubert* prerequisites "albeit marginally"); Harvey Rishikof & Patrick Bratton, *11/9-9/11: The Brave New World Order: Peace Through Law—Beyond Power Politics or Peace Through Empire—Rationale Strategy and Reasonable Policy*, 50 VILL. L. REV. 655, 679-80 (2005) (noting that "[t]he past decade has seen revolutions both in brain-scanning technologies and in drugs that affect the brain's functions" and commenting that "by comparing [brain scan] images . . . a computer can produce detailed pictures of the part of the brain answering or not answering the question—in essence, creating a kind of high-tech lie detector" and that "[i]t now appears that there are safe drugs that reduce conversational inhibitions and the urge to deceive"). *See also* Ronald Kotulak, *Lips Can Lie, but Your Brain Will Spill the Beans*, CHI. TRIB., Nov. 30, 2004, § 1, at 1 (noting that fMRI technology may be substantially more accurate than polygraph); Dennis O'Brien, *What a Lie Looks Like: Scanning for Truth*, BALT. SUN, Feb. 19, 2006, at 1C (noting that several companies view fMRI as more accurate than polygraph); Malcolm Ritter, *Brain Scans Detect Lying, Could Replace Polygraphs*, SAN JOSE MERCURY NEWS, Jan. 30, 2006, at 3E (referencing advocates who claim that fMRI may be more

which, as its name suggests, is based on the same technology as magnetic resonance imaging ("MRI") devices commonly available in hospitals, uses magnetic fields to image brain activity.[31] In theory, an expert applying this technology can distinguish lies from truth by questioning a subject while he or she undergoes an fMRI scan.[32] During the questioning, the expert can note whether the subject's brain exhibits activity in areas associated with lying or those associated with telling the truth.[33] As these brain activities will be more difficult to suppress than typical stress reactions measured by traditional polygraph examinations, new technologies like fMRI show great promise for the development of scientifically valid lie detectors.[34] Already, companies are moving to market fMRI technology to criminal defendants eager to prove their innocence.[35]

The infusion of money and energy into the science of lie detection coupled with the pace of recent developments in that science suggest that it is only a matter of time before lie detector evidence meets the *Daubert* threshold for scientific validity.[36] As noted at the outset of this Article, when this occurs, courts will be required to determine whether traditional evidentiary principles nevertheless bar even such scientifically valid lie detector evidence. In essence, then, advances in the science of lie detection signal the beginning rather than the end of the debate about the use of lie detector evidence in the courts.

II. CLEARING THE UNDERBRUSH: THE DIMINISHING VITALITY OF THE MOST COMMON ALTERNATIVE OBJECTIONS TO LIE DETECTOR EVIDENCE

Satisfaction of the threshold requirements imposed by *Daubert v. Merrell Dow Pharmaceuticals, Inc*.[37] and Rule 702 will certainly be a significant step for lie detector evidence, but it will not answer the ultimate question of the

accurate than polygraphs). For a more comprehensive description of the techniques involved in imaging deception in the brain, see Charles N.W. Keckler, *Cross-Examining the Brain: A Legal Analysis of Neural Imaging for Credibility Impeachment*, 57 HASTINGS L.J. 509, 525 (2006).

31. *See* Keckler, *supra* note 30, at 526 (describing operation of fMRI).

32. Kluger & Masters, *supra* note 28, at 47; Silberman, *supra* note 28, at 142-45.

33. Kluger & Masters, *supra* note 28, at 47; Silberman, *supra* note 28, at 142-45.

34. *See* Marc Ramirez, *It's Election Day: Got Your Truth Meter?*, SEATTLE TIMES, Nov. 7, 2006, at F1 ("The fMRI scanner . . . would appear to be to the polygraph what IBM's Deep Blue supercomputer is to a battery-operated, handheld chess game . . . ."); Silberman, *supra* note 28, at 144 (detailing how fMRI scan can indicate when person is telling the truth or lying). Other new technologies have also shown promise for lie detection, such as electroencephalograms, which measure electric activity emitted by the brain; eye scans; analysis of microexpressions (i.e., "tells"); and, of course, further development of traditional polygraph techniques. *See* Keckler, *supra* note 30, at 519 (describing potential of electroencephalogram technology as alternative to MRI technology to detect deception); Kluger & Masters, *supra* note 28, at 47 (reporting on advances in electroencephalogram technology, eye scan, and microexpression analysis in detecting deception).

35. Silberman, *supra* note 28, at 147.

36. *See* Silberman, *supra* note 28, at 147, 150 (noting advances in lie detector technology that Scott Faro, radiologist conducting studies comparing new lie detection technology to polygraphs, predicts will "change the entire judicial system").

37. 509 U.S. 579 (1993).

admissibility of that evidence. While courts have primarily relied on concerns about the validity of the underlying science to exclude lie detector evidence, they have also recognized a number of alternative objections. Among these are that the lie detector expert will usurp the jury's role as arbiter of witness credibility and that certain lie detector expert testimony violates the "ultimate issue" prohibition of Rule 704.[38] As discussed below, these objections to lie detector evidence are based on questionable legal premises and will fail to have any ongoing validity once lie detector evidence passes the *Daubert*/Rule 702 threshold.

A. Objections to Lie Detector Evidence Based on a Perceived Invasion of the Province of the Jury to Assess Witness Credibility

The objection that lie detector evidence invades the province of the jury has two principal variations. Both of these variations are unlikely to serve as significant obstacles to the admission of scientifically valid lie detector evidence.

1. The Undue Influence of the *Scheffer* Plurality Opinion

The most basic form of the objection to lie detector evidence as invading the province of the jury is that expert testimony relating to the credibility of a particular witness statement violates "[a] fundamental premise of our criminal trial system . . . that 'the *jury* is the lie detector.'"[39] Courts relying on this objection generally cite Justice Thomas's lead opinion in *United States v. Scheffer*,[40] a case in which the Supreme Court upheld the President's constitutional authority to impose a blanket exclusion of polygraph evidence in military trials.[41] As Justice Thomas explained in *Scheffer*, "a polygraph expert can supply the jury only with another opinion, in addition to its own, about whether the witness was telling the truth."[42] Consequently, the objection goes, lie detector expert testimony has no evidentiary value because it serves only to duplicate a function already ably performed by, and exclusively committed to, the jury.[43]

38. *See* United States v. Scheffer, 523 U.S. 303, 312-13 (1998) (plurality opinion) (noting that lie detector evidence "diminish[es]" juries' role as mechanism by which credibility is assessed); United States v. Booth, 309 F.3d 566, 573 (9th Cir. 2002) (finding that Rule 704(b) prohibits inclusion of testimony from polygraph expert that speaks to whether criminal defendant had culpable mental state).

39. *Scheffer*, 523 U.S. at 313 (plurality opinion) (quoting United States v. Barnard, 490 F.2d 907, 912 (9th Cir. 1973)).

40. 523 U.S. 303 (1998).

41. *Scheffer*, 523 U.S. at 312.

42. *Id.* at 313 (plurality opinion).

43. *See, e.g.*, United States v. Call, 129 F.3d 1402, 1406 (10th Cir. 1997) (ruling that trial court did not abuse its discretion in excluding polygraph evidence under Rule 403 because, inter alia, such testimony "usurps a critical function of the jury and because it is not helpful to the jury, which is capable of making its own determination regarding credibility"). See *infra* note 44 for a list of additional cases rejecting lie detector evidence out of deference to the jury's role.

While perhaps rhetorically compelling, the "jury is the lie detector" objection rests on a shaky legal foundation. As an initial matter, courts misstep when relying on *Scheffer* itself to support the proposition. Although regularly overlooked,[44] the portion of Justice Thomas's opinion citing the jury's exclusive role as lie detector did not garner a majority and thus does not have precedential effect.[45] Further, and equally significant, a careful reading of Justice Thomas's opinion reveals that it does not state that the jury's role as exclusive lie detector is a legal ground for exclusion of lie detector evidence.[46] Rather Justice Thomas makes a much narrower point—that a concern that polygraph evidence would erode the jury's role as primary or exclusive lie detector was a valid (i.e., not arbitrary) basis on which a policy maker could exclude such testimony.[47]

The relevant policy-making body with respect to the admission of evidence in federal (nonmilitary) trials—the United States Congress[48]—has not taken the

44. *See* United States v. Moran, 69 F. App'x 398, 398 (9th Cir. 2003) (citing *Scheffer* for proposition that "assigning the appropriate weight and credibility to otherwise admissible witness testimony is exclusively a task for the jury" (citing *Scheffer*, 523 U.S. at 313 (plurality opinion))); United States v. Lea, 249 F.3d 632, 639 (7th Cir. 2001) ("As Justice Thomas's majority [sic] opinion in *Scheffer* noted, '[a] fundamental premise of our criminal trial system is that "the jury is the lie detector."'" (quoting *Scheffer*, 523 U.S. at 313 (plurality opinion))); United States v. Waters, 194 F.3d 926, 930 (8th Cir. 1999) (stating that "[i]n *Scheffer*, the Supreme Court noted the legitimate 'risk that juries will give excessive weight to the opinions of a polygrapher, clothed as they are in scientific expertise'" (quoting *Scheffer*, 523 U.S. at 313-14 (plurality opinion))); King v. Trippett, 192 F.3d 517, 524 (6th Cir. 1999) ("[T]he Supreme Court in *Scheffer* observed that a per se exclusion of polygraph evidence actually *preserves* 'the [court members'] core function of making credibility determinations in criminal trials.'" (quoting *Scheffer*, 523 U.S. at 312-13 (plurality opinion))).

45. *See* Marks v. United States, 430 U.S. 188, 193 (1977) ("When a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, 'the holding of the Court may be viewed as that position taken by those Members who concurred in the judgments on the narrowest grounds . . . .'" (quoting Gregg v. Georgia, 428 U.S. 153, 169 n.15 (1976))); Positive Software Solutions, Inc. v. New Century Mortgage Corp., 476 F.3d 278, 282 (5th Cir. 2007) (stating that plurality opinion was not binding precedent except to extent majority of Justices concurred in reasoning), *cert. denied*, 127 S. Ct. 2943 (2007). The jury as exclusive "lie detector" portion of the *Scheffer* opinion was joined by only three other Justices, Chief Justice Rehnquist and Associate Justices Scalia and Souter. *See* Morris v. Burnett, 319 F.3d 1254, 1275 (10th Cir. 2003) (recognizing that rationale that jury is exclusive lie detector "did not muster majority support" in *Scheffer*). Justice Thomas's reliance on this rationale was, in fact, specifically criticized by two Justices. *Scheffer*, 523 U.S. at 318 (Kennedy, J., concurring in part) (agreeing with dissenting opinion of Justice Stevens that "the principal opinion overreaches when it rests its holding on the additional ground that the jury's role in making credibility determinations is diminished when it hears polygraph evidence").

46. *See Scheffer*, 523 U.S. at 313-14 (expressing potential for polygraph evidence to diminish role of jury in determination of credibility).

