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# Unasked (and Unanswered) Questions About the Role of Neuroimaging in the Criminal Trial Process

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**UNASKED (AND UNANSWERED) QUESTIONS ABOUT THE ROLE  
OF NEUROIMAGING IN THE CRIMINAL TRIAL PROCESS**

Michael L. Perlin, J.D. and Valerie R. McClain, Psy.D.

*The robust neuroimaging debate has dealt mostly with philosophical questions about free will, responsibility, and the relationship between brain abnormalities, violence and crime. This debate, however, obscures several important issues of criminal procedure to which little attention has as of yet been paid: 1) an indigent defendant's right of access to expert testimony in cases where neuroimaging tests might be critical, 2) a defendant's competency to consent to the imposition of a neuroimaging test; and 3) the impact of antipsychotic medications on a defendant's brain at the time that such a test is performed. This article will consider these questions from the perspectives of both law and neuropsychology, and, from a clinical perspective, will also focus on 1) identifying cases appropriate for referrals for neuroimaging studies, including preliminary testing based on neuropsychological assessment; 2) understanding the importance of brain impairment as relates to criminality and violence; 3) establishing criteria for determining competency to consent to such tests, and 4) the potential impact of medications on brain functioning when neuroimaging tests are conducted.*

In writing about neuroimaging and the law in the insanity defense context, one of the authors (MLP) has previously sought to balance jurors' likely positive response to the perceived characteristics of this evidence—vivid, objective, quantifiable, advanced (1)—with their likely negative response to the use of this evidence in such cases (reflecting their prejudice, hostility, and hatred toward insanity pleaders) (1), concluding that he was “not at all sure that the pizzazz of neuroimaging testimony—notwithstanding its colorfulness and its propensity to reductionism—will trump these deep-seated attitudes” (1, p. 911). The science of neuroscience thus has to be assessed in the sociopolitical context of the specific question of law that is central to the specific case before the court.

Neuroimaging is “fraught with uncertainties” (2, p. 266, n. 155). The steps used in the production and presentation of neuroimaging evidence are

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“not only...not standardized, they are easily manipulated by a person with the knowledge of the technology” (3). It is clear is that the existence of neuroimaging techniques has changed the contours of the playing field, and no matter which side of the divide we find ourselves on, we must acknowledge that reality.

With this backdrop, we focus on the question of what impact neuroimaging evidence will likely have on a series of “criminal procedure situations,” the resolutions of which are inextricably intertwined with pre-existing socio-political views and attitudes of judges and jurors:

- the implications of U.S. Supreme Court decisional law on determining an indigent defendant’s access to expert testimony in cases where neuroimaging tests might be critical,
- the defendant’s competency to consent to the imposition of a neuroimaging test or examination; and
- the impact of medications—specifically, antipsychotic medications—on a defendant’s brain at the time that such a test is performed (4).

We will also consider these issues from a clinical perspective, focusing on

- identifying cases appropriate for referrals for neuroimaging studies, including preliminary testing based on neuropsychological assessment;
- understanding the importance of brain impairment as relates to criminality and violence;
- establishing criteria for determining competency to consent to such tests, and
- the potential impact of medications on brain functioning when neuroimaging tests are conducted.

The article will proceed in this manner. First, we will briefly restate some of the conclusions from the earlier article previously mentioned, discussing the tensions inherent in the ways that jurors construe such evidence in insanity defense cases. Then, we will look at each of the three core criminal procedure issues: the right to a neuroimaging expert, the standards of as-

sessing consent to the administration of neuroimaging testing, and the implications of the administration of antipsychotic, neuroleptic medication to the findings of the neuroimaging examiner. Then, we will consider these issues from clinical vantage points. After that, we will offer some conclusions, and speculate as to what our answers to these more narrow questions have for the larger neuroimaging-and-the-law “picture.”

