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Setting the Record Concerning the Differences Between the Matte Quadri-Track and the Backster Zone Comparison Techniques

Установление записей различий между методами
Matte Quadri-Track и Backster Zone Comparison Techniques

Key words: Matte Quadri-Track Zone Comparison Technique, Backster Zone Comparison Technique, Either-Or Rule, Dual Equal Strong Reaction Rule, Fear of Error, Othello Error, Hope of Error, Truth Cut-Off Scores, Stimulation test, Habituation

There has been some question within the polygraph community regarding whether the Matte Quadri-Track Zone Comparison Technique with its innovative changes were original or merely a copy of the Backster Zone Comparison Technique from which the MQTZCT emanated. The published documents provided herein, clearly show that the MQTZCT reduced the Truth Cut-Off scores in its conclusion table six years before

the Backster ZCT implemented its Truth Cut-Off score reduction. The MQTZCT also retained the value of the Cut-Off scores in each chart, rather than diminish their value with each chart as in the Backster ZCT. Furthermore, it also ameliorated Backster's "Either-Or" Rule, with the Matte "Dual Equal Strong Reaction" Rule, effectively inhibiting the successful use of countermeasures. The MQTZCT introduced the *Fear of Error* Control Question for comparison with the *Hope of Error* Relevant Question as a means of addressing the *Othello Error* (Ekman Dec. 1986). The MQTZCT used the Stimulation Test in conjunction with the MQTZCT, contrary to Backster's rejection and non-use. The MQTZCT also eliminated Backster's superfluous question regarding prior polygraph tests, and subsequently also eliminated Backster's drug question.

In 2015, a Director of a polygraph school accredited by the American Polygraph Association (APA), while attending an APA seminar, told an APA member advocating the use the Matte Quadri-Track Zone Comparison Technique (MQTZCT) that it was only a copy of the Backster Zone Comparison Technique and there was nothing original about it. Ordinarily, such a comment would have been ignored. However, such a statement by an APA School Director, having access to a myriad of polygraph students, required corrective measures. A meeting with that school director by this author, explaining the existence of documentation supporting the MQTZCT's unique features independent of the Backster ZCT, resulted in an invitation for this author to give a presentation of the MQTZCT to the school director's forthcoming class in March 2016. Unfortunately, that invitation was never confirmed, and this issue became dormant with the advent of more pressing projects requiring this author's undivided attention.

Nevertheless, this issue requires correction for historical purposes as well as edification for polygraph examiners. Hence, the following information, supported by documents, is offered to set the record straight.

Cleve Backster, Director of the Backster School of Lie Detection, published a Standardized Polygraph Notepack and Technique Guide for his Backster Zone Comparison Technique, starting in 1963, followed by other Notepacks in 1969 and 1979, which he distributed to each and all of his students. This 24-page Notepack contained all of the elements required for the student to administer the You Phase, Exploratory, and the SKY series of polygraph examinations. However, the You Phase, Backster's single-issue zone comparison test, is the format used in evidentiary examinations, to which the Matte Quadri-Track Zone Comparison, also a single-issue test, is being compared.

The 1969 Notepack, subsequently superseded by the 1979 Notepack, are of special interest to this article. In 1984, Backster made changes to the 1979 Notepack, and annotated those dated changes in the Notepack, but did not change the date (1979) of the Notepack. In fact, he continued to print the 1979 Notepack until his death in 2013. Nonetheless, the aforesaid Notepacks reveal important information regarding the date

of those changes, and their relationship with the changes made in the Matte Quadri-Track ZCT published in 1977, 1978, and 1980.

The Backster 1969 Notepack, shows the following format which includes question #44J Regarding Medication, and 44K Regarding other Lie Detector Tests. See Format below from (Bailey & Rothblatt 1970), wherein Robert Henson, Backster's partner, completed in his own handwriting an example of a finalized Notepack. Below is the question format.

Figure 1

In 1977, the Matte Quadri-Track ZCT was first published in the Newsletter of the Empire State Polygraph Society in New York State. It was subsequently published in greater detail in *Polygraph*, Journal of the American Polygraph Association, Volume 7, Number 4, December 1978.

One of the major changes was the lowering of the Truthful cut-off scores (numerical threshold) versus the Deceptive cut-off scores.

