

Guilty Minds: by Jeremy Tiger

The Science, Law, and Admissibility of the Concealed Information Test in the Canadian Context

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INTRODUCTION

The results of a polygraph examination, while useful to investigators in conducting effective interrogations, are inadmissible in Canadian courts.¹ However, the polygraph is a measure of physiological responses to stimuli with several applications and judicial reluctance to admit the results is based on the control (or comparison) question tests (CQTs).² The CQT has, however, been found to be scientifically unfounded and theoretically limited.³ An alternative application of the polygraph machine, the concealed information test (CIT), holds promise as a means of collecting highly probative evidence with few of the risks associated with the CQT. In this paper I will highlight advantages of the CIT over the CQT and show that the results of the CIT should be admissible in court. Finally, I will lay out guidelines for admitting of the results of a CIT examination that would minimize any risks associated with the test.

THE POLYGRAPH

THE MACHINE

The traditional polygraph machine involves a variety of devices attached to a person to measure physiological responses. These include blood pressure, sweat, and respiration. More recently, other measures have been used. For example, electroencephalograms (EEGs) have been used to detect changes in the brain and hold promise for the future.⁴ Regardless of what is being measured, the underlying scientific principle remains the same; physiological changes represent the body's responses environmental stimuli, such as questions or photos. Polygraph machines are generally applied, in the forensic context, in two ways. These are the Control Questions Test (CQT) and the Concealed Information Test (CIT).⁵

¹ *R v Béland* (1987), [1987] 2 SCR 398, 43 DLR (4th) 641 [*Béland*]

² *Ibid*

³ Gershon Ben-Shakhar, Maya Bar-Hillel, & Mordechai Kremnitzer, "Trial by Polygraph: Reconsidering the Use of the Guilty Knowledge Technique in Court" (2002) 26 *Law Human Behav* 527 [Ben-Shakhar "Trial by Polygraph"]; Gershon Ben-Shakhar "Current Research and Potential Applications of the Concealed Information Test: An Overview" (2012) 3 *Front Psychol* [Ben-Shakhar "Current Research"]

⁴ Committee to Review the Scientific Evidence on the Polygraph, *The Polygraph and Lie Detection*, (Washington, DC: The National Academic Press, 2003) at 160 [Polygraph Review Committee "Polygraph"]

⁵ *Ibid*

THE CONTROL QUESTIONS TEST (CQT)

The CQT is the most commonly used application of the polygraph machine in North America. In the CQT the examinee is asked relevant and irrelevant (control) questions. “The theory is that the innocent person will show equal or less physiological responsiveness to relevant than comparison questions and that the guilty person will show greater responsiveness to relevant than comparison.”⁶ This test has been found to have a 92% accuracy rate.⁷ However, the CQT has also been found to suffer from scientific shortcomings, discussed below.⁸

THE CONCEALED INFORMATION TEST (CIT)

Another method of testing using a polygraph machine is the Concealed Information Test (CIT). The CIT is also known as the Guilty Knowledge Test (GKT). The American Committee to Review the Scientific Evidence on the Polygraph summarized the CIT as follows:

In the concealed information format, the theory is that examinees will respond most strongly to questions related to their actual knowledge and experience, so that concealed information will be revealed by a stronger response to questions that touch on that information than to the comparison questions. Examinees without special information to conceal will not respond differentially across questions.⁹

The underlying psychological theory is the orienting response, a measurable physiological response to a stimulus that is novel or personally significant.¹⁰ These physiological responses are detectable by the polygraph. For example, people will hear their own name spoken over the din at a cocktail party, even though that person was not paying attention to whichever conversation his or her name was raised in. That person’s name is personally significant to him or her, and so he or she will orient to it. The same holds true for perpetrators of a crime with stimuli associated with the commission of the offence. The stimuli associated with the offence are called probes.