#### THE AMBIGUITIES AND AMBIVALENCES OF NEUROIMAGING EVIDENCE

Although commentators bravely assert that neuroscience seems “advanced enough to enter forensic psychiatry” (5, p. 115), that “advances in neurobiological research methods allow one to address the nature and biological basis of human behavior” (6, p. 131), that jurors can be counted on to critically evaluate such evidence (7), a cluster of other factors forces us to think seriously about how neuroimaging evidence will be construed by fact-finders. In a recent article, one of us (MLP) identified these factors as “visualization, reductionism, the attribution heuristic, and the impact of a belief in ‘the CSI effect.’” (1, pp. 893-894). By “visualization,” I referred to the ways that the visual “allure” can “dazzle” and “seduce” jurors in ways that are “inappropriately persuasive” (8, p. 243). By “reductionism,” I referred to the ways that neuroimaging testimony has the meretricious capacity to “reduce...psychosocial complexity” (8, p. 248). By “the attribution heuristic,” I referred to the way that we seek to attribute human behavior, in the words of Laura Khoshbin and Shahram Khoshbin (9, p. 182), “to a physical source in the head.” And by the “CSI effect,” I referred to the way that we believe that jurors demand the “money shot” of hard forensic evidence in all trials, even though valid and reliable evidence as to the reality of that belief “is scant” (10).

This remains, in the end, an area fraught with ambiguity and contradiction.

#### QUESTIONS OF CRIMINAL PROCEDURE

##### Right to an Expert

The majority of criminal defendants are indigent. Neuroimaging testing is expensive, and is more expensive in cases in which the examined defendant is in jail awaiting trial. The question is relatively simple: does the defendant have a right to an independent neuroimaging expert in insanity cases

or other criminal trial matters, including, but not limited to, incompetency to stand trial proceedings, sentencing hearings, and inquiries into mental status in instances where the difference in gradations of a crime may be of great significance as a correlation of exposure to a specific punishment? (4).

*The Implications of the Ake Case.* Nearly 25 years ago, the U.S. Supreme Court addressed the question of a defendant's right to an expert in a criminal trial. In *Ake v. Oklahoma*, a death penalty case, the Supreme Court ruled that an indigent criminal defendant who makes a threshold showing that insanity is likely to be a significant factor at trial is constitutionally entitled to a psychiatrist's assistance (11, p. 74). The Court observed that it had "long recognized that when a State brings its judicial power to bear on an indigent defendant in a criminal proceeding, it must take steps to insure that the defendant has a fair opportunity to present his defense. This principle, grounded in the due process clause's guarantee of "fundamental fairness," derives from the belief "that justice cannot be equal when, simply as a result of his poverty, a defendant is denied the opportunity to participate meaningfully in a judicial proceeding in which his liberty is at stake" (11, pp. 75, 77).

The Court set out what it perceived as the role of the psychiatrist in such cases:

[P]sychiatrists gather facts, both through professional examination, interviews, and elsewhere, that they will share with the judge or jury; they analyze the information gathered and from it draw plausible conclusions about the defendant's mental condition, and about the effects of any disorder on behavior at the time in question. They know the probative questions to ask of the opposing party's psychiatrists and how to interpret their answers. Unlike lay witnesses, who can merely describe symptoms they believe might be relevant to the defendant's mental state, psychiatrists can identify the "elusive and often deceptive" symptoms of insanity, *Solesbee v. Balkcom*, 399 U.S. 9, 12 (1950), and tell the jury why their observations are relevant. Further, where permitted by evidentiary rules, psychiatrists can translate a medical diagnosis into language that will assist the trier of the fact, and therefore offer evidence in a form that has meaning for the task at hand. Through this process of investigation, interpretation and testimony, psychiatrists ideally assist lay jurors, who generally

have no training in psychiatric matters, to make a sensible and educated determination about the medical condition of the defendant at the time of the offense (11, p. 80).

It further concluded:

[W]ithout the assistance of a psychiatrist to conduct a professional examination on issues relevant to the defense, to help determine whether the insanity defense is viable, to present testimony, and to assist in preparing the cross-examination of a State's psychiatric witnesses, the risk of an inaccurate resolution of sanity issues is extremely high. With such assistance, the defendant is fairly able to present at least enough information to the jury, in a meaningful manner, as to permit it to make a sensible determination (11, p. 82).