Backster's cut-off scores are the same for both the Truthful and the Deceptive, (+-5 and -5) whereas the MQTZCT scores are lower for the Truthful (+4 and -5) as can be seen in the diagrams in Figure 2 from the 1969 Notepack and 1979 Notepack with 1984 Revision, shown below.

1984 REVISION to 1979 BACKSTER NOTEPACK

HR	EXAMINATION RESULT SUMMARY									

HRA — "YOU" PHASE "A" TALLY FROM PAGE 12 / "YOU" PHASE TARGET "A" – 1ST RUN-THRU

Breathing Tracing	33 (r)	{A-1}	36 (r)	{A-4}	
G.S.R. Tracing	33 (r)	{A-2}	35 (r)	{A-5}	
Cardio Tracing	33 (r)	{A-3}	35 (r)	{A-6}	

"YOU" PHASE "A" TALLY FROM PAGE 13 / "YOU" PHASE TARGET "A" – 2ND RUN-THRU

Breathing Tracing	33 (r)	{A-7}	35 (r)	{A-10}	
G.S.R. Tracing	33 (r)	{A-8}	35 (r)	{A-11}	
Cardio Tracing	33 (r)	{A-9}	35 (r)	{A-12}	

Conversion Table ↓↓	Total →		Add	Target A

For 1 "YOU" Phase "A" Run — Circle below.

+18 to +3	+2 to -4	-5 to -18
Truth	Indefinite	Deception

For 2 "YOU" Phase "A" Runs — Circle below.

+36 to +5	+4 to -8	-9 to -36
Truth	Indefinite	Deception

For 3 "YOU" Phase "A" Runs — Circle below.

+54 to +7	+6 to -12	-13 to -54
Truth	Indefinite	Deception

(Truth "CUT OFFS" Revised 1984)

HRB — "YOU" PHASE "B" TALLY FROM PAGE 16 / "YOU" PHASE TARGET "B" – 1ST RUN-THRU

Breathing Tracing	33 (r)	{B-1}	35 (r)	{B-4}	
G.S.R. Tracing	33 (r)	{B-2}	35 (r)	{B-5}	
Cardio Tracing	33 (r)	{B-3}	35 (r)	{B-6}	

"YOU" PHASE "B" TALLY FROM PAGE 17 / "YOU" PHASE TARGET "B" – 2ND RUN-THRU

Breathing Tracing	33 (r)	{B-7}	35 (r)	{B-10}	
G.S.R. Tracing	33 (r)	{B-8}	35 (r)	{B-11}	
Cardio Tracing	33 (r)	{B-9}	35 (r)	{B-12}	

Conversion Table ↓↓	Total →		Add	Target B

For 1 "YOU" Phase "B" Run — Circle below.

+18 to +3	+2 to -4	-5 to -18
Truth	Indefinite	Deception

For 2 "YOU" Phase "B" Runs — Circle below.

+36 to +5	+4 to -8	-9 to -36
Truth	Indefinite	Deception

For 3 "YOU" Phase "B" Runs — Circle below.

+54 to +7	+6 to -12	-13 to -54
Truth	Indefinite	Deception

(Truth "CUT OFFS" Revised 1984)

HRC — "S-K-Y" FROM PAGE 19 / "S-K-Y" PHASE "D" BALANCE

Indicate strongest factor.

●	25	Bothersome Outside Issue
	26	
r, y	34	Some Direct Involvement
r	33	Major Involvement
r, y	32	Guilty Knowledge
y	31	Unfounded Suspicion

HRD — FROM PAGE 21 / "EXPLORATORY" SERIES "F"

r, y	43	
r, y	44	
r, y	45	

Page 23

1969 BACKSTER NOTEPACK

HR	EXAMINATION RESULT SUMMARY									

"YOU" PHASE "A" TALLY FROM PAGE NO. 12 / "YOU" PHASE TARGET "A" – 1st RUN-THRU

BREATHING TRACING	33 ●	(A-1)	35 ● -2	(A-4)	ELIMINATE ONE
G.S.R. TRACING	33 ● -3	(A-2)	35 ●	(A-5)	
CARDIO TRACING	33 ● -2	(A-3)	35 ● -3	(A-6)	