⁶ *Supra* note 4 at 60

⁷ *Scientific Validity of Polygraph Testing: A Research Review and Evaluation* (November 1983: Washington, D. C.: U.S. Congress Office of Technology Assessment OTA-TM-H-15);

⁸ See Ben-Shakhar, *supra* note 3; Lykken *supra* note 3; “The scientific status of research on polygraph techniques: the case against polygraph tests” (2002) 2 *Modern Sci Evidence* 483

⁹ Polygraph Review Committee “Polygraph”, *Supra* note 4 at 70

¹⁰ Ben-Shakhar “Trial by Polygraph”, *supra* note 3 at 531

For a maximally accurate forensic CIT, only the investigators and perpetrators of a crime must know the details of an incident, activity, event, or object. The details that remain unknown to the general public are often called 'holdback' evidence. An additional necessity for a successful test is that the holdback evidence must have been noticed and remembered by whoever committed the act. These two conditions ensure that *only* a guilty examinee will have an orienting response to the holdback evidence. The risk of falsely finding someone to have 'failed' a CIT examination is correlated with the risk of holdback evidence leaking to the general public.

APPLICATIONS OF THE CIT

The CIT, like the CQT, could be used to bolster or undermine a witness's credibility. The results could be adduced to show that the examinee-accused's physiological responses to the stimuli presented are inconsistent with his or her testimony. This application would, however, run into the same legal barriers that have resulted in the inadmissibility of the CQT, as discussed below.

An alternative use of the test could be to present evidence relating to identity. The CIT is valuable in its potential to help identify the perpetrator of a crime. The results would show that the examinee knew specific details of the events that form the subject of the charges. This information could be presented as evidence that the examinee is more likely to have been present as the events were unfolding. It would be akin to fingerprint evidence. The difference is that while fingerprinting is the detection of the physical evidence left at the scene by the perpetrator, the CIT is the detection of the scene's psychological impact on the perpetrator. This would allow the evidence to be put to a highly probative use, without running into the aforementioned legal bars to evidence relating to credibility.

ADVANTAGES OF THE CIT OVER THE CQT

One difference between the CIT and the CQT is that the CIT is founded in science while the underpinnings of the CQT are purely hypothetical; the orienting response has been widely studied, and this has resulted in a large body of research that supports its existence and applicability to polygraph testing.¹¹ As the CIT is founded on a well documented and researched psycho-physiological principle, it is easier to control for error

¹¹ See Ben-Shakhar "Current Research", *supra* note 3

and bias, devise experiments and paradigms to improve reliability, and tailor every individual examination to be as accurate as possible.

A second advantage of the CIT is that control questions – questions that contain only unrelated or irrelevant stimuli – can be incorporated into the test to ensure that the results are defensible. Control questions should produce no response to any of the stimuli. A lack of responses to irrelevant stimuli can be compared to the results of a non-control question to show that any measured responses were *only* due to the orienting response and not to chance. This in turn helps to show that the response was a result of the examinee's knowledge of holdback evidence and not a flawed examination or other potential invalidating factors.

Another problem with the CQT is that unrelated physiological processes may affect the results of the test.¹² This means that stress, recent exercise, or other arousing events may result in a flawed test. However, in the CIT context, Ben-Shakhar et al. found that “high levels of stress, while elevating all psychophysiological responses, have no effect on the differentiation between relevant and neutral stimuli.”¹³ This means that an examinee's responses to probes will still be noticeable when the examinee is stressed, resulting in accurate examinations.

An additional, crucial advantage of the CIT over the CQT is that it is far more likely that a flawed CIT will result in a false *negative*, rather than a false *positive*. In other words, an improperly administered CIT test will identify guilty parties as innocent, and is not likely to identify innocent parties as guilty. Estimates vary, but in a CIT only 2 to 5% of innocent examinees are wrongly identified as guilty. The rate of false positives decreases as time goes by. This is because the significance of stimuli related to the event will decrease more for innocent persons than for guilty persons.¹⁴ As will be discussed below, this addresses a significant bar to the admissibility of CQT evidence that the courts have enunciated.