As the risk of error from denial of such assistance is highest "when the defendant's mental condition is seriously in question," the defendant would thus qualify for such assistance when he is able to make an "*ex parte* threshold showing...that his sanity is likely to be a significant factor in his defense." The Court thus held that, when a defendant is able to demonstrate that his sanity was such a "significant factor," the state must "assure the defendant access to a competent psychiatrist who will conduct an appropriate examination and assist in evaluation, preparation and presentation of the defense" (11, p. 83).

*Subsequent Developments After Ake.* The courts have generally read *Ake* narrowly, and have refused to require appointment of an expert unless it is "absolutely essential to the defense" (12, p. 802). By way of examples, courts have split on whether there is a right to an expert psychologist to perform psychological testing under *Ake*. On this point, compare *Jones v. State* (13) (rejecting defendant's request for additional psychological evaluation; limiting *Ake* to psychiatrists) and *Hough v. State* (14) (no right under *Ake* to appointment of social psychologist to help in jury selection) to *Funk v. Commonwealth* (15) (rejecting defendant's argument that psychiatric assistance is mandated under *Ake*; no error to appoint clinical psychologist) and *King v. State* (16) (appointment of psychologist sufficient under state statute). Without citing *Ake*, another court rejected an application for the right to the appointment of a social psychologist to aid in jury selection (*Wallace v.*



*State* [17]). *Ake*, on the other hand, was relied on so as to require the appointment of a pathologist in a criminal case (*Rey v. State* [18]). On the perhaps closer question of the requirement of the appointment of a DNA expert, after an intermediate appellate court in Virginia relied on *Ake* to require the appointment of such an expert, that decision was subsequently vacated, with no discussion of *Ake* in the subsequent opinion. See *Husske v. Commonwealth* (19); compare *District Attorney's Office for Third Judicial Dist. v. Osborne* (20) (convicted prisoner had no constitutional right to release of certain biological evidence so that it could be subjected to DNA testing).

In his exhaustive survey article about the implementation of *Ake*, Professor Paul Giannelli (21, p. 1418) points out, in a slightly different context, that "in 1985, the *Ake* Court could not have anticipated how the advent of DNA evidence would revolutionize forensic science." Nor, of course, could it have anticipated the new significance of neuroimaging evidence. To this point in time, however, lower courts have been generally reluctant to extend *Ake* to requests for funding for neuroimaging tests. In *Bates v. State* (22), no *Ake* violation was found where a defendant sought additional expert assistance in establishing functional organic brain damage, and in *Smith v. Kearney* (23), there was no *Ake* error where defendant sought funds for a PET scan. Although the court in *Walker v. Oklahoma* (24) found that it was *Ake* error to fail to provide funds for additional neurological testing "to flesh out the etiology [of the defendant's] mental illness" (25, p. 1236), it deemed that error harmless. On the other hand, *People v. Jones* (26) did reverse a conviction because of the lower court's refusal to fund brain scans.

*The Likely Response of Jurors.* The constitutional analysis here cannot be undertaken without serious consideration of likely juror response to the glitter of neuroimaging evidence, what Dean Mobbs (as cited in 27, p. 299) has called the "Christmas tree phenomenon" in writing about the seductiveness of this evidence. "Jurors may be so dazzled by the 'pretty lights' that they would not pay sufficient attention to the expert's interpretation of what the picture means" (27, p. 300). Certainly, this analysis argues persuasively for an expansive reading of *Ake* and its progeny.

The need for this expansive reading is heightened because insanity defense cases are so often so utterly dissonant with jurors' flawed "ordinary common sense" (OCS) (28, pp. 22-33), referring to a "self-referential and

non-reflective" way of constructing the world "I see it that way, therefore everyone sees it that way; I see it that way, therefore that's the way it is" (1, p. 899 n. 96). How well can lawyers cross-examine experts on these sophisticated questions of science where the dazzle of the proffered evidence makes the expression of skepticism about such evidence equally dissonant from juror OCS?