47. *See Scheffer*, 523 U.S. at 312, 314 (plurality opinion) (reasoning that concern over erosion of jury's role in determining credibility is "a . . . legitimate governmental interest" and consequently supports conclusion that "the President is within his constitutional prerogative to promulgate a *per se* rule that simply excludes all such evidence"); *id.* at 308 ("[S]tate and federal rulemakers have broad latitude under the Constitution to establish rules excluding evidence from criminal trials" and such a rule would "not abridge an accused's right to present a defense so long as [it was] not 'arbitrary' or 'disproportionate to the purposes [it was] designed to serve'" (quoting Rock v. Arkansas, 483 U.S. 44, 56 (1987))).

48. *See* United States v. Abel, 469 U.S. 45, 49 (1984) (recognizing role of Congress as ultimate authority for promulgation of Federal Rules of Evidence).

step of barring lie detector evidence. Consequently, judges, who are not authorized to alter the federal rules unilaterally, cannot properly exclude otherwise admissible evidence based on a preference for the jury's traditional role as exclusive "lie detector."[49]

In sum, any per se exclusion of lie detector evidence on the ground that it interferes with the jury's traditional function must be backed, as in *Scheffer*, by an applicable statute or rule of evidence promulgated by the appropriate policy-making body. As there is no such rule or statute currently applicable to the federal district courts, the jury's traditional role as arbiter of witness credibility is not a valid basis for exclusion of lie detector evidence.

2. Application of Rule 403 to Protect the Jury from Being Overwhelmed by Lie Detector Evidence

Separate and apart from the undue influence exhibited by Justice Thomas's contention in *Scheffer* that the jury is the one, true lie detector, courts have relied on a second, related concern also present in Justice Thomas's analysis to exclude lie detector evidence: that the opinion of a lie detector expert is inadmissible because "the aura of infallibility attending polygraph evidence can lead jurors to abandon their duty to assess credibility and guilt."[50] As one court summarizes, "[p]olygraph evidence has an 'overwhelming potential for prejudice,'"[51] due to "its questionable reliability and its 'misleading appearance of accuracy.'"[52] Relying on these concerns, courts have applied Federal Rule of Evidence 403 to exclude lie detector evidence on the ground that its "probative value is substantially outweighed by the danger of unfair prejudice, confusion of

49. *See* Amchem Prods., Inc. v. Windsor, 521 U.S. 591, 620 (1997) ("Courts are not free to amend a rule outside the process Congress ordered . . . ."). The contention that the presentation of expert evidence regarding witness credibility impermissibly infringes on the jury's role is further undermined by numerous widely accepted aspects of federal trials designed to influence the jury's credibility determinations, such as Federal Rule of Evidence 608, which permits a party to present evidence "concerning the witness' character for truthfulness or untruthfulness," FED. R. EVID. 608; *see also, e.g.*, United States v. Lollar, 606 F.2d 587, 589 (5th Cir. 1979) (determining under Rule 608 that prosecution witness could impeach defendant's testimony by testifying that defendant was generally not believable), and the numerous standard witness credibility jury instructions, *see, e.g.*, United States v. Hernandez-Escarsega, 886 F.2d 1560, 1574 (9th Cir. 1989) (rejecting claim of error with respect to instructions on basis that jury was properly instructed with respect to witness credibility where "the district court judge gave a number of instructions dealing specifically with credibility" that "listed a number of factors the jury could consider in determining the credibility of witnesses" along with "special instructions to aid the jury in assessing the credibility of informants, accomplices, and immunized witnesses"); *see also* United States v. Harris, 995 F.2d 532, 534 (4th Cir. 1993) (recognizing "trend in recent years to allow" expert testimony regarding general credibility of eyewitness testimony).

50. *Scheffer*, 523 U.S. at 314 (plurality opinion); *see also* United States v. Marshall, 526 F.2d 1349, 1360 (9th Cir. 1975) (emphasizing "the polygraph's misleading reputation as a 'truth teller'" in upholding exclusion).

51. United States v. Miller, 874 F.2d 1255, 1261 (9th Cir. 1989) (quoting Brown v. Darcy, 783 F.2d 1389, 1396 (9th Cir. 1986)).

52. *Id.* (quoting United States v. Falsia, 724 F.2d 1339, 1342 (9th Cir. 1983)).

the issues, or misleading the jury."[53]

Whatever the merits of these rulings (which appear to be grounded more in psychology than in law), a general Rule 403-based exclusion of lie detector evidence loses its vitality once that evidence has passed the *Daubert*/Rule 702 threshold. A Rule 403-based exclusion of lie detector evidence depends on an underlying assumption that the proffered evidence is scientifically invalid and thus unreliable. It is only that perceived unreliability of lie detector science that renders the evidence, when cloaked in expert testimony, *misleading* and thus susceptible to exclusion under Rule 403.[54]

Once the assumption that lie detector science is generally unreliable is eliminated (as it must be for the evidence to pass the *Daubert*/Rule 702 threshold), the potential for misleading the jury is drastically reduced. The residual danger that the jury will be misled or confused by a particular lie detector expert is then indistinguishable from that present with other scientific expert testimony routinely admitted in court, such as expert DNA or fingerprint analysis. This residual danger is properly dealt with, as in other contexts, through the adversarial process itself, not by outright preclusion of the evidence. As the Supreme Court in *Daubert* emphasized, "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence . . . . These conventional devices, rather than wholesale exclusion . . . are the appropriate safeguards where the basis of scientific testimony meets the standards of Rule 702."[55]

53. FED. R. EVID. 403; *see also* United States v. Ramirez-Robles, 386 F.3d 1234, 1245 (9th Cir. 2004) (affirming exclusion of lie detector evidence because, given "significance of [the proffered lie detector evidence] to the case" and persuasive power of polygraph testimony, "evidence was properly excluded under Federal Rule of Evidence 403"); United States v. Robbins, 197 F.3d 829, 844 (7th Cir. 1999) (upholding trial court's exclusion of "even the threshold question as to whether a polygraph test had been administered" under Rule 403 on ground that question "would confuse and cause speculation among the jury"); United States v. Waters, 194 F.3d 926, 930 (8th Cir. 1999) (affirming district court's exclusion of polygraph evidence on grounds that evidence would "go to a collateral matter and cause confusion as to the weight of the evidence"); United States v. Call, 129 F.3d 1402, 1406 (10th Cir. 1997) (affirming district court's exclusion of polygraph evidence under Rule 403 because, inter alia, there is "danger that the jury may overvalue polygraph results as an indicator of truthfulness because of the polygraph's scientific nature"); *Miller*, 874 F.2d at 1261 (finding that polygraphs are generally inadmissible except in rare circumstances because they will likely cause prejudice).

54. *See Miller*, 874 F.2d at 1261 (justifying general exclusion of polygraph evidence because of "its questionable reliability and its 'misleading appearance of accuracy'" (quoting *Falsia*, 724 F.2d at 1342)).

55. Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 596 (1993) (citing Rock v. Arkansas, 483 U.S. 44, 61 (1987)); *see also Rock*, 483 U.S. at 61 (rejecting argument that hypnotically refreshed testimony would mislead jury because "a jury can be educated to the risks of hypnosis through expert testimony and cautionary instructions"); Briscoe v. LaHue, 460 U.S. 325, 333-34 (1983) ("[T]he truthfinding process is better served if the witness's testimony is submitted to 'the crucible of the judicial process so that the factfinder may consider it, after cross-examination, together with the other evidence in the case to determine where the truth lies.'" (quoting Imbler v. Pachtman, 424 U.S. 409, 440 (1976) (White, J., concurring))); United States v. 14.38 Acres of Land, 80 F.3d 1074, 1079 (5th Cir. 1996) ("The perceived flaws in the testimony of [the] experts are matters properly to be tested in the

In addition, a Rule 403-based exclusion intended to protect the jury from its perceived ignorance is a relic of a receding era when judges could comfortably announce that while they were immune to its spell, jurors—even after the presentation of competing expert testimony, cross-examination, and appropriate limiting instructions—would likely be overwhelmed by the power of lie detector evidence.[56] In the words of the New Mexico Supreme Court:

> "Universality of education and the almost instantaneous dispersal of information through modern technology have created a citizenry with a remarkable and historically unique breadth of knowledge, perception, and sophistication. . . . Excluding information on the ground that jurors are too ignorant or emotional to evaluate it properly may have been appropriate in England at a time when a rigid class society created a yawning gap between royal judges and commoner jurors, but it is inconsistent with the realities of our modern American informed society and the responsibilities of independent thought in a working democracy."[57]

In sum, exclusion of lie detector evidence under Rule 403 based on fears that the science of lie detection is unreliable (and thus misleading) is, at best,

crucible of adversarial proceedings; they are not the basis for truncating that process."); United States v. Galbreth, 908 F. Supp. 877, 895-96 (D.N.M. 1995) (recognizing that because polygraph expert would "testify that the technique is not infallible," that studies had shown that juries are "cautious and careful in assessing polygraph evidence," and that government would be able to cross-examine expert and present its own expert testimony, probative value of expert's testimony was not substantially outweighed by danger of unfair prejudice under Rule 403); FED. R. EVID. 702 advisory committee's note on 2000 amendment ("'[T]he trial court's role as gatekeeper [for expert opinion testimony] is not intended to serve as a replacement for the adversary system.'" (quoting *14.38 Acres of Land*, 80 F.3d at 1078)).

56. There is an empirical debate regarding whether juries are, in fact, unduly swayed by lie detector evidence, *see* Ronald J. Simon, *Adopting a Military Approach to Polygraph Evidence Admissibility: Why Federal Evidentiary Protections Will Suffice*, 25 TEX. TECH L. REV. 1055, 1077 (1994) (summarizing studies indicating that juries do not give excessive weight to polygraph testimony despite traditional perspective of courts that juries will too easily defer to polygraph results). Unfortunately, this debate is largely unhelpful to the analysis because there is no objective measure for determining how much weight a juror *should* give to lie detector evidence. As with all evidence, the proper weight to give any particular piece of lie detector evidence depends on the circumstances. If a scientifically valid lie detector test reveals that a key witness is (or is not) telling the truth and that testimony is consistent with other evidence, the jury would properly give the lie detector evidence significant weight. On the contrary, if the lie detector expert's testimony is undermined on cross-examination and refuted by other evidence, the jury would properly give it little weight.

