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### Inadmissible, Eh?

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A significant problem in using neuroimaging evidence will be to establish the plaintiff's baseline. In other areas, such as damages for brain injuries, we currently rely mostly on circumstantial evidence to establish the "before" pictures, since medical evidence is generally not available.

At the very least, the increased ability to detect and quantify emotional pain should force courts to reexamine the policy concerns behind judicial limitations on the claims. These advances may argue in favor of abolishing restrictive rules and treating emotional harm like any other injury. Psychic injury should no longer raise the suspicions it once did, and to the extent that the concern is the genuineness or seriousness of the emotional harm, or the risk of fraudulent claims, these should be ameliorated through evidence of genuine distress provided by brain imaging. Reasonable foreseeability, which acts as a limit on recovery for physical injury, but is much less predictable for psychic injury, should become more applicable. Of course, the issue of causation remains, that is whether the plaintiff's emotional distress is really due to the experienced events as opposed to prior history. Current judicial constraints may migrate to the issue of causation rather than the genuineness of the claim.

To the extent that court-imposed limitations on the distress claim are part of the broader debate as to the appropriate extent torts should compensate intangible losses generally, it is unclear how neuroimaging will influence that debate. In one regard, the information provided by brain imaging could show that the injury is more like a tangible than an intangible loss. This will argue in favor of treating mental distress in a manner similar to negligently inflicted physical injury. The classic arguments promoting tort recovery will come to the forefront and the arguments in favor of limitation will move to the background. Thus, the policies behind the general tort principle of accident avoidance—including deterrence of culpable behavior, shifting the cost of the injury to the culpable defendant, and compensating

the injured victim—are strengthened as evidence regarding distress becomes more certain.

In another regard, if judicial limitations on NIED reflect the fear of potentially large liability, then the limitations may remain in place as an admittedly arbitrary but necessary bright line. Consider the number of people who witnessed the 9/11 attacks, either in person or through television, print or computer media, and suffered genuine distress as a result. Allowing recovery for reasonably foreseeable mental distress may prove too large a burden for defendants and insurance companies to bear; courts may not want to increase the defendant's burden out of fairness or proportionality concerns. ■

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# Inadmissible, Eh?

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In this commentary, we respond to Stacey Tovino's invitation to reflect further on specific legal issues she raises in relation to functional magnetic resonance imaging (fMRI) and the law (Tovino 2007). Specifically, we take up the issue of evidence law. We do this from a Canadian perspective

because, unlike in the United States, this topic has not "been debated for almost 10 years" here (Tovino 2007, 44).

We start with claims about fMRI from websites of two commercial purveyors of fMRI:

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In legal cases, No lie MRI will enable objective, scientific evidence regarding truth verification or lie detection to be submitted in a similar manner to which DNA evidence is used (available at <http://www.noliemri.com> [accessed July 2, 2007]).

and,

The objective measure of truth and deception that CEPHOS offers will help protect the innocent and convict the guilty. CEPHOS technology will also help litigators reach quick, favorable conclusions to high stakes judicial proceedings by providing pre-trial negotiating leverage and by bolstering the credibility of defendants and witnesses in the courtroom

CEPHOS gets frequent inquiries as to when we will begin to offer fMRI testing on a commercial basis, generally from individuals who desire to prove their innocence in a court of law. We are anxious to support such individuals and believe that our technologies will soon enable us to do so (available at <http://www.cephoscorp.com> [accessed July 2, 2007]).

The suggestion is that, when fMRI is reliable, it will be admissible and, specifically, that it will be admissible in relation to credibility. This suggestion is echoed in academic publications in neuroethics. However, it is important to step back from these promotional statements and academic reflections and look carefully at the law on admissibility of evidence in relation to credibility.

The leading case in Canada is the Supreme Court of Canada decision *R. v. B  land* ([1987] 2 S.C.R. 398). The decision has never been overturned and there are no relevant bases on which to distinguish polygraph from fMRI for the purposes of assessing the admissibility of fMRI evidence in relation to credibility given the content of the precedent set in *B  land*.

In *B  land*, Justice McIntyre for the majority, did not decide polygraph evidence was inadmissible on reliability grounds ("I would say at once that this view is not based on a fear of the inaccuracies of the polygraph." [*R. v. B  land*, [1987] 2 S.C.R. 398 at 19]). Rather, he found that the admission of polygraph evidence would violate the following well-established rules of evidence:

*The rule against oath-helping* (*R. v. B  land*, [1987] 2 S.C.R. 398 at 7-9). Before the Norman conquest, trials were conducted with "oath-helpers." An accused or a defendant in a civil suit would be entitled to call witnesses who would testify that the oath of the accused or the defendant was true and could be relied upon. However, unlike in the past, witnesses are now assumed to be honest. Not all are, but the opposing party has the opportunity to show that any given witness is not credible. However, if the opposing party does not attack the witness' honesty, the witness is assumed to be honest. You don't need evidence to "bolster" or "help" the "oath" or the credibility of an unattacked witness (e.g., evidence about fMRI results) so there is a rule barring it.

*The rule against prior consistent statements.* When a witness takes the stand, she is not permitted to refer to statements she made prior to testifying in cases for which those statements are being used to prove she is telling a version of events on the stand that is the same as the version she gave in the past. Such statements are prior in time to the testimony and their purported value is that they are consistent

with the testimony. However, they are excluded for many reasons. First, you can tell a lie as consistently as you can tell the truth. Consistency is not, of itself, a reliable indicator of veracity. Second, deceptive people can easily create the prior consistent statements and plant them in advance of their testimony (*R. v. B  land*, [1987] 2 S.C.R. 398 at 10). Third, if the prior statement is of the accused who is now a witness and it is being used by the accused to prove the truth of a statement (e.g., "I didn't kill her") then it is hearsay and excluded as self-serving evidence that is unreliable. Fourth, trials must be efficient and admitting prior consistent statements would cause delay and distraction with no gain in truth. The courts consider it best to have credibility decided by people assessing the testimony of other people who are in court, reporting what they saw, heard, or know about the dispute at hand. There are exceptions to this rule but none applied in *B  land* nor would any of them apply in relation to the prior consistent statements of fMRI results.