#### Competency to Consent

The question of competency has, historically, "been a constant element in Anglo-American law" (29, p. 2). For most of this time, the focus has been solely on questions of competency to stand trial. In 1960 and 1966, the Supreme Court constitutionalized the prevailing common law standards in this area both in the context of both substantive and procedural due process (*Dusky v. United States* [30]; *Pate v. Robinson* [31]).

*Criminal Law Precedent.* More recently, the Court ruled, in *Godinez v. Moran* (32) that the same minimalist standard articulated in *Dusky* as to matters of trial competency also applied in inquiries regarding defendants' competency to plead guilty and/or to waive counsel, although, subsequently, it backed off this position a bit, finding in *Indiana v. Edwards* (33) that the Constitution permits states to insist upon representation by counsel for those who are competent enough to stand trial but who still suffer from severe mental illness to the point where they are not competent to conduct trial proceedings by themselves (34).

Other courts have considered questions of criminal competency in a host of other pretrial (confessions, search and seizures, line-ups), trial (jury waivers, evidentiary objections, impact of incompetency finding on ability to enter insanity plea) and post-trial (motion for new trial, sentencing, parole or probation hearing) settings, but these cases all seem to have been decided in "n of 1" universes without reference to or consideration of what other courts had decided in analogous (or even in identical) areas of the law (35).

Mostly lost to the pages of history are the barely remembered cases of *Mackey v. Proconier* (36) and *Knecht v. Gillman* (37). These earlier cases—ones that dealt with the use of medication as a tool of negative behavior modification/operant conditioning purposes (38)—also raised issues

arising under the First and Eighth Amendments (39, §§ 3B-4.1 to 4.2, pp. 171-179).

We refer to those opinions here because we think they may potentially illuminate some of the issues we need to consider when we weigh what we see as a critical (but virtually never discussed) criminal procedure issue: what are the criteria for assessing whether a criminal defendant is competent to consent to neuroimaging testing? Commentators have argued that, for certain purposes, neuroimaging tests may run afoul of the privilege against self-incrimination and substantive due process (40-43). Commentators have also disagreed on the possible application of the Fourth Amendment to admissibility questions involving evidence of such testing (43, pp. 195-198 [Amendment inapplicable]; 44 [Amendment applicable]).

#### The Invasiveness of Neuroimaging Tests

Although such tests are not physically invasive in the same ways that injectible antipsychotic medication is invasive or that nausea-inducing drugs are invasive, a strong parallel argument can be made, we contend, that such testing, involving measurement of brain functioning, for purposes of constitutional analysis, *is* invasive. We argue that it is invasive because it can lead—directly and inexorably—to negative outcomes for the person being tested, and, as such, inevitably raises the substantive cluster of competency questions implicated by involuntary medication practices. We know that there is no unitary standard of competency and that the bodies of case law and commentaries that have evolved in questions of criminal, mental disability and private civil law are maddeningly inconsistent (45, p. 283). We are not suggesting here that we can resolve these multiple dilemmas in this context; rather, we simply want to call attention to this issue as one that must be “on the table” for future discussions.

### THE IMPACT OF MEDICATION

#### The Effects of Antipsychotic Drugs on Brain Functioning

Seven years ago, in an article about brain imaging and the law, Dr. Donald Reeves and his associates (3, p. 92) stressed that “psychotropic drugs affect functional imaging of the brain,” and that the effects of such drugs “are not always short-lived.” Given the reality that the Supreme Court—in estab-

lishing its jurisprudence of the right-to-refuse-psychotropic-drug-treatment—has stressed that “the pervasiveness of side effects is a key factor in the determination of the scope of the right” (46, p. 736), it comes as a surprise that this insight has not, as of yet, been discussed elsewhere in the legal literature. Again, especially in cases that involve individuals institutionalized against their will in matters that involve the criminal trial process, it is reasonable to predict that this will be the subject of important future consideration.