"YOU" PHASE "A" TALLY FROM PAGE NO. 13 / "YOU" PHASE TARGET "A" – 2nd RUN-THRU

BREATHING TRACING	33 ● -3	(A-7)	35 ● -3	(A-10)	ELIMINATE ONE
G.S.R. TRACING	33 ●	(A-8)	35 ●	(A-11)	
CARDIO TRACING	33 ● -2	(A-9)	35 ● -2	(A-12)	

CONVERSION TABLE	TOTAL ← -10	ADD -10	TARGET "A"

FOR 1 "YOU" PHASE "A" RUN — CIRCLE BELOW

+ 12 to + 5	+ 4 to - 4	- 5 to - 12
TRUTH	INDEFINITE	DECEPTION

FOR 2 "YOU" PHASE "A" RUNS — CIRCLE BELOW

+ 24 to + 9	+ 8 to - 8	- 9 to - 24
TRUTH	INDEFINITE	DECEPTION

FOR 3 "YOU" PHASE "A" RUNS — CIRCLE BELOW

+ 36 to + 13	+ 12 to - 12	- 13 to - 36
TRUTH	INDEFINITE	DECEPTION

"YOU" PHASE "B" TALLY FROM PAGE NO. 16 / "YOU" PHASE TARGET "B" – 1st RUN-THRU

BREATHING TRACING	33 ●	(B-1)	35 ●	(B-4)	ELIMINATE ONE
G.S.R. TRACING	33 ●	(B-2)	35 ●	(B-5)	
CARDIO TRACING	33 ●	(B-3)	35 ●	(B-6)	

"YOU" PHASE "B" TALLY FROM PAGE NO. 17 / "YOU" PHASE TARGET "B" – 2nd RUN-THRU

BREATHING TRACING	33 ●	(B-7)	35 ●	(B-10)	ELIMINATE ONE
G.S.R. TRACING	33 ●	(B-8)	35 ●	(B-11)	
CARDIO TRACING	33 ●	(B-9)	35 ●	(B-12)	

CONVERSION TABLE	TOTAL ←	ADD	TARGET "B"

FOR 1 "YOU" PHASE "B" RUN — CIRCLE BELOW

+ 12 to - 5	+ 4 to - 4	- 5 to - 12
TRUTH	INDEFINITE	DECEPTION

FOR 2 "YOU" PHASE "B" RUNS — CIRCLE BELOW

+ 24 to - 9	+ 8 to - 8	- 9 to - 24
TRUTH	INDEFINITE	DECEPTION

FOR 3 "YOU" PHASE "B" RUNS — CIRCLE BELOW

+ 36 to - 13	+ 12 to - 12	- 13 to - 36
TRUTH	INDEFINITE	DECEPTION

"S-K-Y" FROM PAGE NO. 19 / "S-K-Y" PHASE "D" BALANCE — BASED ON CHART BALANCE CIRCLE STRONGEST FACTOR

●	25	BOTHERSOME OUTSIDE ISSUE	26	●
y ●	34	SOME DIRECT INVOLVEMENT	42	y ●
●	33	MAJOR INVOLVEMENT	33	●
y ●	32	GUILTY KNOWLEDGE	32	y ●
●	31	UNFOUNDED SUSPICION	31	●

	41	
→ PIVOT y		QUESTION

"EXPLORATORY" SERIES "F" FROM PAGE NO. 21

y ●	45 ( )	
●	45	
y ●	45	
y ●	45 ( )	