57. Lee v. Martinez, 96 P.3d 291, 297 (N.M. 2004) (quoting 1 JACK B. WEINSTEIN & MARGARET A. BERGER, WEINSTEIN'S FEDERAL EVIDENCE, at xix (Joseph M. McLaughlin, ed., 2d ed. 2003)); *accord* United States v. Scheffer, 523 U.S. 303, 318-19 (1998) (Kennedy, J., concurring in part) (concluding that argument that jury will be unable to properly weigh lie detector evidence "demeans and mistakes the role and competence of jurors in deciding the factual question of guilt or innocence"); *id.* at 337 (Stevens, J., dissenting) ("[T]he reliance on a fear that the average jury is not able to assess the weight of this testimony reflects a distressing lack of confidence in the intelligence of the average American."); People v. Johnson, 109 Cal. Rptr. 118, 128 (Cal. Ct. App. 1973) (Garner, J., dissenting) ("Today it takes a certain effrontery, a certain intellectual arrogance, a certain intellectual snobbery, to say to a juror, 'You cannot hear this evidence because you are not capable of effectively evaluating it.'").

superfluous given that exclusion on this basis would already be required under Rule 702 and, at worst, a direct violation of Rule 702 and *Daubert*. As discussed above, *Daubert*'s Rule 702 analysis is specifically intended to answer the objection that proffered scientific evidence is not sufficiently reliable to be presented to the jury.[58] Further, under *Daubert*, the scientific reliability determination must be made by reference to the opinions of *experts* in the relevant field, not a particular judge's own gut-level predilections about the science involved.[59] Thus, once the scientific validity objection is answered in favor of the proffered evidence under Rule 702, the analysis cannot be subtly revisited and countermanded under Rule 403.[60]

Finally, it bears emphasis that a district court considering reliance on Rule 403 to exclude scientifically valid lie detector evidence *offered by a defendant* in a criminal case must weigh competing constitutional concerns. "Few rights are more fundamental than that of an accused to present witnesses in his own defense,"[61] and it is widely accepted that in doing so a defendant enjoys broad latitude "to put before a jury evidence that might influence the determination of guilt."[62] Given these well-established postulates, it will be difficult to argue that exclusion of exculpatory *scientifically valid* lie detector evidence is constitutional if the sole, and somewhat speculative, ground for exclusion is that the evidence

58. *See Daubert*, 509 U.S. at 591 n.9 ("In a case involving scientific evidence, *evidentiary reliability* will be based upon *scientific validity*."); *see also* Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999) ("The objective of [*Daubert*'s gatekeeping] requirement is to ensure the reliability and relevancy of expert testimony.").

59. *See Daubert*, 509 U.S. at 593-94 (noting that judges should rely on peer review of experts to assess expert's credibility).

60. This is not to say that Rule 403 should play no role in determining the admissibility of scientifically valid lie detector evidence. *See Daubert*, 509 U.S. at 595 (emphasizing that judge should "be mindful of other applicable rules" including Rule 403 in weighing admissibility of expert testimony); United States v. Call, 129 F.3d 1402, 1405 (10th Cir. 1997) ("[E]ven if polygraph evidence should satisfy Rule 702, it must still survive the rigors of Rule 403 . . . ." (citing *Daubert*, 509 U.S. at 595)). Rule 403 can properly be applied to limit and shape a particular presentation of lie detector evidence (for example, by limiting the expert's testimony to those questions and answers during the lie detector examination that are relevant and not ambiguous or otherwise misleading). Further, Rule 403 will also have utility in excluding particular lie detector applications, without the necessity of a full *Daubert* hearing, where flaws in the application are apparent without reference to the underlying science (for example, where the test is administered by an unqualified person). See *infra* Part III.D for discussion of Rule 403's impact on admissibility. *See* United States v. Benavidez-Benavidez, 217 F.3d 720, 724 (9th Cir. 2000) (recognizing that *Daubert* hearing is not required every time lie detector evidence is offered because "district courts are free to reject the admission of polygraph evidence on the basis of any applicable rule of evidence"); *cf.* United States v. Cordoba, 991 F. Supp. 1199, 1208 (C.D. Cal. 1998) (excluding polygraph evidence under Rule 403 because "[*t*]*he flawed examination here* creates a substantial possibility the jury would be misled" (emphasis added)), *aff'd*, 194 F.3d 1053 (9th Cir. 1999).

61. Chambers v. Mississippi, 410 U.S. 284, 302 (1973) (recognizing that accused "must comply with established rules of procedure and evidence designed to assure both fairness and reliability in the ascertainment of guilt and innocence," but holding that defendant's constitutional rights were violated when critical testimony that "bore persuasive assurances of trustworthiness" was excluded by trial court).

62. Pennsylvania v. Ritchie, 480 U.S. 39, 56 (1987).

could potentially "mislead" the jury under Rule 403.[63]

B. Lie Detector Evidence and the "Ultimate Issue" Prohibition of Rule 704

Courts have also ruled that expert testimony regarding certain lie detector results is inadmissible under Federal Rule of Evidence 704(b) because the testimony encompasses the "ultimate issue."[64] As explained below, this objection, even if valid, is narrow in scope and consequently should not prove to be a significant obstacle to the future admission of lie detector evidence.

As originally drafted, Federal Rule of Evidence 704 was intended to abolish the common law doctrine that prohibited testimony on the "ultimate issue," a prohibition deemed by the drafters of the rule to be "unduly restrictive, difficult of application, and generally serv[ing] only to deprive the trier of fact of useful information."[65] In 1984, after a mentally disturbed individual attempted to assassinate President Reagan and a deranged fan murdered John Lennon, Congress passed the Insanity Defense Reform Act of 1984,[66] which, among other things, added a new subsection to Rule 704 in order to "constrain psychiatric testimony on behalf of defendants asserting the insanity defense."[67] The added subsection of Rule 704 states in full that:

> No expert witness testifying with respect to the mental state or condition of a defendant in a criminal case may state an opinion or inference as to whether the defendant did or did not have the mental state or condition constituting an element of the crime charged or of a defense thereto. Such ultimate issues are matters for the trier of fact

63. *Cf.* United States v. Smith, 451 F.3d 209, 221 (4th Cir. 2006) (recognizing constitutional limits on district court's exercise of discretion under Rule 403), *cert. denied*, 127 S. Ct. 197 (2006).

64. The Rule 704 basis for exclusion of lie detector testimony has appeared in two Ninth Circuit opinions that affirmed district court rulings excluding proffered lie detector evidence under Rule 704(b) without conducting *Daubert* hearings. United States v. Booth, 309 F.3d 566, 573 (9th Cir. 2002); United States v. Campos, 217 F.3d 707, 710 (9th Cir. 2000); *see also* United States v. Crumby, 895 F. Supp. 1354, 1362 (D. Ariz. 1995) (limiting polygraph expert's testimony, in part, based on "well-founded" argument that "polygraph evidence is prejudicial because it is evidence of the ultimate issue in the case").

65. FED. R. EVID. 704 advisory committee's note. The Advisory Committee announced (prematurely) in the comments to the Rule that by virtue of Rule 704, "the so-called 'ultimate issue' rule is specifically abolished." *Id.* The Committee added that: "The basis usually assigned for the rule, to prevent the witness from 'usurping the [functions] of the jury,' is aptly characterized as 'empty rhetoric.'" *Id.* (quoting 7 JOHN HENRY WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW, § 1920, at 18 (Chadbourn rev. 1978)).

66. Pub. L. No. 94-473, ch. 4, 98 Stat. 2057 (codified as amended at 18 U.S.C. §§ 4241-4247 (2000 & Supp. V 2005)).

67. United States v. Gastiaburo, 16 F.3d 582, 588 (4th Cir. 1994); *see also* S. REP. NO. 98-225, at 230 (1984), *reprinted in* 1984 U.S.C.C.A.N. 3182, 3412 ("Under this proposal, expert psychiatric testimony would be limited to presenting and explaining their diagnoses, such as whether the defendant had a severe mental disease or defect and what the characteristics of such a disease or defect, if any, may have been."); H.R. REP. NO. 98-577, at 16 (1983) ("While the medical and psychological knowledge of expert witnesses may well provide data that will assist the jury in determining the existence of the [insanity] defense, no person can be said to have expertise regarding the legal and moral decision involved.").

alone.[68]

Despite arguments to the contrary, a number of circuits have interpreted Rule 704(b) to extend beyond the testimony of psychiatric or mental health experts "to all expert witnesses."[69] The Ninth Circuit has subsequently applied this prohibition in two cases in which polygraph experts intended to testify with respect to the defendants' answers to questions that indicated the absence of criminal intent.[70]

Even assuming that Rule 704(b) properly applies to the testimony of *all* experts, proponents of lie detector expert testimony should have little difficulty avoiding its prohibitions, for a variety of reasons. First, the vast majority of lie detector evidence will not pertain to the "mental state or condition" of the defendant and consequently will not trigger the application of Rule 704(b). Rather, the more common use of lie detector evidence will be to establish the credibility of statements regarding objective facts—for example, a defendant's statement that he was not present at the scene of the crime or that he did not engage in a physical act that forms the basis of the crime charged.[71]

Second, even where the dispute at trial revolves around an issue of intent—such as whether a killing was premeditated or committed in self-defense—lie detector evidence can be introduced without any direct inquiry into a "mental state or condition." A defendant can disprove his intent in the same manner the prosecutor will try to prove it—circumstantially.[72] The questioning presented

68. FED. R. EVID. 704(b).

69. United States v. Morales, 108 F.3d 1031, 1036 (9th Cir. 1997) ("The language of Rule 704(b) is perfectly plain. It does not limit its reach to psychiatrists and other mental health experts. Its reach extends to all expert witnesses."); *see also, e.g.*, United States v. Smart, 98 F.3d 1379, 1388 (D.C. Cir. 1996) ("Although the Rule was originally enacted to place a limitation on psychiatric testimony when a criminal defendant relies upon the insanity defense, it is now well-established that Rule 704(b) applies to all cases in which an expert testifies as to a mental state or condition constituting an element of the crime charged or defense thereto." (citation omitted)); United States v. Windfelder, 790 F.2d 576, 580 (7th Cir. 1986) (ruling that Congress intended Rule 704(b) to exclude all expert testimony about defendant's ultimate mental state when it would be relevant to proving legal conclusion). *But see Gastiaburo*, 16 F.3d at 588 ("Rule 704(b) was . . . an attempt to constrain psychiatric testimony on behalf of defendants asserting the insanity defense. The application of the same rule in an entirely different context . . . is murky at best." (citation omitted)); United States v. Lipscomb, 14 F.3d 1236, 1242 (7th Cir. 1994) ("[T]he most sensible way to read [Rule 704(b)], in light of its terms and the purpose of the rule, is as referring to testimony based on a 'psychiatric' or similar 'medical' analysis of the defendant's mental processes."); United States v. Richard, 969 F.2d 849, 855 n.6 (10th Cir. 1992) ("The legislative history suggests that Congress only intended to limit 'the scope of expert testimony by psychiatrists and other mental health experts.'" (quoting S. REP. NO. 98-225, at 230, *reprinted in* 1984 U.S.C.C.A.N. at 3412)).

70. *Booth*, 309 F.3d at 573; *Campos*, 217 F.3d at 710; *see also* United States v. Ramirez-Robles, 386 F.3d 1234, 1245 (9th Cir. 2004) (citing Rule 704(b) as alternative justification for excluding portion of proffered lie detector evidence).

71. *See, e.g.*, *Ramirez-Robles*, 386 F.3d at 1245 nn.3-4 (finding that in prosecution for sale of methamphetamine, Rule 704 excluded question of whether defendant knew there would be a sale of drugs but did not exclude two other questions that were factually based).