This final criminal procedure issue relates also, although from an entirely different perspective, to a question involving antipsychotic medication: what substantive impacts can that medication have on the findings of neuroimaging testing? (47, pp. 1109-1110). The answer to this question is self-evidently critical to this entire area of law and policy, because of the alleged (or at least, *perceived*) “objectivity” of such evidence, and its expected acceptance by jurors: “The neuroimages of readily apparent brain damage give the jurors *tangible proof* of the disorder.” (emphasis added) (48, p. 94).

If antipsychotic drugging affects brain functioning—as it is *supposed* to do—then neuroimaging tests performed on drugged defendants need to be reconsidered. This is especially troubling, given the way that the use of neuroimaging testimony “reduces the psychosocial complexities” of the matter before the court, and “conflates representation with reality” (27, p. 300). If the use of medication—involuntary medication—distorts the “pretty pictures,” jurors’ perceptions of “scientific reality” will be even *more* distorted. By way of example, Beaulieu (49, p. 52) notes that some scientists characterize neuroimaging as simply “making pretty pictures.”

#### Questions to be Considered

We can identify at least three questions that need to be thought about in this context:

- 1) As Professor Reeves suggests (3), does such drugging distort the results?
- 2) If so, should such tests be performed at all on this cohort of defendants (or, should they only be performed after a more elaborate form of informed consent is obtained), and



- 3) In either case, what, if anything, should jurors be told about this?<sup>1</sup>

Again, juror beliefs in the infallibility of neuroimaging have to be factored into any analysis of the issues at hand. If jurors are inappropriately seduced by "Christmas tree phenomenon" evidence, and the pictures that are shown are not even an accurate depiction or representation of the defendant's brain at the time of the alleged crime—but rather, depict it in the aftermath of forced antipsychotic drugging—the entire enterprise becomes even more perilous.

#### THE CLINICAL PERSPECTIVE

##### Issues Arising at the Mitigation Stage

Initial decisions regarding the necessity of neuroimaging in forensic criminal cases typically arise at the point at which mitigation efforts have been implemented. It is inevitable that, in some cases, the state attorney would request his or her own scan, and would likely call as an expert witness a radiologist to interpret the scan commissioned by the defense. This possibility should be anticipated by those litigating such cases. It is the hope of the authors that, if the steps proposed in this article are taken, misuse of the scans will be minimized. The role of the forensic mental health expert in this process is critical. Careful planning and appropriate sequencing of evaluation and assessment techniques that occur need to be orchestrated in a systematic manner to best optimize the convergence of data for the purpose of mitigation (52, 53). We refer here both to mitigation in the context of the death penalty and in the context of other sentencing proceedings (29).

A related issue concerns the use of medication to achieve competency and the potential impact on neuroimaging. For example, is it ethical to medicate a defendant to achieve competency to consent to a procedure, or, relatedly, remove medication for the purpose of the neuroimaging study? Or if the defendant is taking medication, how will it affect the results of neuroimaging? (53).

<sup>1</sup> By way of comparison, one of the authors (MLP) has criticized (50) the Supreme Court's decision in *Shannon v. United States* (51), holding that, as a matter of federal criminal procedure, the defendant had no right to have the jury informed about the possible consequences of a "not guilty by reason of insanity" verdict.

#### Exploring the Link Between Criminal Behavior and Neuropsychological Impairment

The link between criminal behavior and neuropsychological impairment is a crucial aspect in criminal defense. Establishing a functional link between the deficits and event in question has important implications with regard to both the guilt (mental state at the time) and sentencing (mitigation) phases of the trial process (53).

Violent behaviors due to brain impairment may be caused by many factors, including acute emotional state, repeated head trauma, toxic conditions caused by drugs, alcohol, medication and some heavy metals, seizure disorder, and degenerative conditions such as Alzheimer's Disease or dementia (54). Areas of the brain typically implicated in violent behaviors include those found in the ascending inhibitory component: the reticular activating system; limbic system, including structures such as the amygdala, hippocampus and septum; the dorsomedial and anterior thalamic nuclei; ventromedial hypothalamus; and baso-orbital and posteromedial frontal lobe (54).

