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### **Rebuttal to Cushman's Rejoinder to Matte's Response to Article on the Matte Quadri-Track Zone Comparison Technique's Inside Track.**

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This is a rebuttal to Cushman's lengthy rejoinder to this author's (Matte) response in *Polygraph*, Vol. 43, Nr. 1, 2014 to Cushman's (2013) article entitled "Is Matte's Inside Track the Answer to False Positives, False Negatives and Countermeasures? There is Reason to fear that Hope is Gone."

Cushman's response refers to the psychological aspects and functions of each component of the Matte Quadri-Track Zone Comparison Technique (MQTZCT) described in (Matte 2011) as unfounded, illogical or disproven assumptions. On the contrary, the article cites several published studies and the functions of those components are based on *logical* assumptions supported by empirical data and published research. The variables that can affect the outcome of a polygraph examination, identified in Chapter 9, Forensic Psychophysiology Using The Polygraph (Matte 1996), do have citations of publications next to each variable. Furthermore, the MQTZCT is truly based on logical assumptions supported by empirical data and validated by published field research, including its score threshold initially developed in 1977 (Matte 1978) and modified in 1989 by the Predictive Table for Estimating Error Rates (Matte 1989).

Cushman questions the value of the three published field studies on the MQTZCT focusing on the Mangan, et al (2008) field study published in *Physiology & Behavior* and the published objections to its publication by Iacono (2008) and Verschuere, et al (2008), dismissing Mangan's published rebuttal. It should be of no surprise that these cited opponents of polygraph objected to Mangan's study in one of the most prestigious peer-review journals. Iacono expressed his fear that such publication in *Physiology & Behavior* would result in the admissibility of polygraph results in our courts (Koolhaas 2008). The fact remains that the peer-review process of the *Physiology & Behavior* Journal is one of the most stringent and it was unanimously recommended and published. However, Cushman, in his obsessed zeal to discredit the MQTZCT and the published research studies that validate it, seizes upon those two objections by academics known for their opposition to polygraph admissibility to discredit the Mangan et al study. Cushman then focusses his attention on the third published field study by Shurany, Stein and Brand (2009) stating that "the mean scores for the Shurany, Stein and Brand (2009) data are not consistent with the raw data provided on Mr. Matte's website." Cushman fails to mention the clarifying statement in the published critique on the meta-analytic Survey, to wit: "Nelson had previously acquired incomplete data of the study from Barry Cushman who released it without authorization from Shurany." Furthermore, he stated that "Shurany, Stein and Brand (2009) reported two false negative errors out of 28 definite decisions." The fact is that the Shurany et al study made definitive decisions on 57

examinations with two false negatives, no false positives and no inconclusives. Furthermore, those two false negatives were from tests conducted in the Thai language and Shurany believes that the problem was in the translation. (T. Shurany, personal communication, 24 March 2014).

Cushman refers to the Quadri-Track Reaction Combination Guide (Matte, 1981, 1996) and treats its remedies as “requirements” rather than a “Guide” as intended. He further criticizes the requirement for two or more charts “with inside track scores on the same side of zero” when in fact, two or more charts are always required before a determination of truth or deception can be rendered, in order to obtain consistency hence reliability and also to acquire sufficient score spots to offset countertrend scores. See published study on countertrend scores in Matte (2012a).

Cushman rejects Dr. Paul Ekman’s ‘Othello Error’ analogy for the ‘Fear of Error’ question in the MQTZCT’s Inside Track, but fails to mention in his argument that the ‘Fear of Error’ and the ‘Hope of Error’ test questions each contain a suffix “regarding the target issue” which specifically addresses their Fear or Hope that an error will be made on their test “regarding the target issue.” This failure to mention and account for the aforesaid suffix was also made by the authors of the Terminology Reference for the Science of Psychophysiological Detection of Deception (2012) to which a published correction was made in *Polygraph*, Journal of the APA by this Author (Matte 2012b).