¹² Ben-Shakhar “Current Research”, *supra* note 3 at 94

¹³ Ben-Shakhar “Trial by polygraph” *supra* note 3 at 533

¹⁴ *Ibid*

PROBLEMS WITH THE CIT

One shortcoming of the CIT is the potential for stimulus generalization. Stimulus generalization essentially means that a person may show an orienting response to a stimulus that is similar to the probe, but is not itself linked to the investigation.¹⁵ For example, an innocent examinee may show an orienting response to a piece of holdback that is similar to something significant to that person outside of the CIT context. However, as will be shown later in the framework section, this potential problem can be counteracted through careful preparation for the test itself.

In some respects, the most significant problem with the CIT is that it is dependant on the presumption that the holdback evidence has not been leaked. Measures taken by investigators to ensure that holdback evidence does not become widely known may not always work. In such situations the chance of finding an innocent person to have guilty knowledge increases. Several studies have shown, however, that leakage does not play a significant role in criminal investigations.¹⁶ Unfortunately there does not appear to be a large body of research to support these studies, and so it is still possible that those who are aware of holdback evidence due to leakage may be found to have guilty knowledge.

A final shortcoming of the CIT is that the test has not been widely applied in the investigative context in North America. This may be due to the fact that there is not always reliable holdback available. However, this is a remediable problem; admission of the CIT into Canadian courts would likely spur an increase in the use of the CIT in the law enforcement community. This would benefit the CIT by providing increased amounts of data for study, thereby increasing opportunities to improve the reliability of the test.

ADMISSIBILITY IN CANADIAN COURTS

CURRENT BARS TO THE ADMISSIBILITY OF POLYGRAPH EVIDENCE

NO OPPORTUNITY FOR CROSS-EXAMINATION

In *R v Phillion* the Supreme Court of Canada held that the results of a polygraph test are inadmissible in Canadian courts.¹⁷ The reason given was that “it appears to ... run

¹⁵ Polygraph Review Committee “Polygraph”, *Supra* note 4 at 79

¹⁶ *Ibid* at 534

¹⁷ *R v Phillion*, [1978] 1 SCR 18, 1977 CanLII 23 (SCC) [*Phillion*]

contrary to the basic rules of evidence to permit the substitution of the opinion of a polygraph technician for the evidence which could have been given by the appellant himself.”¹⁸ In other words, the court was concerned that admission of the polygraph would allow the accused to testify by proxy. Consequently, the accused would be able to testify to the polygraph examiner as to his or her innocence, thereby robbing the Crown of the opportunity to cross-examine. The CIT would not present a similar opportunity for the accused to escape cross-examination. As opposed to the CQT – the test used in *Phillion* – the CIT is not based on witness statements, but on physiological reactions to stimuli. Whereas a polygraph expert would, in the CQT context, be adducing his or her opinion as to the veracity of the examinee-accused’s statements, a polygraph expert in the CIT context would be adducing his or her opinion as to whether or not the examinee-accused possessed guilty knowledge. The CIT expert’s testimony would not relate to a statement the accused made, and so an accused who wished to adduce statements of his innocence would be required to testify in order to do so. Thus, there would be opportunity for cross-examination, and so the CIT addresses this concern with polygraph evidence.

THE EXPERT’S QUALIFICATIONS

Another concern raised in *Phillion* was the qualifications of the expert; the examiner was found to have “neither the qualifications nor the opportunity to form a mature opinion of the propensity.”¹⁹ This is legally relevant because a qualified expert is one of the preconditions to the admissibility of expert evidence.²⁰ To be a properly qualified expert, a person must be “shown to have acquired special or peculiar knowledge through study or experience in respect of the matters on which he or she undertakes to testify.”²¹ Any polygraph expert trained at the Canadian Police College would likely be found to meet this standard; the college is accredited by the American Polygraph Association, the polygraph

¹⁸ *Ibid* at para16

¹⁹ *Ibid* at para 15

²⁰ *R v Mohan* [1999] 2 SCR 9, 114 DLR (4th) 419 [*Mohan*]; *R v Abbey* 2009 ONCA 624, 246 CCC (3d) 301 [*Abbey*]