Frontal lobe impairment is the primary focus of linking neuropsychological deficits and criminal behavior. This is because this brain area mediates between intellect and emotions. The ability to modulate and control aggression and anger emanating from the limbic system is frequently interrupted and impaired when brain damage occurs. Bilateral damage to the premotor areas of the frontal lobes causes a syndrome characterized by apathy, irritability, shallow affect, and cognitive changes such as perseveration with decreased ability to shift cognitive strategies and response sets. Verbal fluency and sustained attention are also affected. In other words, the frontal lobes are a regulatory system controlling elements of planning, organization, and intentional behavior. Individuals with frontal lobe deficits due to neurological trauma may frequently resemble someone with psychopathic behaviors if the history is not carefully reviewed (54).

##### The Tasks of the Examining Forensic Neuropsychologist

The first step on the part of the examining neuropsychologist is to carefully review available historical information from the defendant's life history that might potentially point to possible brain impairment. Examples would include documented head injuries or other neurological disease processes

such as epilepsy, learning disorders, ADHD, and low IQ. Psychiatric disorders that indicate chemical and neurotransmitter abnormalities—such as bipolar disorder, intermittent explosive disorder, schizophrenia, and developmental disorders such as autism may also be highly relevant (53).

Any available neurological (EEG, MRI, SPECT, PET) scans or psychological testing are also important (MMPI-2, IQ, etc.). These documents should be reviewed carefully and sequentially arranged in a timeline to chronicle the defendant's history leading to the alleged incident.

Following review of the information, consultation with a medical expert such as a neurologist should be considered to best decide what neuroimaging tests should be done. The use of neuropsychological testing to further clarify any neurobehavioral deficits can be used to pinpoint functional deficits that correlate with behavioral issues related to both the criminal incident and proposed neuroimaging study (53).

Examples of appropriate neuropsychological test instruments would include tests that measure frontal lobe functioning or executive measures, including the Wisconsin Card Sorting Test, Categories Test, Trail Making A and B, the Continuous Performance Test (CPT), and the Stroop Test. These tests help identify deficits in cognitive shifting, planning, organizational strategies, impulsivity and attentional problems.

Additionally, memory tests such as the Wechsler Memory Scale address deficits in immediate and delayed verbal and visual memory as well as working memory. Deficiencies in these tests may point to brain impairment that may have an impact on both the defendant's ability to work with counsel, particularly in the context of describing the events that led up to the incident for which he was arrested and charged.

#### **Variations in Neuroimaging Techniques**

Neuroimaging techniques vary with regard to sensitivity and specificity deficits. Whether structural (CT, MRI) or functional (PET, SPECT) approaches are employed will depend on the defendant's mental and neurological history. Informed consent to neuroimaging takes on a new dimension in the context of a death eligible defendant. Standard protocols typically used in a medical office would include ensuring an awareness and appreciation of the procedure, potential risks and benefits from the procedure, and the ability

to make a decision regarding these issues. In the context of a death penalty eligible defendant, the use of the results from the procedure may likely be used to address the issues of guilt and sentencing. The purpose of the procedures must be carefully explained by the mitigation team, particularly the defendant's attorney, in order to follow ethical guidelines and permit the defendant to decide given all the information. Consent to a medical procedure such as a brain scan would entail a consideration of legal, medical and psychological ethical guidelines.

All procedures and their potential impact on the case outcome should be explained carefully to the defendant. In the event that the defendant is limited—as a result of intellectual or emotional impairment—and as a result is questionably competent to consent, the process of obtaining informed consent can be challenging; both counsel and the expert witness must carefully review this process with the defendant and carefully document his responses.

#### **CONCLUSION**

The issues that we discuss in the heart of this article—access to experts, competence to consent, impact of antipsychotic medications, and clinical considerations—have all been the subject of intense academic and clinical interest, and the debate has not been without some vitriol. Yet, again, there has been virtually no consideration of these issues in the context of the type of testimony that is at the core of this article.

Given the warning signals that have been raised by commentators as to the potentiality of juror misuse and misinterpretation of neuroimaging testimony, it is, we think, all the more critical that we take seriously the issues we have raised here. We have sought to argue here that there are hidden landmines inevitably present when we think about the use of neuroimaging in criminal trials—landmines that can infect the fairness of the trial process itself.