72. *See* United States v. Peters, 462 F.3d 953, 957 (8th Cir. 2006) (noting that because "[d]irect evidence of a defendant's mental state frequently is unavailable" government may and "often does prove a defendant's criminal intent with circumstantial evidence").

from the lie detector examination will, again, solely concern objective facts, but in this case, those facts will be offered to disprove the requisite criminal intent. For example, if the defense seeks to prove that the defendant acted in self-defense, there is no need for the expert to inquire directly as to the defendant's "intent." Rather the expert could ask whether the victim had a weapon, whether the victim threatened to kill the defendant, who struck the first blow, and so on.[73] By showing the absence of criminal intent solely through circumstantial evidence of objective facts, the expert's testimony avoids any conflict with Rule 704(b).[74]

Third, contrary to the Ninth Circuit's analysis, a lie detector expert can, in fact, testify with respect to the veracity of a defendant's answer to an inquiry as to intent without violating the ultimate issue prohibition of Rule 704(b).[75] This is because there is a distinction between an expert's opinion that the defendant truthfully stated he acted with a certain intent (e.g., in self-defense), and the expert's (perhaps prohibited) opinion that the defendant did, in fact, act with that intent. As the Ninth Circuit itself has explained in another context, the prohibition in Rule 704(b):

> does not bar testimony supporting an inference or conclusion that a defendant does or does not have the requisite mental state, "so long as the expert does not draw the ultimate inference or conclusion for the jury and the ultimate inference or conclusion does not necessarily follow from the testimony."[76]

Even the most sophisticated lie detector technology will not enable an expert to testify as to a defendant's past intent. Instead, the most an expert can

73. *See* United States v. DiDomenico, 985 F.2d 1159, 1165 (2d. Cir. 1993) ("Clearly, Rule 704(b) does not prohibit all expert testimony that gives rise to an inference concerning a defendant's mental state. The plain language of the rule, however, means that the expert cannot expressly 'state the inference,' but must leave the inference, however obvious, for the jury to draw." (citation omitted)).

74. *See Booth*, 309 F.3d at 573 (affirming district court's exclusion of testimony of polygraph expert that defendant "was being truthful when he denied intent to defraud or knowledge of fraud"); *Campos*, 217 F.3d at 710 (affirming district court's exclusion of polygraph examination consisting of question "did you know there were drugs in the van?").

75. The Ninth Circuit itself has recognized the difficulty in distinguishing prohibited from permissible testimony under its jurisprudence. *See* United States v. Gonzales, 307 F.3d 906, 911 (9th Cir. 2002) (recognizing in discussing *Campos* decision that "[i]t is sometimes difficult to distinguish between an expert opinion that would necessarily lead to the finding of a particular intent and an opinion that only comes close to this forbidden effect").

76. United States v. Younger, 398 F.3d 1179, 1189 (9th Cir. 2005) (quoting United States v. Morales, 108 F.3d 1031, 1038 (9th Cir. 1997)); *see also* United States v. Watson, 260 F.3d 301, 309 (3d Cir. 2001) ("Rule 704(b) may be violated when the prosecutor's question is plainly designed to elicit the expert's testimony about the mental state of the defendant or when the expert triggers the application of Rule 704(b) by directly referring to the defendant's intent, mental state, or mens rea. Rule 704 prohibits 'testimony from which it necessarily follows, if the testimony is credited, that the defendant did or did not possess the requisite mens rea.'" (citations omitted) (quoting United States v. Bennett, 161 F.3d 171, 183 (3d Cir. 1998))); *DiDomenico*, 985 F.2d at 1164 (observing that Rule 704(b) "disables even an expert from 'expressly stating the final conclusion or inference as to a defendant's actual mental state' at the time of a crime" (quoting United States v. Richard, 969 F.2d 849, 854 (10th Cir. 1992))).

say is that when the defendant voiced an innocent intent, lie detector technology indicated that the defendant was truthful. The ultimate issue of the defendant's intent does not "necessarily follow" from this testimony.[77] Rather, as the prosecution will no doubt argue, the test could be flawed, or the defendant may have "fooled" the test or deluded himself, and thus, even if the expert's testimony regarding the test is credited, the jury could still conclude that the defendant possessed the requisite criminal intent.[78]

Thus, the exceedingly narrow significance of Rule 704(b) in the lie detector context is, at most, that a lie detector expert is not permitted to testify directly as to the veracity of a defendant's response to a question such as, "what was your intent?" And, as discussed above, even the exclusion of that testimony under the rule is legally questionable.

III. THE HEARSAY OBJECTION TO LIE DETECTOR EVIDENCE AND A POTENTIAL SOLUTION TO THE HEARSAY PROBLEM: THE RESIDUAL EXCEPTION TO THE HEARSAY RULES

The most cogent evidentiary objection to scientifically valid expert lie detector testimony is that it is hearsay. This is because any proffer of lie detector evidence will include two distinct elements: (1) an out-of-court statement by the defendant or another witness, and (2) expert testimony that the out-of-court statement is true. Central to the proffer, then, is an out-of-court statement that gives every appearance of being offered for its truth—i.e., hearsay.[79] In fact,

77. *Younger*, 398 F.3d at 1189 (citing *Morales*, 108 F.3d at 1038).

78. *Cf. id.* (finding no violation of Rule 704(b) in police lieutenant expert testimony about hypothetical "person" or "individual" while expressly denying knowledge of defendant); *Gonzales*, 307 F.3d at 911 (determining that expert's testimony that "a 'person' possessing the evidence in question would, in fact, possess the drugs for the purpose of distributing" was permissible under Rule 704(b) because "[e]ven if the jury believed the expert's testimony, the jury could have concluded that [the defendant] was not a typical or representative person, who possessed the drugs and drug paraphernalia involved"); United States v. Levine, 80 F.3d 129, 135 (5th Cir. 1996) (finding no error in admission of testimony over Rule 704(b) objection where "[t]he expert's answers to the four questions posed by the government did not contain an opinion or inference as to whether the defendant did or did not have the mental state or condition" at issue but "[i]nstead . . . focused on whether facts similar to those in evidence were consistent with the conduct of a hypothetical person suffering a severe manic episode").

79. The Supreme Court of Canada has short-circuited the entire lie detector controversy in Canadian courts by ruling that, regardless of advances in the science of lie detection, such evidence is inadmissible in criminal cases based on traditional evidentiary objections, including an analogue to the federal rules prohibiting hearsay. *Compare* R. v. Béland, [1987] 2 S.C.R. 398, 410-11, 416-17 (Can.) (reasoning that lie detector evidence is inadmissible because its admission "would run counter to the well established [Canadian] rules of evidence," including, primarily, prohibition on bolstering witness credibility by prior consistent statements absent allegation of recent fabrication), *with* FED. R. EVID. 801(d)(1)(B) (excepting from hearsay rules prior statement of testifying witness "offered to rebut an express or implied charge against the declarant of recent fabrication or improper influence or motive"). The Canadian court also emphasized that the admission of such evidence "serve[s] no purpose which is not already served" as jurors need no expert assistance in determining witness credibility, and lie detector evidence "will disrupt proceedings, cause delays, and lead to numerous complications which will result in no greater degree of certainty in the process than that which already

considering that a simple hearsay objection has the potential to render the entire debate regarding the scientific reliability of lie detector evidence (past and present) moot, it is surprising how little analysis has been devoted to the subject.[80]

A. Lie Detector Evidence Depends on Hearsay for Its Relevance

The Federal Rules of Evidence define "hearsay" as a "statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted."[81] Such statements are inadmissible in federal (and state) court absent an applicable exception to the hearsay rules.[82]

The hearsay problem arises in virtually any presentation of lie detector evidence due to the fact that all such evidence depends for its relevance on an effort to prove the truth of an underlying out-of-court witness statement. This problem is readily apparent when a defendant attempts to introduce an exculpatory statement through a lie detector expert—significantly, the very scenario where lie detection could provide the greatest service to the criminal

exists." *Béland*, 2 S.C.R. at 417. Unlike the rulings of American courts, the Canadian ruling "is not based on fear of inaccuracies"; instead, the court noted that "even the finding of a significant percentage of errors in its results would not, by itself, be sufficient ground to exclude [the polygraph] as an instrument for use in the courts." *Id.* at 416-17.

80. Commentators have either failed to squarely address the hearsay problem, *see generally*, *e.g.*, Ronald J. Simon, *Adopting a Military Approach to Polygraph Evidence Admissibility: Why Federal Evidentiary Protections Will Suffice*, 25 TEX. TECH L. REV. 1055 (1994) (failing to address issue of hearsay); John C. Bush, Note, *Warping the Rules: How Some Courts Misapply Generic Evidentiary Rules to Exclude Polygraph Evidence*, 59 VAND. L. REV. 539 (2006) (contending that federal courts improperly warp general evidentiary rules to exclude polygraph evidence, while briefly noting that hearsay rules present no problem for polygraph evidence as long as test results are not offered to prove truth of matter asserted); David Gallai, Note, *Polygraph Evidence in Federal Courts: Should It Be Admissible?*, 36 AM. CRIM. L. REV. 87 (1999) (examining admissibility of polygraph examinations under *Daubert* and rules of evidence but neglecting to address hearsay objection); Timothy B. Henseler, Comment, *A Critical Look at the Admissibility of Polygraph Evidence in the Wake of* Daubert*: The Lie Detector Fails the Test*, 46 CATH. U. L. REV. 1247 (1997) (arguing for rejection of polygraph evidence on various grounds, but declining to include hearsay rules as obstacle to its admission), or asserted that hearsay is not an obstacle based on arcane or questionable (see discussion in text, *infra*) legal theories, *see* Edward J. Imwinkelried & James R. McCall, *Issues Once Moot: The* Other *Evidentiary Objections to the Admission of Exculpatory Polygraph Examinations*, 32 WAKE FOREST L. REV. 1045, 1071, 1073 (1997) (contending that statements of polygraph subject are not hearsay because (1) subject's "answers are the verbal part of a relevant act," the polygrapher's examination, and (2) "Rule 703 would override the hearsay doctrine and permit the polygraphist to express an opinion based in part on the subject's responses"); *see also* Ben-Yisrayl v. State, 753 N.E.2d 649, 654 (Ind. 2001) (citing Imwinkelried & McCall, *supra*, to *support* exclusion of lie detector evidence on hearsay grounds); James R. McCall, *The Personhood Argument Against Polygraph Evidence, or Even if the Polygraph Really Works, Will Courts Admit the Results?*, 49 HASTINGS L.J. 925, 934 & n.37 (1998) (stating without analysis that "polygraph evidence presents no legitimate hearsay concerns," with sole supporting citation to Imwinkelried & McCall, *supra*).

81. FED. R. EVID. 801(c).

82. FED. R. EVID. 802. See, for example, California Evidence Code § 1200, for a representative state rule.

justice system.