*The rule relating to character evidence.* In the past, the accused was not permitted to testify but was allowed to call witnesses as to his good character. However, such character evidence was limited to the accused's general reputation in the community; witnesses were not allowed to detail any specific acts regarding character because, it was believed, that would take too much time and be too distracting. The law changed and the accused was allowed to testify in her own defense and it did not make sense thereafter to restrict the accused to testimony about her own general reputation. Therefore, the rules allow the accused as a witness to testify about specific acts that illustrate the good character. The rule did not change, however, with respect to testimony from third parties about specific acts and, in *B  land*, the Court held that polygraph evidence is tendered to "bolster the credibility of the accused and, in effect, to show him to be of good character by inviting the inference that he did not lie during the test. In other words, it is evidence not of general reputation but of a specific incident and its admission would be precluded under the rule" (*R. v. B  land*, [1987] 2 S.C.R. 398 at 14). fMRI results would similarly violate the rule against anyone other than the accused (i.e., the fMRI expert) providing evidence about a specific act illustrating character (here credibility).

*The rule on expert evidence.* The testimony of an expert must be outside the knowledge and experience of the trier of fact (judge or jury) and be necessary for the correct disposal of the litigation. Credibility is generally seen as within the capacity of the trier of fact. Indeed, people are seen by the courts to be experts at assessing the credibility of other people (*R. v. B  land*, [1987] 2 S.C.R. 398 at 20). Admission of polygraph (or fMRI) results requires expert evidence that goes to the issue of credibility and therefore violates this rule.

*The rule on collateral facts.* To prevent every trial from going on endlessly and every witness being forced to explain everything about their past actions, the rules of evidence preclude the introduction of evidence on matters that are "collateral" to the material facts in dispute. For example, if a non-accused witness has lied or is sincerely mistaken about her date of birth in a case in which that is

entirely irrelevant, the law says the questioner is stuck with the answer because the loss of time to call other witnesses to prove the date of her birth is not worth the gain in accuracy in resolving the primary issue in dispute. The credibility of a witness is considered a "collateral" issue because it follows every witness and therefore arises in every case. It is distinct from the material issue of who did what, to whom, with what mental state. fMRI results in relation to credibility would be considered collateral facts and therefore ruled inadmissible.

It is, of course, possible that the Supreme Court of Canada, confronted with an fMRI case would overturn *Béland* deciding that *Béland* had been wrongly decided or that circumstances had changed such that *Béland* should no longer be followed. To do so, however, would require finding the following to be true:

- the *Béland* majority's balance between accuracy in individual cases and process commitments to fairness and efficiency for all cases was wrong; or
- the science of fMRI is now such that the truth achieved is worth the costs to the fairness and efficiencies of the process; and
- the loss of involvement of the community in determinations of credibility will not undermine the community's

attachment to the justice system such that its normative validity is lost.

For now, however, following *Béland*, fMRI results that go to credibility will not be admissible in Canada. Because DNA is not admitted on credibility (although it, like any evidence, can have the indirect effect of either bolstering or impeaching it), it is not relevant as a precedent for fMRI. fMRI results will not be able to be admitted "in a similar manner to which DNA evidence is used." fMRI will not be able to be used for "bolstering the credibility of defendants and witnesses in the courtroom." "[I]ndividuals who desire to prove their innocence in a court of law" will not be able to do so through commercial test results offering an "objective measure of truth and deception." In other words, the use of fMRI to detect deception will not provide evidence admissible in Canadian courts for the purposes of establishing credibility. ■

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# Functional Neuroimaging and the Law: A Canadian Perspective

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Tovino's (2007) article does a good job canvassing some of the legal issues raised by functional neuroimaging. However, it is a distinctly American perspective. Despite the burgeoning literature examining neuroethical issues and the law, there is a conspicuous absence of Canadian content. Since this technology will certainly confront the Canadian legal system, I will here briefly examine some of the author's constitutional concerns through the lens of the *Canadian Charter of Rights and Freedoms*. This response is limited to the problem of compelling an accused to submit to a functional magnetic resonance imaging (fMRI) scan as a legal test for deception with respect to sections 8, 12 and 13 of the *Charter*.

In Canada, the *Charter of Rights and Freedoms* is the constitutionally entrenched protection of individual rights with respect to state actions and actors. The Canadian judiciary has the mandate of protecting and enforcing the *Charter*, and

if state actions or legislation are in violation of the *Charter*, then *Charter* provisions will prevail. Compelling neuroimages is potentially in violation of several sections of the *Charter*, in much the same way that they may offend American constitutional amendments.

MRI and fMRI technologies are not new to the Canadian courts. In *R. v. Hodgson* ([2001] O.J. No. 5923), results from brain-imaging scans presented compelling evidence that the accused suffered from a mental disorder due to ischemic attacks in his frontal lobe, thereby exculpating him from charges of murder. Courts may accept this type of evidence when the appropriate medical experts attest that an accused suffers from a condition that had a necessary and sufficient causal role in their impugned behavior. Deception and credibility scans have not entered Canadian courts and speculating that they might we must ask whether MRI and fMRI evidence be compelled.

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