However, the following statement by Cushman in his rejoinder is disconcerting: “Matte consistently cites Ekman, P. (1985). *Telling Lies – A How-to-Guide for All Those Who want to Detect Lies*, New York, NY. Berkley Books. Interestingly, Shurany, Stein and Brand (2009) do the same. However, there is no record in the Library of Congress of such a title by that publisher, no such book was listed when I did a search of major resellers, nor does Ekman list it among his publications. They likely mean the 1985 version of the book I cite here, Ekman, 2001).”

This author (Matte) who had possession of the aforementioned Ekman book in his library but lost it sometime ago, contacted the Paul Ekman Group who found the cited book in their library and sent this author (Matte) a photo copy of its **cover** and **copyright page**, stating “I have found the book in paperback on our shelves. Your citation is correct (Berkley books are published by the Berkley Publishing Group).” (Amos, Paul Ekman Group, LLC, personal communication, 20 March 2014). Those photos are linked to this rebuttal. However, a subsequent personal communication with Cushman ( 13 May 2014) revealed that he was not able to find the Ekman book from my citation due to the fact that the subtitle “A How-to-Guide for all Those who want to Detect Lies” published on the book’s cover is only a promotional quote , hence not a legitimate subtitle to “Telling Lies” main title. Therefore the book was not discoverable through normal search methods due to its incorrect listing in the reference citation by this author. The fact remains that proof of the existence of aforesaid book cited by this author is amply displayed by its cover and copyright page provided by the Ekman Group, which reflects the aforesaid book was copyrighted by Paul Ekman in 1985 and printed by Berkley Books in 1986.

Cushman cites the National Research Council of the National Academies of Science report (NAS 2003) to discredit any research conducted on the MQTZCT by using general sentences out of context and implying that the NAS specifically discussed the merits of the MQTZCT and its predictive table. In

fact, the NAS stated that “Only seven polygraph field studies passed our minimal criteria for review. All involved examination of polygraph charts from law enforcement agencies or polygraph examiners’ case files in relation to the truth as determined by relatively reliable but nevertheless imperfect criteria, including confession by the subject or another party or apparently definitive evidence. The seven datasets include between 25 and 122 polygraph tests, with a median of 100 and a total of 582 tests. Figure 5-3 displays results in the same manner as in Figure 5-1. The accuracy index values (A) range from 0.711 to 0.999, with a median value of 0.89.” The 122 polygraph tests were from the 1989 Matte, Reuss field Study cited by NAS. Interestingly, the APA Response to the NAS 2003 Report (APA 2002)<sup>1</sup> stated that more than one thousand research studies were available. Yet NAS found only seven studies that met their minimal criteria for review and one of them was the field study on the MQTZCT.

Cushman continues to argue that the MQTZCT without its Inside Track is no different than any other polygraph technique, completely disregarding the significant differences mentioned in my response. He further states that the Dual Equal Strong Reaction Rule is likely responsible for the bias in MQTZCT scores and is not the Either-Or Rule. He obviously does not fully comprehend the Either-Or Rule which simply stated requires that the examinee react to either the Red Zone (Relevant) or the Green Zone (Control) but not to both, and if there is an equally significant reaction to both zones, the Green Zone is deemed defective. This definition also applies to the Dual Equal Strong Reaction Rule which uses the Either-Or Rule. The difference between Backster and Matte is in the application of the Either-Or Rule wherein Backster compares the relevant question to its neighboring control question to its right that hopefully will contain little or no reaction for a Minus Two score (Deception), whereas Matte will compare the relevant question to the neighboring control to its left which is deemed defective thus giving it a Minus One score (lean towards deception). The Backster method is selective and vulnerable to the use of countermeasures, whereas the Matte method is non-selective and not vulnerable to countermeasures as described in detail in (Matte 2011). Hence both methods treat the control question as defective under the Either-Or Rule or the Dual Equal Strong Reaction Rule and the only difference is in its modest application by the latter. Cushman’s refusal to accept this similarity is not surprising since this rule is one of the important features that differentiate the MQTZCT from other techniques.