²¹ *Mohan*, *supra* note 20

course lasts over 8 months, and during the 8 months the potential examiner must complete at least 25 mock polygraph examinations.²²

THE RULE AGAINST OATH-HELPING

In *R v Béland* the court rejected polygraph evidence on the grounds that the sole reason for admission of the evidence would be to bolster the credibility of one's own witness.²³ This rejection was based on the legal principle that while evidence may be adduced to impeach the credibility of the opposing party's witnesses, a party may not adduce evidence solely to support its own witness's credibility.²⁴ In other words, as regards reliability, "the trier of fact must reach its conclusion on the basis of the evidence given by a human being in court."²⁵ While this is a valid legal concern when dealing with the CQT, the CIT would not fall within the purview of the rule against oath helping. The rule against oath helping is, as the name suggests, concerned solely with the credibility of a witness. Identification, not credibility, is the proposed use of the results of a CIT. As such, the rule against oath helping would not be an obstacle to admission.

JUDICIAL INEFFICIENCY

In *Béland*, McIntyre J. stated that "fear of turmoil in the courts ... leads me to reject the polygraph."²⁶ The 'turmoil' referred to is the potential for the trial to be sidetracked by an investigation into the polygraph itself.²⁷ This is a concern echoed in the context of expert evidence generally; in *Abbey* the Ontario Court of Appeal listed it as one of the costs of admission of expert evidence, i.e. "one of the various risks inherent in the admissibility of expert opinion evidence."²⁸ The 'costs' of expert evidence are one of the reasons listed in *Abbey* why a trial judge would exercise his or her gatekeeping function. In other words, a high level of confusion is an enumerated reason why it would be legitimate for a trial judge to decide that, even though the criteria for the admissibility of expert evidence have been met, it should not be admitted.

²² American Polygraph Association <<http://www.polygraph.org/>>; Canadian Police College <<http://www.cpc-ccp.gc.ca/en/pec>>

²³ *Béland*, *supra* note 1

²⁴ *R v Kyselka* [1962] OWN 164 (CA)

²⁵ *Béland*, *supra* note 1 at para 12

²⁶ *Béland*, *supra* note 1 at para 20

²⁷ *Ibid*

²⁸ *Abbey*, *supra* note 20 at para 90

The costs of the evidence must, however, be weighed against the benefits; the benefits are the probative potential and significance of the issue.²⁹ In the case of the CIT, the probative potential is great; the result of a properly administered CIT is piercing evidence that the examinee had guilty knowledge, making him or her much more likely to have committed the offence. Further, the results are directed at a crucial issue in a trial, namely identification. Without proper identification there can be no conviction. Reliability is a second factor that must be evaluated in the consideration of probative value.³⁰ As will be discussed later, the CIT is highly reliable.

While it is true that the CIT would potentially cause some ‘confusion’ on a *voir dire* concerning its admissibility, I would conclude that the benefits outweigh the costs. The evidence is reliable and highly probative, and the costs have not been proven to be high. Thus, judicial inefficiency is a factor to be considered, but should not be determinative of inadmissibility.

THE ULTIMATE ISSUE RULE

It appears that another underlying concern for the court in *Béland* was that the admission of the polygraph would undermine the trier of fact’s role as the decider of the ultimate issues on trial. This can be seen when McIntyre J. comments, “The ultimate decision as to the truth or falsity of the evidence of a witness must rest upon the exercise of the judgment of the trier of fact.”³¹ However, since *Béland* was decided there have been several decisions that have rejected the ultimate issue rule.³² In other words, “it is no longer an objection to expert evidence that it addresses the ultimate issue to be decided by the jury.”³³ It should be noted, however, that in *Mohan* the Supreme Court held that as an issue approaches the ultimate issue the more strictly necessity and reliability will be applied.