If an indigent criminal defendant is refused access to an independent expert in an area where juror OCS (28, pp. 22-33) may lead to uncritical acceptance of neuroimaging testimony because of that testimony's visual appeal and its apparent lack of falsifiability, the fairness of the entire trial remains in question. If no attention is paid to the difficult and complex ethical issues that should surface if the question of the defendant's competency to



consent to being tested is not raised, trial fairness is also a concern. And finally, if we ignore the reality that the neuroimaging evidence shown to jurors may not be an accurate depiction of the defendant's brain at the time of the offense—but rather, a depiction of his brain at a later time when his brain biochemistry has been altered by the imposition of medication—we willfully blind ourselves to the possibility (perhaps, “likelihood”) that the database presented to the jury is potentially fatally flawed.

On the other hand, an fMRI image may serve as a partial “marker” for certain behaviors, particularly when a specific brain image is related to a clinical evaluation or a set of neuropsychological tests. For example, assume that a brain image correlates very highly (90% or better) with a particular profile derived from neuropsychological testing and a clinical evaluation and diagnosis. A “marker” may then be established because the image, test results, and clinical evaluation are so consistent and not applicable to other profiles. In such cases, the presence of the marker could substantiate a presumption that person “X” possessed a particular set of characteristics, such as proneness toward violence, emotional instability to the point of lack of control, and cognitive incompetence, to explain the behavior in question. Hence, the image could, in conjunction with other more directly focused evaluations of behavior, reliably explicate cause and effect (52).

We must stress that we are neither Luddites nor nihilists, and this article should not be interpreted as an anti-science screed, pining for the “good-old-days” of crime detection (perhaps based on phrenology). Rather, we raise these issues because we sense the power of the evidence in question, and because of our fears that its “seductive dazzle” may hold jurors in thrall, leading them to uncritically *believe* that there are no limits to their understanding, a conceptual error that may lead to outcomes that are both factually and legally inaccurate and constitutionally flawed. We hope that this article leads to more nuanced thought and behavior in this most important area of law, psychology and social policy.

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#### A MODERN DAY WITCH HUNT: THE TROUBLING ROLE OF PSYCHOLOGISTS IN SEXUAL PREDATOR LAWS

Paul Good, Ph.D. and Jules Burstein, Ph.D.

*Sexually violent predator (SVP) laws have compromised the scientific and professional integrity of psychologists and failed to serve the public interest. Psychologists on state SVP panels have become witch-finders, despite noble intentions of protecting public safety. Their testimony supporting the civil commitment of a small group of so-called "predators" relies upon fictitious mental disorders and problematic actuarial formulae. Psychologists have become essential components of SVP laws that expend huge sums on new prisons, create impossible treatment situations for those who are civilly committed, indiscriminately demonize all sex offenders, and diminish the quality of American justice by sanctioning preventive detention. Psychologists should withhold their support for these laws and their civil commitment policies, not only because they promote a paradigm of detention based on risk status, but because they siphon away resources from programs and policies that address the more insidious and pervasive ways that society promotes sexual violence. Recommendations by some critics to improve the quality of civil commitment evaluations, the validity of diagnostic and prediction models, and the usefulness of court testimony cannot fix a broken system. In recognition of the ethical duty to do no harm and the failure of SVP laws to protect the public, we call on psychologists to resign from state SVP panels and to work toward more sensible solutions in adjudicating sex offenders.*

During the Salem witchcraft trials, 19 women and men were tried and executed in a community gripped by hysteria and by a legal system with too few checks and balances. Jurors were allowed to listen to panicky gossip and judges used vague standards of proof. Most egregious was the admission of invisible "spectral evidence," the extra-sensory experience of victims who had a vision of the accused as a witch. Ministers like Samuel Parris and Cotton Mather, instead of serving as a buffer against people's anxieties by critically examining the false claims of witchcraft, acted as "witch finders" (1).

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