A defendant's out-of-court statement to a witness that he did not commit the charged crime is a classic example of inadmissible hearsay. As a general matter such evidence, when offered by the defense,[83] falls squarely within the hearsay prohibition and cannot be admitted under any hearsay exception.[84] This prohibition similarly applies when the defendant (or any witness) makes an out-of-court statement to a lie detector expert. The expert's in-court repetition of the test subject's out-of-court statement is hearsay and inadmissible.[85] As the expert's opinion is only relevant to establish the potential truth of the subject's answers, the hearsay bar to revealing those answers to the jury renders the lie detector expert's testimony irrelevant and inadmissible.

A simple example illustrates the depth of the problem. Imagine that an arson defendant honestly answers "no" to the dispositive question—"Did you set fire to the Scenic Vista Housing Complex?"—during an fMRI examination.[86] The expert fMRI examiner determines that the defendant's statement appears to be truthful. Apart from some background testimony regarding fMRI technology, the expert's proposed testimony would consist of the expert's repetition of the defendant's out-of-court assertion of innocence and an opinion that the statement appears to be true. This testimony is relevant because the jury could then decide to credit the out-of-court statement (i.e., to accept it as true) in light of the expert's testimony.

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83. One type of lie detector evidence would not be subject to a hearsay objection. The prosecution can introduce the results of a lie detector examination taken by the defendant because the defendant's statements during the examination would constitute statements of a party opponent. *See* FED. R. EVID. 801(d)(2) (stating that admissions made by party opponent, introduced by opposing party are nonhearsay and admissible under rules of evidence); *cf.* United States v. Waters, 194 F.3d 926, 931 (8th Cir. 1999) (noting that statements made by defendant during lie detector examination were inadmissible hearsay because defense, rather than prosecution, sought to introduce them). Despite the colloquial reference to the pertinent hearsay exception as "admissions" of a party opponent, there is no actual requirement that the statements constitute admissions; under Rule 801(d)(2), a statement is not considered hearsay if "[t]he statement is offered against a party and is . . . the party's own statement." FED. R. EVID. 801(d)(2). Of course, a defendant cannot be compelled to take a lie detector test. *See* Schmerber v. California, 384 U.S. 757, 764 (1966) (referencing lie detector tests as type of invasion that would "evoke the spirit and history of the Fifth Amendment" and suggesting that such testing may not be compelled).

84. *See, e.g.*, United States v. Chard, 115 F.3d 631, 634-35 (8th Cir. 1997) (ruling that defendant's exculpatory statements to police officer were inadmissible hearsay). See *infra* note 105 for cases excluding polygraph evidence of prior consistent statements.

85. *See* United States v. Marshall, 526 F.2d 1349, 1360 (9th Cir. 1975) (listing "hearsay" as one of several grounds on which polygraph evidence will properly be excluded); United States v. Ridling, 350 F. Supp. 90, 99 (E.D. Mich. 1972) (noting that "the [subject's] statements supported by the opinion of the [lie detector] expert appear to be hearsay"); Ben-Yisrayl v. State, 753 N.E.2d 649, 653 (Ind. 2001) (excluding lie detector evidence as inadmissible hearsay); *cf. Waters*, 194 F.3d at 931 (upholding under Rule 403 district court's exclusion of polygraph evidence without *Daubert* hearing, and adding that refusal to independently admit defendant's responses in polygraph examination was also proper because "'[s]uch statements, when offered by the defendant, are hearsay, except in narrow circumstances not present here'" (quoting United States v. Greene, 995 F.2d 793, 798 (8th Cir. 1993))).

86. An actual lie detector examination would be significantly more comprehensive. A simplified version is used here solely to illustrate the hearsay problem.

The fMRI expert's presentation, as with any coherent presentation of lie detector testimony, thus requires the expert to explicitly inform or, at least, implicitly reveal the relevant questions and answers included in the examination—here, the defendant's critical assertion that he did not set fire to the Scenic Vista Housing Complex. As a consequence, the fMRI expert's testimony will include a "statement, other than one made by the declarant while testifying at the trial or hearing,"[87] thus satisfying the first portion of the hearsay definition.

It is equally clear that the defendant's out-of-court statement is "offered in evidence to prove the truth of the matter asserted"[88]—the second and final portion of the hearsay definition. In fact, not only is the defendant's statement during the lie detector examination offered for its truth, but in introducing the statement through what is essentially a "truth expert," the defense attempts to establish its substantive truth in *two separate ways*. First, in traditional fashion, the defendant's assertion concerning a fact at issue is presented to the jury. As the defendant's assertion is only relevant for its potential truth, this statement, like virtually all witness testimony, is offered by its proponent for that purpose. Second, the statement is presented as true in a more novel way, through expert opinion testimony that an application of lie detection technology supports a conclusion that the statement is truthful. In essence, the statement is offered as substantive evidence, and then because the truth of the statement is in doubt, the defense supports the inference that the statement is substantively true with expert testimony.

The fact that the lie detector subject's (in this case the defendant's) out-of-court statement is offered for its truth is further apparent from the fact that if offered for any other purpose, the statement has no relevance. A statement is *not* offered for its truth "[i]f the significance of [the] offered statement lies solely in the fact that it was made."[89] In such circumstances, "no issue is raised as to the truth of anything asserted, and the statement is not hearsay."[90]

In the instant example, there certainly is an issue raised as to the truth of the defendant's out-of-court assertion of innocence—in fact, that "issue" is both the underlying purpose for offering the statement and the sole reason for the fMRI expert opinion testimony to follow. Conversely, there is absolutely no significance to the *fact* that the defendant made an out-of-court statement professing his innocence. A denial of guilt can, in fact, be presumed by virtue of the trial proceedings. The assertion of innocence assumes significance if, and

87. FED. R. EVID. 801(c).

88. *Id.*

89. FED. R. EVID. 801 advisory committee's note.

90. *Id.*; *accord* United States v. Cantu, 876 F.2d 1134, 1137 (5th Cir. 1989) ("If the significance of a statement 'lies solely in the fact that it was made,' rather than in the veracity of the out-of-court declarant's assertion, the statement is not hearsay because it is not offered to prove the truth of the matter asserted." (quoting FED. R. EVID. 801(c) advisory committee's note)); *cf.* Dutton v. Evans, 400 U.S. 74, 88 (1970) (plurality opinion) ("The hearsay rule does not prevent a witness from testifying as to what he has heard; it is rather a restriction on the proof of fact through extrajudicial statements.").

only if, it is believed (i.e., the statement is credited as true or possibly true).[91]

In light of this hearsay problem, a party may be tempted to try to offer lie detector testimony in a fashion that obscures the underlying hearsay statements (e.g., the testimony of an expert that a lie detector subject "passed" a lie detector test). Evidence consisting solely of generic expert statements regarding positive test results that omits the actual questions asked and answers given, however, would properly be excluded as irrelevant under Rule 402 or impermissibly misleading and confusing under Rule 403.[92] A jury cannot evaluate the significance, if any, of expert testimony that a witness spoke truthfully, if it does not know what the witness said. Finally, to the extent generic testimony regarding lie detector test passage is arguably relevant to a lie detector subject's overall *character* for truthfulness, it is precluded by Federal Rule of Evidence 608 which strictly limits admission of "evidence of truthful character" and bars altogether introduction of "[s]pecific instances of the conduct of a witness" for the "purpose of . . . supporting the witness'[s] character for truthfulness."[93]

B. Neither Federal Rule of Evidence 703 nor the Availability of the Lie Detector Subject for Cross-Examination at Trial Solves the Hearsay Problem

To emphasize the sweeping power of a hearsay objection to unequivocally preclude the introduction of lie detector evidence, it is necessary to discredit two facially appealing, but ultimately unfruitful, avenues around the hearsay problem. As discussed below, neither Federal Rule of Evidence 703, nor the availability of the lie detector subject at trial, eliminate the hearsay problem inherent in lie detector evidence.

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91. There is, perhaps, one exception—a scenario in which the defendant believes his exculpatory statement to be true but has limited knowledge of the circumstances such that the statement is relevant only to consciousness of innocence rather than actual innocence (e.g., the defendant was insane or unconscious at the time of the crime, or has suffered memory-jeopardizing trauma since the crime). This scenario is, of course, exceedingly rare. In the vast majority of cases, no meaningful distinction exists between considering a defendant's own statement that he is innocent as evidence that he is "conscious" of innocence and considering it as evidence that he is, in fact, innocent. *Cf.* United States v. Campos, 217 F.3d 707, 712 (9th Cir. 2000) (noting for purposes of Rule 704(b) analysis that "[t]here is no principled distinction . . . between the testimony of [the defendant's] polygraph expert regarding her physiological responses to the questions posed during the examination and the conclusion from that testimony that she did not 'know' that the van contained a significant amount of marijuana").

92. See *infra* note 126 for sources discussing exclusion of lie detector evidence due to a determination that it is misleading, irrelevant, or unhelpful.

93. FED. R. EVID. 608(a)-(b). Lie detector evidence is not otherwise precluded by Rule 608, which covers only "evidence of truthful *character*" and evidence of "[s]pecific instances of the conduct of a witness" offered "for the purpose of attacking or supporting the witness'[s] *character for truthfulness*." *Id.* (emphasis added). Lie detector evidence, properly offered, does not speak to the *character* of the witness for truthfulness and may even be offered where the witness does not testify in court. Rather the lie detector evidence is offered to prove the truth of the particular statements made during the test. *Cf.* United States v. Gipson, 24 M.J. 246, 252 n.8 (C.M.A. 1987) (finding that admission of lie detector evidence does not violate Military Rule of Evidence 608), *superseded by* MIL. R. EVID. 707, *as recognized in* United States v. Scheffer, 41 M.J. 683 (A.F. Ct. Crim. App. 1995), *rev'd*, 523 U.S. 303 (1998).

Federal Rule of Evidence 703 permits the disclosure of otherwise inadmissible evidence to the jury if the evidence constitutes the "facts or data . . . upon which an expert bases an opinion."[94] Under this Rule, a proponent of lie detector evidence could plausibly try to introduce the underlying subject's statements in a lie detector examination as the "data upon which" the lie detector expert based her opinion. In theory, then, Rule 703 permits this otherwise inadmissible hearsay to be placed before the jury as part of the presentation of the expert's opinion.[95]

Rule 703, however, does not avoid the hearsay problem inherent in lie detector testimony because of the limited, nonsubstantive purpose for which evidence admitted under the Rule can be used. In the case of expert lie detector testimony, a hearsay problem arises because the expert's testimony is relevant solely to inform the jury's consideration of the substantive truth of a lie detector subject's out-of-court statement. Consequently, the hearsay problem can only be solved by a hearsay exception that permits *substantive consideration* of the out-of-court statements. Rule 703 does not permit such consideration.[96]

As the drafters of Rule 703 made clear, evidence admitted under the Rule cannot "be used for substantive purposes."[97] Instead, "data" admitted under Rule 703 (here, the lie detector subject's statements) comes in solely to assist the jury to evaluate the credibility of the expert opinion.[98] The jury cannot consider it as substantive evidence.[99] Therefore, if a lie detector subject's statements were admitted through Rule 703, the jury would be precluded from considering those

94. FED. R. EVID. 703.

95. *See* Imwinkelried & McCall, *supra* note 80, at 1072-73 (emphasizing that Rule 703 allows a lie detector expert to base an opinion on inadmissible hearsay, so long as hearsay is "'of a type reasonably relied upon by experts in the particular field in forming opinions'" (quoting FED. R. EVID. 703)).