²⁹ *Ibid* at para 87

³⁰ *ibid*

³¹ *Béland*, *supra* note 1 at para 70

³² *Mohan*, *supra* note 20; *R v Graat*, [1982] 2 SCR 819, 144 DLR (3d) 267; *R v Lavallee*, [1990] 1 SCR 852, 55 CCC (3d) 97

³³ Hamish Stewart, *Evidence: A Canadian Casebook* (Toronto, Emond Montgomery Publications, 2012) at p.303

ARGUMENTS FOR THE ADMISSIBILITY OF THE CIT

BÉLAND AND PHILLION WERE DECIDED BEFORE MOHAN AND ABBEY

The concerns listed above are primarily sourced from *Béland* and *Phillion*. These cases deal with the polygraph as contrary to established common law principles of evidence. There is little concern with the polygraph's admissibility as a science. Since those two judgments were handed down the Supreme Court of Canada and the Ontario Court of Appeal have set out and refined tests for the admissibility of expert evidence. *Mohan* and *Abbey* are the leading cases on the admissibility of expert evidence. *Mohan* set four threshold requirements for the admissibility of expert evidence. They are necessity, relevance, a properly qualified expert, and the lack of an exclusionary rule.³⁴ *Abbey* reformulated the test into a two-step process. A discussion of the CIT's conformity with the requirements set out in *Abbey* and *Mohan* follows.

THE CIT MEETS THE ADMISSIBILITY CRITERIA SET OUT IN MOHAN AND ABBEY

As the qualifications of a polygraph expert and the exclusionary rules associated with polygraph evidence have already been addressed, this section will only deal with necessity and relevance.

NECESSITY

Evidence is necessary where it provides information about a subject with which the judge or jury has no experience.³⁵ The court has framed it thusly; "an expert's opinion is admissible to furnish the court with scientific information which is likely to be outside the experience and knowledge of the jury."³⁶ Put differently, the expert opinion should be about a subject that the jury would be incapable of comprehending without the expert. The subject matter of the polygraph expert would, in this case, be the results of the CIT. As the CIT is an application of a means of measuring physiological responses, it seems highly unlikely that either a judge or jury would be capable of understanding the results. There is also a rigorous process involved in becoming qualified to administer the test. Thus, it stands to reason that a layperson would not be able to understand the results being

³⁴ *Mohan*, *supra* note 20 at para 17

³⁵ *Ibid*

³⁶ *Lavallee*, *supra* note 32 at para 31

presented to them. Thus, the results of the CIT, as presented by a polygraph expert, would likely meet the necessity threshold of the *Mohan* criteria.

RELEVANCE

In *Abbey*, the court held that expert evidence must be logically relevant to a material issue, in that it “must, as a matter of human experience and logic, make a fact in issue more or less likely.”³⁷ The proposed use of the CIT herein is to establish the identity of the person who committed the offence by showing that that person possesses knowledge that, aside from investigators, only the guilty party would possess. Thus, logical relevance is established; as a matter of human experience, it is more likely that a person with guilty knowledge is the person who committed a crime, and a person without such knowledge is likely innocent.

THE CIT IS A RELIABLE MEASURE

As mentioned above, reliability is a factor going to the consideration of the benefit to a trial of a piece of expert evidence. Reliability can be evaluated based on whether the technique can be and has been tested, whether the technique has been subjected to peer review and publication, the known or potential rate of error, and whether the theory or technique used has been generally accepted.³⁸ Based on these factors, the CIT appears to have significant indicia of reliability.

The CIT has been widely tested and subjected to peer review and publication. In fact, a single paper published in 2011 makes reference to over 125 other studies of the CIT or closely related physiological principles.³⁹ These tests have been conducted under a variety of conditions, in order to control for various external factors. The sheer amount of research conducted on the method suggests further that there have been many instances of the peer review of papers related to the testing of the CIT measures. It would thus be hard for a court to determine that the CIT falls short of reliability due to these criteria

The potential rate of error of the CIT has not been concretely identified, nor has the court identified a rate of error, which would render a science inadmissible. The rate of