One of the important features of the MQTZCT is the confirmation role that the Inside Track provides, and especially when there is consistent, significant responses to the Hope of Error regarding the Target issue question with a comparative lack of response to the Fear of Error regarding the Target Issue question. Cushman argues that there are other factors besides the Hope of Error that can produce consistent and significant reactions to that question but he doesn’t name them. The introduction of that question is thorough with feedback from the examinee who reiterates his understanding that only the guilty examinee will hope that an error will be made on the test regarding the target issue. As explained in my response and in Matte (2011), that scenario would confirm the legitimacy of reactions to the relevant questions in the previous two tracks, and offer psychophysiological evidence difficult to refute by the examinee and the court. Cushman’s refusal to admit that the Inside Track offers

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<sup>1</sup> The APA Newsletter, 35(5), Sep-Oct 2002 containing the APA Statement to the NAS 2003 Report indicates that the APA must have received an advance copy of the NAS report.

confirmatory evidence is understandable because it defeats his position that the Inside Track is superfluous and not needed. In fact, the data from the three field studies provide ample evidence that the Inside Track produces significant additional scores that confirm the legitimacy of the data from the its primary and secondary tracks.

The Inside Track is a benefit with sex-related targets because it avoids using “stigmatic language.” Cushman states that “this makes little sense on its face since the primary tracks would, by necessity, directly probe the relevant issue.” However, Cushman fails to understand that the Inside Track is a remedial track wherein the scores acquired without the use of stigmatic language are added or subtracted as the case may be from the scores of the primary and secondary tracks, thus possibly preventing a false positive. Cushman further stated that none of the confirmed truthful cases in the Matte study were sex offenses, but he fails to mention that this information was acquired from the 1989 220-page dissertation (Matte 1989) and that specific information is not available in the three published field studies by Matte, Mangan and Shurany. Therefore, the possibility exists that the Mangan and Shurany studies did contain confirmed truthful cases involving sex offenses.

Cushman erroneously states that this author claims that Bateson’s ‘double-bind effect’ can explain why one question type (i.e. CQ or RQ) is more salient than another. He further states that the double-bind effect requires “Two or more persons,” one of which is a victim.” A polygraph test involves two or more persons, one of which is the examinee, the other is the examiner and a third person when an interpreter is required. This author was merely presenting the similarity of the situational conflict existing between Bateson’s patient confronted with two conflicting messages or situations with no escape route and the subject of a uni-faceted single-issue polygraph test such as the Quadri-Track ZCT confronted with two conflicting situations or threats (CQ and RQ) with no escape route, hence the ‘double-bind effect’ although the medical condition of each party may be different. Cushman’s criticism of this author’s use of Webster’s New Complete Medical Dictionary to briefly describe the ‘double bind’ effect in a footnote is ludicrous.

Cushman states that “the MQTZCT’s inside track probably makes it one of the easiest CQTs for which a field-based experimental design could be employed since it is essentially only necessary to manipulate the test by randomly inserting or removing the inside track questions.” The insertion or removal of the two Inside-Track test questions after the collection of two or more charts can have the effect of redirecting the innocent examinee’s psychological set towards the relevant questions. (See Matte 2012a). Furthermore, this procedure would add at least two if not more charts to the testing of that issue which could tax the endurance of some examinees towards inconclusive results.

In conclusion, I found the writing of this rebuttal to be a most unpleasant task that hopefully I will not have to revisit. Cushman’s reliance on statistics reminds me of Benjamin Disraeli, Prime Minister of Great Britain who stated that there are three kinds of falsehoods: Lies, Damn Lies and Statistics. Statistics can be obtained which prove both sides of the discussion correct. Hence statistics may support an argument but they don’t prove anything. To quote Andrew Lang “Some people use statistics the way a drunk uses a lamp post – for support rather than illumination.”

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