96. *See* FED. R. EVID. 703 advisory committee's note on 2000 amendment (requiring trial judge to instruct jury that evidence is not admitted for its substantive truth but only for its effect on expert's opinion). The Rule, as amended in 2000, further instructs district courts that "[f]acts or data that are otherwise inadmissible" should not even be "*disclosed* to the jury by the proponent of the opinion . . . unless the court determines that their probative value in assisting the jury to evaluate the expert's opinion substantially outweighs their prejudicial effect." FED. R. EVID. 703 (emphasis added).

97. *Id.* The Rule's drafters note that when evidence is disclosed to the jury under Rule 703, "the trial judge must give a limiting instruction upon request, informing the jury that the underlying information must not be used for substantive purposes." *Id.* This point was made explicit in notes to the 2000 amendments, but the principle applied to the pre-2000 rule. *See* Paul R. Rice, *Inadmissible Evidence as a Basis for Expert Opinion Testimony: A Response to Professor Carlson*, 40 VAND. L. REV. 583, 584 (1987) (advocating that juries should be permitted to consider data underlying expert opinion for substantive purposes, but acknowledging that Rule 703 does not permit such consideration); *cf.* United States v. A & S Council Oil Co., 947 F.2d 1128, 1135 (4th Cir. 1991) (finding that expert's analysis of inadmissible lie detector evidence underlying his opinion as to mental capacity of witness was admissible under Rule 703 but only with respect to credibility of expert's opinion not with respect to credibility of lie detector subject).

98. FED. R. EVID. 703.

99. *See* FED. R. EVID. 703 advisory committee's note on 2000 amendment (noting that if otherwise inadmissible evidence is admitted, judge should give jury limiting instruction not to use evidence for substantive purposes).

statements for their truth (and would be so instructed).[100] The lie detector expert's testimony that the statements are true would consequently be irrelevant and properly stricken. In other words, to the extent Rule 703 "solves" the hearsay problem, an unintended side effect of the solution is that the expert's testimony is rendered irrelevant and thus inadmissible under other rules of evidence.

Lie detector evidence also remains objectionable as hearsay even if the subject of the lie detector examination testifies in court.[101] While it can be argued that once the subject repeats the out-of-court statements at trial, the out-of-court statements become relevant for a nonsubstantive purpose—to corroborate the in-court statements—this argument is also barred by the Federal Rules of Evidence.[102] Federal Rule 801(d) permits a party to introduce a prior consistent statement of a testifying witness as nonhearsay only if the statement is "consistent with the [witness's] testimony and is offered *to rebut an express or implied charge . . . of recent fabrication or improper influence or motive*."[103] Outside of this narrow scenario,[104] the prior consistent statements of a witness, whether made during a lie detector examination or elsewhere, are inadmissible.[105]

100. *Id.*

101. Perhaps this dilemma could be resolved if the witness testified in court while *simultaneously* undergoing a lie detector examination. In such circumstances the witness's underlying statements are not made out of court and consequently are not hearsay. *See* FED. R. EVID. 801(c) (defining hearsay as statement that is not made while testifying at trial or hearing). As there is no precedent for such a procedure, however, it is unlikely to be a practical means of solving the hearsay problem.

102. In fact, the argument itself is somewhat flawed. The out-of-court statement is still being offered for its truth, just indirectly. The proponent of the out-of-court lie detector evidence is attempting to prove that the in-court testimony is true based on an inference (bolstered by expert testimony) that the out-of-court statement is true.

103. FED. R. EVID. 801(d) (emphasis added).

104. A prior consistent statement is not admissible any time a witness's testimony is challenged as fabricated but rather only in the much narrower circumstance where the prior consistent statement predated "the charged recent fabrication or improper influence or motive." Tome v. United States, 513 U.S. 150, 167 (1995).

105. *See* United States v. McCulley, 178 F.3d 872, 876 (7th Cir. 1999) ("It is, of course, improper to admit a previous statement for the mere purpose of bolstering a statement made at trial."); United States v. Lowe, 65 F.3d 1137, 1144 (4th Cir. 1995) (finding it improper to admit prior statements solely to strengthen credibility of statements made at trial); United States v. Acker, 52 F.3d 509, 517 (4th Cir. 1995) ("The testimony as to [the declarant's] out-of-court statement to [the police officer] was admitted solely to corroborate what [the declarant] testified to 'in the courtroom today.' A prior consistent out-of-court statement of a witness is not admissible for this purpose."); United States v. A & S Council Oil Co., 947 F.2d 1128, 1135 n.6 (4th Cir. 1991) ("It was improper for the government to introduce an extrajudicial statement, consistent with [the witness's] trial testimony, except 'to rebut an expressed or implied charge against the declarant of recent fabrication or improper influence or motive.'" (quoting FED. R. EVID. 801(d)(1)(B))); United States v. Weil, 561 F.2d 1109, 1111 & n.2 (4th Cir. 1977) ("Corroborative testimony consisting of prior, consistent statements is ordinarily inadmissible" as hearsay absent conditions set forth in Rule 801(d)(1)(B)); United States v. Navarro-Varelas, 541 F.2d 1331, 1334 (9th Cir. 1976) (finding that district court properly excluded defendant's tape-recorded statement that was consistent with trial testimony on grounds that prosecution had not attacked defendant's in-court testimony as recent fabrication).

In sum, lie detector evidence depends on its underlying hearsay component for its relevance and, consequently, any effort to finesse or obscure the hearsay component renders the evidence either irrelevant or impermissible character evidence. There is no middle ground. At most, an artful attorney might be able to disguise the hearsay imbedded within the lie detector evidence, but the fact that the hearsay is implicit, rather than explicit, would not make it any less objectionable. "If the substance of the prohibited [hearsay] testimony is evident even though it was not introduced in the prohibited form, the testimony is still inadmissible."[106] Consequently, the search for a reliable lie detector will ultimately be of no consequence to the criminal justice system absent an applicable hearsay exception.[107]

C. Lie Detector Evidence Under the Residual Exception to the Hearsay Rules

One potential solution to lie detector evidence's inherent hearsay problem is the "residual exception" to the hearsay rules found in Federal Rule of Evidence 807. Rule 807 provides that a statement not specifically covered by the exceptions to the hearsay doctrine that has "equivalent circumstantial guarantees of trustworthiness" may be admitted if:

> (A) the statement is offered as evidence of a material fact; (B) the statement is more probative on the point for which it is offered than any other evidence which the proponent can procure through reasonable efforts; and (C) the general purposes of these rules and the interests of justice will best be served by admission of the statement into evidence.[108]

The residual exception is "designed to encourage the progressive growth and development of federal evidentiary law by giving courts the flexibility to deal with new evidentiary situations which may not be pigeon-holed elsewhere."[109] One "new evidentiary situation" potentially well suited to the

106. Ryan v. Miller, 303 F.3d 231, 249 (2d Cir. 2002); *see also* Foster v. State, 687 S.W.2d 829, 832 (Ark. 1985) ("The mere mention of the [polygraph] test, under the circumstances, makes obvious its results, which is [sic] inadmissible hearsay.").

107. Of course, even if lie detector evidence is inadmissible in court it will continue to be used informally outside of court by police and prosecutors in evaluating witnesses, and by defendants attempting to convince police and prosecutors of their innocence. In fact, it is plausible that if lie detector science were someday *perfected*, but nevertheless remained inadmissible in court, pretrial lie detector examinations would become more significant than trials for proving defendants' innocence and trials would occur only for those defendants who refused to participate in, or failed, pretrial lie detector examinations.

108. FED. R. EVID. 807. The Rule also requires that the offering party provide notice of its intent to offer any statements in advance of trial. *Id.*

109. United States v. Mathis, 559 F.2d 294, 299 (5th Cir. 1977); *see also* SEC v. First City Fin. Corp., 890 F.2d 1215, 1225 (D.C. Cir. 1989) ("When a statement is not specifically exempted from the general hearsay prohibition, [the residual exception] allows the introduction of the statement if it is invested with 'equivalent circumstantial guarantees of trustworthiness,' is more probative than other evidence that the proponent can reasonably procure, and serves the interests of justice."); Huff v. White Motor Corp., 609 F.2d 286, 291 (7th Cir. 1979) (noting that residual exception allows for judicial discretion).

exception is the introduction of out-of-court statements whose substantive truth has been verified by scientifically valid lie detection techniques.[110]

The Rule 807 analysis is fairly straightforward. Assuming that proffered lie detector evidence satisfies *Daubert v. Merrell Dow Pharmaceuticals, Inc.*'s[111] threshold requirements for scientific validity, the three delineated requirements of Rule 807 will generally be satisfied. The materiality requirement is simply a "'restatement of the general requirement that evidence must be relevant'"—a threshold that must already be met under *Daubert* itself and as a general matter under Rule 402.[112] The necessity requirement—that the statement be more probative on the point for which it is offered than any other reasonably obtainable evidence—is also readily met as the underlying subject's statements during a lie detector examination cannot be duplicated by other evidence, and without these statements, the lie detector evidence cannot be presented.[113] The equity requirement should also be satisfied given the professed desire of the rules and the criminal justice system generally to provide the jury with all significant relevant evidence from which to determine guilt or innocence.[114] Admission of lie detector evidence over this evidentiary hurdle is particularly warranted when such evidence is presented by the defense in light of the general constitutional requirement that the accused be permitted to present significant exculpatory evidence.[115]

110. Among the commentators and courts to have addressed this issue there appears to be only one instance in which the residual exception was recognized as a potential solution to the hearsay problem—although at a time when the scientific reliability of the lie detector evidence may not have warranted it. *See* United States v. Ridling, 350 F. Supp. 90, 99 (E.D. Mich. 1972) (noting that "the statements supported by the opinion of the expert appear to be hearsay but since the very purpose of the test is to determine truthfulness, the evidence should be admitted as an exception to the hearsay rule because of its high degree of trustworthiness" (citing FED. R. EVID. 803(24) (current version at FED. R. EVID. 807)).

111. 509 U.S. 579 (1993).

112. United States v. Peneaux, 432 F.3d 882, 892 (8th Cir. 2005) (quoting CHARLES TILFORD MCCORMICK, MCCORMICK ON EVIDENCE § 324 (5th ed. 2003)), *cert. denied*, 127 S. Ct. 42 (2006); *see also* FED. R. EVID. 401 (providing that evidence is relevant if it has "any tendency to make the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence").

113. See *supra* notes 106-07 and accompanying text for the conclusion that the relevance of lie detector evidence depends on the underlying statements made during the polygraph examination.