³⁷ *Abbey*, *supra* note 20 at para 82

³⁸ *R v J(L)*, 2000 SCC 51, 37 CR (5th) 203, at para 33

³⁹ Ben-Shakhar “Current Research”, *supra* note 3

error for a polygraph test can be divided into two categories: the rate of false-positive errors and the rate of false-negative errors. The former is the rate of falsely identifying innocent persons as possessing guilty knowledge and the latter is the rate of identifying those with guilty knowledge as *not* possessing guilty knowledge. The rate of false positives has been consistently estimated to be between 2 and 5%.⁴⁰ Contrarily, the rate of false negatives appears to be dependant on the paradigm used for the study, but at the most is 42%.⁴¹ In terms of admissibility in court, the false negative rate is not as important as the false positive. The reason is that false negative results, like any negative result, would not be likely to make it to court as evidence for the Crown. Contrarily, the defence may choose to adduce the results to prove innocence. A Crown could cross-examine on the rate of false-negatives in order to shed light on the limited weight that should be allocated to the CIT in such a scenario. The issue of admissibility versus weight is more fully addressed in the next section.

Although the CIT is not widely used, it still appears to be widely accepted. The test for a science being widely accepted is whether there are differences of opinion in the scientific community regarding the acceptability of the measure for forensic purposes.⁴² Ben-Shakhar et al suggest the contrary; the polygraph community believes it is an acceptable measure, and is working to maximize its validity. In addition, over 5,000 CIT tests are administered annually in Japan, where the test is standard practice. In fact, the results of the test are admissible in Japanese courts as evidence.⁴³ The abundance of research on and in support of the CIT, in conjunction with Japanese courts' acceptance of the CIT evidence, suggests that a court is likely to find that the test is widely accepted and a reliable measure.

Finally, it should be noted that the court in *Béland* commented that their rejection of the polygraph was not "based on a fear of the inaccuracies of the polygraph. ... It may be said that even the finding of a significant percentage of errors in its results would not, by

⁴⁰ *Ibid*

⁴¹ *Ibid*

⁴² *R v Trochym*, 2007 SCC 6, 216 CCC (3d) 225, at para 47

⁴³ Akemi Osuga "Daily application of the concealed information test: Japan," in *Memory Detection: Theory and Application of the Concealed Information Test* (Cambridge: Cambridge University Press) 253 [Osuga "Memory Detection"]

itself, be sufficient ground to exclude it as an instrument for use in the courts.”⁴⁴ Thus, given the evidence about the reliability of the CIT, it is likely to be admissible as probative and beneficial.

THE WEIGHT OF THE CIT COULD BE ALTERED

The criterion set out in *Mohan* and *Abbey* are set out as threshold tests for admissibility, meant to determine when a piece of expert evidence should be allowed into court.⁴⁵ There is no mention of the weight to be given to the evidence. Given the probative nature of the CIT it would be in the interest of justice to have the results of the test admitted, but with cautions given to the jury about the appropriate weight to be assigned to the evidence. This caution could address the shortcomings of the CIT. For example, to address the fact that there is a small rate of false positive results, the trial judge could caution the jury that the results of the CIT may not be used as determinative of an issue, but can be used to corroborate other pieces of real, non-testimonial evidence. This would also encompass concerns about the leakage of holdback evidence.

This view is consistent with the Ontario Court of Appeal’s principles of expert evidence. “The judge must identify the scope of the opinion and whether certain terminology is unnecessary and potentially misleading ... The judge may admit part of the testimony, modify the nature or scope of the proposed opinion, or edit the language used.”⁴⁶ The judge is thus entitled to guide and restrict the polygraph expert’s testimony. This could allow for testimony that strikes a balance between the truth seeking function of a trial and the potential for expert evidence to result in unfair proceedings.

FRAMEWORK FOR ADMISSIBILITY

It would be advisable that, in the event that the CIT is deemed admissible, certain constraints be put on its use at various stages of the criminal process. These constraints would be aimed at maximizing the truth-seeking function of the court while minimizing judicial confusion and the chances of the CIT being responsible for wrongful convictions. As aforementioned, Japan has already accepted the CIT as an admissible piece of evidence; the

⁴⁴ *Béland*, *supra* note 1 at para 19

⁴⁵ *Abbey*, *supra* note 20

⁴⁶ *Abbey*, *supra* note 20 at para 63

Japanese model would consequently be a good starting point for the evaluation of a possible framework. Building on the Japanese example and current Canadian Common law regarding the CQT, this section outlines potential conditions that could be imposed on the investigative phase, the onus and burden of proof, and the jury charge

THE INVESTIGATIVE STAGE

The first thing that should be determined, following the Japanese is example, is whether the situation is appropriate for the CIT. Some examinees are deemed to be improper subjects for a CIT examination. These include those with heart disease, mental and/or intellectual handicaps, or those whose physiological state is temporarily affected, for example by drugs, alcohol, or lack of sleep.

Once the potential examinee is deemed fit to take the test, the next step should be to formulate appropriate questions and administer the test as soon as possible. Acceptable questions should follow certain guidelines. First, as in Japan, any information circulated in the media should be ruled out as a possible CIT question. Second, questions involving real probes should be balance with control questions to ensure the results are defensible. Third, where possible, photographs of probes and similar stimuli should be used in place of questions; this reduces the risk of examiner bias, and provides a control for leakage. The reason photos provide a control for leakage is best illustrated by example. Say a ring was stolen. It is possible that information about the subject of the theft will be leaked. What is less likely, however, is that an image of the stolen ring or details about it will be circulated. Thus, if an examinee is shown a series of rings, one of which was the probe, a response to the stolen ring will indicate that the examinee has guilty knowledge regardless of the fact that it may be widely known that a ring was stolen. These guidelines will go towards ensuring that the specific instance of the CIT is as reliable as possible.⁴⁷

Once questions are formulated, the investigator should take steps to ensure the rights of the examinee are respected, following *R v Oickle* and *R v Chalmers*.⁴⁸ The first advisable condition to impose on the CIT investigator is that he or she must inform the accused of his or her *Charter* s.10(b) right to counsel and provide the accused with the

⁴⁷ Osuga "Memory Detection", *supra* note 44; Ben-Shakhar "Current Research", *supra* note 3

⁴⁸ *R v Oickle*, 2000 SCC 38, [2000] 2 SCR 3; *R v Chalmers*, 2009 ONCA 268, [2009] OJ No 1254

opportunity to exercise said right. This would ensure that, in the event of a successful CIT examination, the results would not be deemed inadmissible as a remedy under s.24(2) of the *Charter*. Additionally, in Japan, the CIT is administered only where the examinee is explained the test, the jeopardy he or she is in, and then signs a consent form.⁴⁹ This should be adopted in Canada, and these considerations should be the first step in every situation where the CIT is deemed appropriate to further ensure the rights of the accused are respected

A final advisory for the test itself would be to have it videotaped, and the measurements of the polygraph machine recorded. This would allow for the court to examine and evaluate the comportment of the examiner and examinee. It would also provide an opportunity for the examiner, when in court, to illustrate on the recorded results what caused him or her to believe that the accused was in possession of guilty knowledge.

BURDEN OF PROOF

The Crown would bear the burden of showing on a *voir dire* that the CIT meets the *Mohan* criteria, as it falls to the party seeking to admit the expert evidence to establish the criterion on a balance of probabilities.⁵⁰ This is also consistent with the view that the accused is innocent until proven guilty, and need not tender any evidence in his or her defence; it would be flagrant a violation of the presumption of innocence in ss. 7 & 11(d) of the *Charter* to require an accused to help establish the admissibility of a piece of evidence that would go towards helping establish his or her guilt. Contrarily, the accused might wish to tender evidence that he or she 'passed' the CIT with a finding that he or she was not in possession of guilty knowledge. If this were the case, it would likely fall to the accused to establish the admissibility of the CIT in that specific instance.