114. *See* FED. R. EVID. 402 (requiring as starting point for evidentiary analysis that "[a]ll relevant evidence is admissible"); *Daubert*, 509 U.S. at 587-88 (recognizing "'liberal thrust' of the Federal Rules" and that "basic standard of relevance" under the Rules "is a liberal one" (quoting Beech Aircraft Corp. v. Rainey, 488 U.S. 153, 169 (1988)); Rock v. Arkansas, 483 U.S. 44, 54 (1987) ("'[T]he truth is more likely to be arrived at by hearing the testimony of all persons of competent understanding who may seem to have knowledge of the facts involved in a case, leaving the credit and weight of such testimony to be determined by the jury . . . .'" (quoting Washington v. Texas, 388 U.S. 14, 22 (1967) (quoting Rosen v. United States, 245 U.S. 467, 471 (1918)))); Briscoe v. LaHue, 460 U.S. 325, 333 (1983) ("'[T]the paths which lead to the ascertainment of truth should be left as free and unobstructed as possible.'" (quoting Calkins v. Sumner, 13 Wis. 193, 197 (1860))).

115. *See* Pennsylvania v. Ritchie, 480 U.S. 39, 56 (1987) (recognizing defendant's constitutional right "to put before a jury evidence that might influence the determination of guilt"); Chambers v. Mississippi, 410 U.S. 284, 302 (1973) (reversing conviction where reliable exculpatory evidence was

The key question under Rule 807 is whether the statements made by a subject during a lie detector test include "guarantees of trustworthiness" that are "equivalent" to those required under the other hearsay exceptions in the rules.[116] As a starting point, it must be recognized that courts have generally, and properly, precluded defendants from introducing their own out-of-court exculpatory statements under the residual exception to the hearsay rules. Where the defendant simply attempts to introduce his own exculpatory assertions while avoiding cross-examination, the prohibition against hearsay applies with full force, and the evidence is properly excluded.[117]

The analysis is altered, however, when a defendant's out-of-court exculpatory statement (or another witness's out-of-court statement) arises in the context of a scientifically valid application of lie detector technology. This is because a validation of truthfulness by a reliable lie detector test provides a strong "circumstantial guarantee[] of trustworthiness"[118] arguably equivalent to any of those contained in the Federal Rules. In fact, the Supreme Court has itself recognized the parallels between Rule 702's requirement of scientific validity and the trustworthiness required generally under the existing hearsay exceptions.[119]

The mere fact that a witness's out-of-court statement is validated by a reliable lie detector test, however, will likely still be insufficient to provide the necessary "guarantees of trustworthiness" under Rule 807. The unique susceptibility of lie detector evidence to manipulation and the numerous alternate grounds for rejection of such evidence will require a proponent of lie detector evidence to take further steps to maximize the trustworthiness of a submission before it is admitted in court.

excluded as hearsay, and emphasizing that "the hearsay rule may not be applied mechanistically to defeat the ends of justice").

116. FED. R. EVID. 807. Significantly, the Rule does not require that the proffered evidence has *the same* guarantees of trustworthiness required in other rules but rather *equivalent* guarantees, i.e., guarantees that are of equal *strength* as those found in other rules.

117. *See* United States v. Dent, 984 F.2d 1453, 1460 (7th Cir. 1993) (affirming exclusion of exculpatory statements defendant made to his attorney because such statements lack "guarantees of trustworthiness" required for admission under residual hearsay exception); United States v. Ferri, 778 F.2d 985, 991 (3d Cir. 1985) (finding that there was no abuse of discretion in district court's exclusion of defendant's exculpatory statement made after he was aware grand jury subpoenaed him to testify in its investigation); United States v. DeLuca, 692 F.2d 1277, 1285 (9th Cir. 1982) (affirming exclusion of exculpatory statements defendant made to government informant because defendant knew he was under investigation at time he made statements and consequently it "was not trustworthy" as required for residual hearsay exception).

118. FED. R. EVID. 807.

119. *See Daubert*, 509 U.S. at 591 n.9 (emphasizing that Rule 702 analysis is aimed at determining "*evidentiary* reliability—that is, trustworthiness" and citing statement in drafters' notes to the Federal Rules of Evidence that "hearsay exceptions will be recognized only 'under circumstances supposed to furnish guarantees of trustworthiness'" for proposition that reliability and trustworthiness are similar concepts (quoting FED. R. EVID. art. VIII advisory committee's note)).

D. Increasing the "Trustworthiness" of Lie Detector Evidence to Enable Its Admission Under Rules 807 and 403

District courts are likely to exercise their obligation to ensure adequate circumstantial "guarantees of trustworthiness" under Rule 807 and, to a lesser extent, that evidence not be impermissibly misleading under Rule 403, by excluding even scientifically valid lie detector evidence whenever the lie detector examination at issue has been administered in a questionable manner.[120] One factor in particular will be of primary significance—the provision of advance notice and some opportunity to participate in the lie detector examination to the opposing party. In fact, the case law dealing with traditional polygraph evidence indicates that this factor is of such importance that sufficient notice, at least, may constitute a de facto requirement for the admission of lie detector evidence.

Courts have consistently frowned on "unilaterally" procured lie detector evidence that is, after a favorable result, proffered to the court for admission.[121] The courts point out that the secrecy of the offering party's conduct in obtaining the evidence undermines reliability by suggesting that the party was uncertain as to whether the test results would be favorable and by introducing an element of uncertainty regarding the fairness of the underlying test conditions.[122]

Particularly in evaluating exculpatory lie detector test results submitted by the defense, a court will consider the fact that the defendant, acting unilaterally, had nothing to lose in taking a lie detector test; if the defendant failed, there was

120. *Cf.* FED. R. EVID. 702 (requiring showing, prior to admission of expert testimony, that expert "has applied the [applicable] principles and methods reliably to the facts of the case").

121. *See* United States v. Thomas, 167 F.3d 299, 309 (6th Cir. 1999) ("We have repeatedly held that 'unilaterally obtained polygraph evidence is almost never admissible . . . .'" (quoting United States v. Sherlin, 67 F.3d 1208, 1216 (6th Cir. 1995))).

122. *See* United States v. Ross, 412 F.3d 771, 773 (7th Cir. 2005) (labeling "privately commissioned" "eleventh hour" test administered "without notice to the government" as "highly suspect" and noting that "courts have routinely rejected unilateral and clandestine polygraph examinations"); Thomas, 167 F.3d at 309 (explaining unreliability of results where test was conducted without notice to government and lacked other procedural safeguards); United States v. Gilliard, 133 F.3d 809, 816 (11th Cir. 1998) ("Although a party is not required to give an adverse party advance notice of, and the opportunity to be present at, a polygraph examination, the absence of such notice and opportunity may be a factor in determining whether admission of the polygraph evidence would unduly prejudice the adverse party."); United States v. Pettigrew, 77 F.3d 1500, 1515 (5th Cir. 1996) (noting that fact that polygraph examination was "administered by an expert selected by the defense apparently without the participation of the government" was factor that "weighs most heavily against [its] admission"); United States v. Sherlin, 67 F.3d 1208, 1217 (6th Cir. 1995) (stating that defendant's "privately commissioned polygraph test, which was unknown to the government until after its completion, is of extremely dubious probative value"); United States v. Feldman, 711 F.2d 758, 767 (7th Cir. 1983) (holding "eleventh hour, secret [lie detector] examination" to be properly excluded); Meyers v. Arcudi, 947 F. Supp. 581, 589 (D. Conn. 1996) (noting that opposing party was "neither contacted before the exam nor invited to participate" in lie detector examination and "[t]herefore, the potential for prejudice is great"); United States v. Crumby, 895 F. Supp. 1354, 1365 (D. Ariz. 1995) (conditioning admissibility of lie detector evidence on defendant "provid[ing] sufficient notice to the government" and granting it "a reasonable opportunity to have its own competent examiner administer a polygraph examination which is materially similar to the previously taken examination").

no obligation to turn the results over to the prosecutor.[123] Conversely, once the defendant passes the test, he enjoys the windfall of what appears to be, in hindsight, a misleadingly powerful piece of exculpatory evidence.[124]

By contrast, when the proponent of lie detector evidence demonstrates that the opposing party received an opportunity to observe and participate in the lie detector examination, the trustworthiness of the resulting examination is greatly increased. Assuming later admissibility of the test results, "both parties have a risk in the outcome of the polygraph examination, simultaneously reducing the possibility of unfair prejudice and increasing reliability."[125]

The opportunity for both parties to suggest or clarify the questions to be asked of the lie detector subject will also increase the trustworthiness of the examination, eliminating the potential for strategic use of subtly misleading questions to skew the probative value of the test. The most trustworthy test will be composed of generally open-ended questions (e.g., "what happened that night?") that unambiguously shed light on the disputed issues. Such questions are especially significant because the nature of an *out-of-court* lie detector examination precludes later (lie-detector aided) expansion on, or cross-examination of, the answers given. Consequently, courts may exclude questions or answers that fail to shed significant light on the disputed issue as misleading, irrelevant, or unhelpful under Rules 402, 403, or 702.[126] The opponent of

123. *See Ross*, 412 F.3d at 773 (reasoning that unilateral test commissioned by defense is suspect "because it carries no negative consequences, and probably won't see the light of day if a defendant flunks"); Barnier v. Szentmiklosi, 810 F.2d 594, 597 (6th Cir. 1987) (noting that if defendants had taken lie detector test and results were unfavorable, "the results would not have been revealed"); *Feldman*, 711 F.2d at 767 (finding that "eleventh hour, secret nature of [lie detector] examination" rendered it "'particularly unreliable since the examinee knows that if he "fails" the test his counsel will not submit the results to the Government'" (quoting United States v. Dorfman, 532 F. Supp. 1118, 1136 (N.D. Ill. 1981))). There is even authority to suggest that the prosecution in certain circumstances would have no obligation to reveal that a witness failed a lie detector test, although it is unclear how this precedent would apply to scientifically valid (i.e., potentially admissible) lie detector evidence. *See* Wood v. Bartholomew, 516 U.S. 1, 8 (1995) (holding that state's failure to reveal that prosecution witness failed polygraph test did not require reversal of conviction under *Brady v. Maryland*, 373 U.S. 83 (1963), because test results were inadmissible under state law and thus would not have changed outcome of trial).

124. In fact, not knowing that the results of any failed tests could be hidden, the jury might interpret the defendant's mere willingness to take the test as an exonerating factor. *Cf.* Murphy v. Cincinnati Ins. Co., 772 F.2d 273, 277 (6th Cir. 1985) (reasoning that evidence of willingness of plaintiff in civil litigation to take lie detector test was admissible because it "reflected upon his credibility").

125. United States v. Posado, 57 F.3d 428, 430-31, 435 (5th Cir. 1995) (emphasizing that "[w]ell before the tests were given, counsel for the defendants contacted the prosecution and extended the opportunity to participate in the tests" and "offered to stipulate that the results would be admissible in any way the government wanted to use them" in reversing district court's categorical exclusion of lie detector evidence).