Given the nature of the CIT and holdback evidence, two additional elements could be added to the Crown's burden. The elements would be an addition to the *Mohan* criteria that would be CIT specific, and relate to the leakage of holdback evidence; in order for the CIT to

⁴⁹ Shinji Hira & Isato Furumitsu, "Polygraphic Examinations in Japan: Application of the Guilty Knowledge Test in Forensic Investigations" (2002) 4 Int'l J Police Sci & Mgmt 16 at 20 [Hira & Furumitsu, "Polygraphic Examinations in Japan"]

⁵⁰ *Mohan*, *supra* note 20

be admissible, the Crown would first have to show first that there is a reasonable probability that leakage did not occur. Second, if leakage did occur, it would be have to be shown that none of the questions posed to the examinee were based on the leaked holdback. While proving these elements may be onerous, they have two benefits. Firstly, the presence of guilty knowledge would go a long way towards establishing the identity of the culprit, potentially lightening the Crown's ultimate burden of proving guilt beyond a reasonable doubt. Second, these requirements would help countervail concerns that examinee-accused could be found to gave guilty knowledge when in fact all he or she had was incidental knowledge of the intimate details of a case due to chance. This would be in society's interest, as it would minimize the potential for wrongful convictions based on a faulty administration of the CIT.

Finally, it should be noted that the Japanese have also formulated a test for the admissibility of the CIT; it should be administered by a qualified examiner on standardized equipment to a person with normal physical and mental states.⁵¹ This could be a good starting point for Canadian courts in terms of a potential test for the admissibility of the CIT.

THE JURY CHARGE

A proper jury charge would serve two important purposes. First, it could address the exclusionary rules already identified herein. Second, it could allow for the judge to address scientific shortcomings of the CIT, namely the risk of a wrongful conviction due to a false positive. I would suggest that the primary charge to the jury be that the CIT results could not be used as the sole basis for a conviction, but may only be used to corroborate other non-testimonial evidence, such as fingerprints, DNA, or security footage.

As already discussed above, the CQT has been deemed inadmissible as contrary to established common law rules of evidence, for example oath helping. The CIT would thus have to be admitted for purposes that do not contravene these rules of evidence. One way to ensure this would be to have the trial judge advise the jury of the permissible and impermissible uses of the CIT evidence. For example, to address oath helping or character

⁵¹ Hira & Furumitsu, "Polygraphic Examinations in Japan", *supra* note 48

evidence concerns, a proper charge could include a warning that jury may not use the evidence solely to decide that one witness is to be believed and another is not.

The jury charge could also address concerns for wrongfully convicting the innocent. The requirement that the evidence only be used as corroborative of other real evidence would ensure that the 2 to 5% of the examinees who register false positives are not incarcerated on the basis of the polygraph alone. Given that the Crown has a “duty to ensure that the criminal justice system operates fairly to all”, it would seem to be a duty of the Crown to ensure that this charge or a similar one be put to the jury in the event that the CIT is deemed admissible.⁵²

CONCLUSION

The CIT is a potentially valuable piece of evidence that suffers from none of the problems that plague the inadmissible CQT; the results of the test could be used in ways that do not violate evidentiary rules, it is based on a well-researched and understood scientific principle, and it runs far less of a risk of resulting in a wrongful conviction. It has high probative value in that it is reliable and has the potential to place an examinee at the scene of a crime. It does have a real, albeit slight, chance of wrongfully doing so, but this can be controlled through careful investigation, charges to the jury about its acceptable use, and requirements for the Crown in establishing its admissibility. Furthermore, Japan has accepted the CIT as admissible in court for over 30 years, and the system in place there can serve as a model for our own.⁵³ In all, using the proper controls, the CIT is a highly probative, reliable piece of information that, while it may suffer from some shortcomings, would ultimately be a huge boon to the criminal justice system.

⁵² Ministry of the Attorney General, *Crown Policy Manual*, Toronto: Ministry of the Attorney General, Preamble

⁵³ Hira & Furumitsu, “Polygraphic Examinations in Japan”, *supra* note 48