126. *See* United States v. Jordan, 150 F.3d 895, 900 (8th Cir. 1998) (finding no abuse of discretion in excluding lie detector evidence under Rule 403 where witness took initial polygraph test that indicated deception but did not take second test that would have clarified reasons for failing first exam); United States v. Williams, 95 F.3d 723, 730 (8th Cir. 1996) (finding no abuse of discretion in excluding evidence that prosecution witness failed polygraph test regarding "peripheral details" about crime where defense rejected prosecution's proposal to retest witness asking questions that went "to

proffered lie detector evidence will be unable to object, however, that the examiner's questions are ambiguous or misleading if there was an adequate opportunity for both sides to submit or object to those questions *prior* to the examination.

If a party does not give advance notice to its adversary, a district court could also be justifiably suspicious that the subject had either "practiced" by repeatedly taking lie detector tests prior to the successful test or failed similar tests on other occasions, rendering the one successful test misleading. Even when notice is given, a proponent of lie detector evidence may still need to allay this suspicion, perhaps through an affidavit by counsel included with the initial evidentiary proffer regarding the number of times the witness has taken lie detector tests and the results of those tests.[127]

In sum, the trustworthiness of any lie detector evidence can be enhanced (or undermined) by the circumstances surrounding the administration of the test. By giving one's opponent notice and an opportunity to participate in the lie detector examination and by declaring that the witness has not taken (and failed) other lie detector tests, the proponent of expert testimony regarding that examination will be in the strongest position to argue that the evidence satisfies the trustworthiness and reliability requirements of the applicable Federal Rules of Evidence, particularly the residual hearsay exception of Rule 807. In combination with an adequate showing under *Daubert* of the scientific validity of the lie detection technique utilized, this demonstration of trustworthiness may be sufficient to establish admissibility.[128] Perhaps more significantly, any submission

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the heart of the matter"); *Pettigrew*, 77 F.3d at 1515 (concluding that trial court did not abuse its discretion in excluding lie detector evidence because questions asked were largely irrelevant); United States v. Kwong, 69 F.3d 663, 668 (2d Cir. 1995) (finding that where first two questions asked by polygraph examiner were "inherently ambiguous" and third question obscured relevance of answer by asking question in form of "do you know for sure," district court did not abuse its discretion to exclude polygraph evidence as substantially more likely to mislead jury than probative); United States v. Redschlag, 971 F. Supp. 1371, 1375 (D. Colo. 1997) ("Where a question is ambiguous, the results of the polygraph examination as to that question need not be admitted."); *Meyers*, 947 F. Supp. at 589 (citing ambiguity in questions and answers as reason for excluding polygraph evidence); *cf.* United States v. Alexander, 526 F.2d 161, 170 n.17 (8th Cir. 1975) (noting that if lie detector evidence ever becomes scientifically reliable, "it would be advisable for the trial judge to undertake an active role in directing and controlling the taking of the examination").

127. In making the proffer, a proponent of lie detector evidence may also benefit from highlighting evidence, if any, that corroborates the declarant's version of events. *See* United States v. Black, 684 F.2d 481, 484 (7th Cir. 1982) (finding no abuse of discretion in rejection of lie detector evidence where district court "was understandably skeptical of [the defendant's] polygraph results, particularly in light of the overwhelming evidence demonstrating [his] guilt"). The proponent of a lie detector test may also increase the trustworthiness of the underlying declarant's statements by making the declarant available to testify at trial and thus ultimately subject to cross-examination. *Cf.* United States v. Peneaux, 432 F.3d 882, 892 (8th Cir. 2005) (finding that child witness's testimony at trial supported admission of unsworn out-of-court statements under Rule 807), *cert. denied*, 127 S. Ct. 42 (2006).

128. The Sixth Amendment's Confrontation Clause imposes additional limitations on the *prosecution's* ability to introduce hearsay testimony against a defendant. Specifically, in this context, the Sixth Amendment would presumably prohibit the admission of lie detector evidence of a nontestifying confidential informant. *See* Crawford v. Washington, 541 U.S. 36, 68 (2004) ("Where

that comes up short of these requirements will likely be rejected under the Federal Rules.

IV. CONCLUSION: LIE DETECTOR EVIDENCE UNDER THE FEDERAL RULES

Few would disagree with the judgment of this country's founders that trial by jury is a superior means of protecting the citizenry from the tyranny of the political classes.[129] Nevertheless, the jury trial is a blunt instrument for achieving its ultimate objective of discerning the truth (i.e., what *really* happened).[130] The unfortunate fact is that jurors have no way of knowing, apart from collective intuition, which of the handful of persons who actually do know what happened is credible. Further, the defendant who best knows the answer to the key question of guilt or innocence remains a largely untapped source of truth. Defendants commonly do not testify,[131] and even when they do, juries are understandably hesitant to rely on their testimony as it is infused with an obvious bias.[132]

A scientifically valid lie detector could significantly enhance the jury's ability to determine the credibility of witnesses and consequently improve its ability to convict the guilty and acquit the innocent. Indeed, as Dean Wigmore

testimonial evidence is at issue . . . the Sixth Amendment demands what the common law required: unavailability and a prior opportunity for cross-examination."). The Sixth Amendment prohibition would not, however, prevent the prosecution from submitting lie detector evidence *as a supplement* to the informant's trial testimony. *Id.* at 60 n.9 ("[W]hen the declarant appears for cross-examination at trial, the Confrontation Clause places no constraints at all on the use of his prior testimonial statements." (citing California v. Green, 399 U.S. 149, 162 (1970))).

129. The jury trial right was intended "'to guard against a spirit of oppression and tyranny on the part of rulers,' and 'was from very early times insisted on by our ancestors in the parent country, as the great bulwark of their civil and political liberties.'" United States v. Gaudin, 515 U.S. 506, 510-11 (1995) (quoting 2 JOSEPH STORY, COMMENTARIES ON THE CONSTITUTION OF THE UNITED STATES 541 n.2 (4th ed. 1873)); *see also* Apprendi v. New Jersey, 530 U.S. 466, 477 (2000) (emphasizing importance of jury trial).

130. *See* George Fisher, *The Jury's Rise as Lie Detector*, 107 YALE L.J. 575, 578, 707 (1997) (noting that "most of the evidence we have suggests that juries have no particular talent for spotting lies" and that "[t]here is little evidence that regular people do much better than chance at separating truth from lies"); Andrew D. Leipold, *The Problem of the Innocent, Acquitted Defendant*, 94 NW. U. L. REV. 1297, 1298 (2000) (highlighting "increasing evidence that the number of innocent defendants who end up convicted is unacceptably large").

131. *See* Gordon Van Kessel, *Quieting the Guilty and Acquitting the Innocent: A Close Look at a New Twist on the Right to Silence*, 35 IND. L. REV. 925, 950-51 (2002) (summarizing studies dating back to 1920s and concluding that "with increasing frequency defendants are not taking the stand at trial as they once did" and "the extent of refusals to testify varies from one-third to well over one-half [of defendants] in some jurisdictions").

132. *See* United States v. Gaines, 457 F.3d 238, 248 (2d Cir. 2006) ("Nothing could be more obvious, and less in need of mention to a jury, than the defendant's profound interest in the verdict."); Michael E. Antonio & Nicole E. Arone, *Damned if They Do, Damned if They Don't: Jurors' Reaction to Defendant Testimony or Silence During a Capital Trial*, 89 JUDICATURE 60, 66 (2005) (reporting results of juror interviews that showed that jurors generally viewed defendant testimony as untrustworthy); James L. Kainen, *The Impeachment Exception to the Exclusionary Rules: Policies, Principles, and Politics*, 44 STAN. L. REV. 1301, 1313 (1992) ("A testifying defendant's credibility is impeached by his interest in the trial's outcome even before he utters a word.").

stated more than fifty years ago, "'If there is ever devised a psychological test for the valuation of witnesses, the law will run to meet it.'"[133] In light of the hearsay problem inherent in lie detector evidence, however, the opening for admissibility of such evidence under the Federal Rules is a narrow one. In fact, a simple hearsay objection appears to exclude, at the very least, one form of scientifically valid lie detector evidence that likely would otherwise have been most pervasive—unilaterally obtained exculpatory lie detector results submitted on behalf of a criminal defendant. As explained above, such evidence, even when based on valid science, is objectionable hearsay and, due to its clandestine procurement, will likely be deemed insufficiently trustworthy for admission under the residual exception to the hearsay rules.

It is, then, only a small subset of defendants who stand to benefit from advances in lie detection science—those who are sufficiently confident in their actual innocence (and, of course, the reliability of the applicable lie detector technology to be utilized) that they will provide the requisite notice to the prosecution of a proposed lie detector examination, thus risking the use of negative results against them.[134] Nevertheless, this benefit is by no means insignificant; after all, "concern about the injustice that results from the conviction of an innocent person has long been at the core of our criminal justice system."[135]

In sum, proper application of the Federal Rules of Evidence should lead, at most, to admissibility in only very narrow circumstances of even scientifically valid lie detector evidence. Despite a determination of scientific validity under Rule 702, courts will properly insist that any lie detector evidence presented to the jury satisfy the prerequisites for admissibility established for all evidence by the other Federal Rules of Evidence. Nevertheless, when a scientifically valid lie detector has been applied in a manner that maximizes the trustworthiness of its

133. United States v. Alexander, 526 F.2d 161, 167 (8th Cir. 1975) (quoting JOHN HENRY WIGMORE, WIGMORE ON EVIDENCE § 875 (2d ed. 1923)). In a more recent, related pronouncement, the Eight Circuit stated that:

> If we were satisfied in our own minds about the scientific reliability of polygraph tests and the integrity and responsibility of the examiners to the extent of an almost unimpeachable result, we would eagerly acknowledge the reliability of the machine and embrace its use in court proceedings in the absence of stipulation by the parties.

Id.; *cf.* United States v. Dunnigan, 507 U.S. 87, 97 (1993) (quoting nineteenth-century treatise for proposition that "[a] means of ensuring the truth in human testimony has been a thing desired in every age" (internal quotation marks omitted)). In contrast, Justice Linde of the Oregon Supreme Court has expressed "doubt that the uneasiness about electrical lie detectors would disappear even if they were refined to place their accuracy beyond question. Indeed, I would not be surprised if such a development would only heighten the sense of unease and the search for plausible legal objections." State v. Lyon, 744 P.2d 231, 235 (Or. 1987) (Linde, J., concurring).

134. A similar cost-benefit analysis will be required in considering a lie detector examination for other key defense (and prosecution) witnesses. Only a party sufficiently confident in the veracity of a cooperating witness will risk procuring evidence that could have the effect of undermining its own case. The proper tactical considerations for defense counsel in these situations, and the prosecutor's respective obligations as an advocate not only for conviction but also for justice, will likely be the subject of great debate.

135. Schlup v. Delo, 513 U.S. 298, 325 (1995).

results, courts appear obligated under the Federal Rules to permit a lie detector expert to assist the jury in determining the credibility of key witnesses and perhaps render more accurate the jury's ultimate conclusion as to the defendant's guilt.