Figure 2

At the very bottom of the above 1979 diagram, in very small letters in parenthesis is the notation (Truth 'CUT OFFS' Revised 1984).
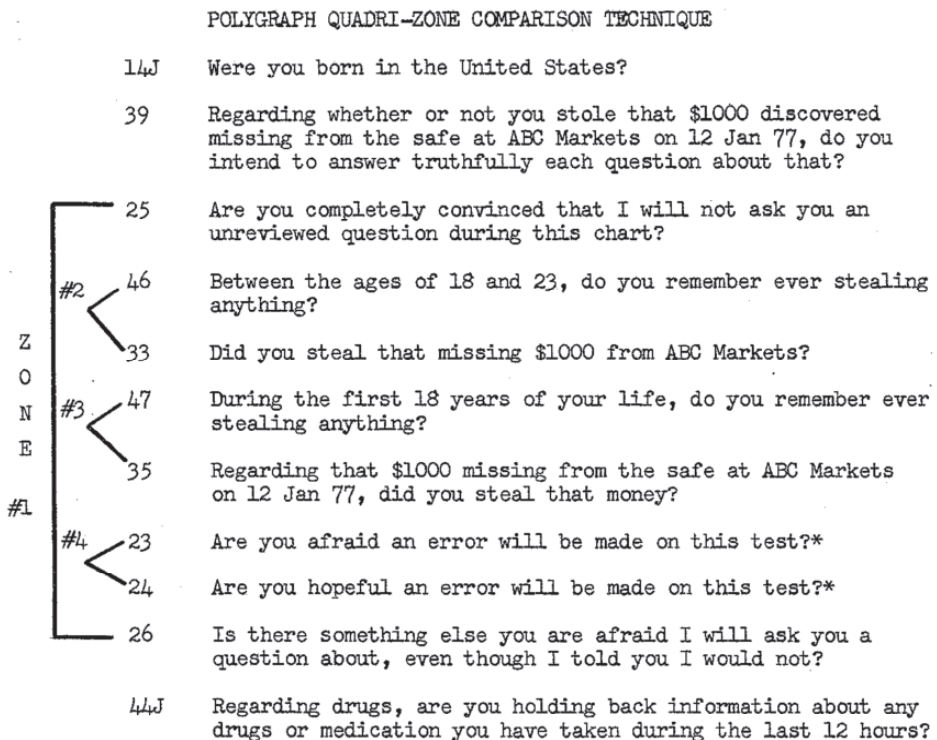
It shows that Backster reduced the Truth Cut-Offs, at least six years after the Matte Quadri-Track ZCT reduced its Truth Cut-Offs.

Furthermore, the MQTZCT eliminated Backster's 44K question regarding other lie detector tests.

The MQTZCT Inserted a new Control Question #23 regarding the examinee's fear that an error may be made on his test regarding the target issue.

The MQTZCT Inserted a new Relevant Question #24 regarding the examinees hope an error will be made on his test regarding the target issue.

See diagram below from APA journal (Matte 1978).

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                    POLYGRAPH QUADRI-ZONE COMPARISON TECHNIQUE

          14J     Were you born in the United States?

          39      Regarding whether or not you stole that $1000 discovered
                  missing from the safe at ABC Markets on 12 Jan 77, do you
                  intend to answer truthfully each question about that?

          25      Are you completely convinced that I will not ask you an
                  unreviewed question during this chart?

   #2     46      Between the ages of 18 and 23, do you remember ever stealing
                  anything?
Z
O         33      Did you steal that missing $1000 from ABC Markets?

N  #3     47      During the first 18 years of your life, do you remember ever
E                 stealing anything?

#1        35      Regarding that $1000 missing from the safe at ABC Markets
                  on 12 Jan 77, did you steal that money?

   #4     23      Are you afraid an error will be made on this test?*

          24      Are you hopeful an error will be made on this test?*

          26      Is there something else you are afraid I will ask you a
                  question about, even though I told you I would not?

          44J     Regarding drugs, are you holding back information about any
                  drugs or medication you have taken during the last 12 hours?
```

As seen in above illustration, Control Question #23 is compared with Relevant Question #24 for a score which is added to those scores acquired from the previous two Control-Relevant question pairs for a total score which is applied to the Conclusion

Table depicted Figure 3 below. The aforesaid Fear and Hope of Error questions are designed to address the *Othello Error* (Ekman Dec. 1986).

Dr. Ekman, in his 1986 book *Telling Lies* discusses the elements of "fear" in his chapter on the 'Polygraph as Lie Catcher' and states:

"The severity of the punishment will influence the truthful person's fear of being misjudged just as much as the lying person's fear of being spotted – both suffer the same consequence." Dr. Ekman felt that the polygraph examination, like behavioral clues to deceit, is vulnerable to what he terms the 'Othello Error' because the Shakespearean character Othello failed to recognize that his wife Desdemona's fear might not be a guilty adulterer's anguish about being caught, but instead could be a faithful wife's fear of a husband who would not believe her. Both cause an autonomic nervous response.

CONCLUSION TABLE

For

TRI-ZONE QUANTIFICATION SYSTEM

RESULTS FOR 1 CHART – SPECIFIC TEST	CIRCLE APPROPRIATE NUMBER BELOW		
	+12 to +4	+3 to −4	−5 to −12
	TRUTH	INDEFINITE	DECEPTION
RESULTS FOR 2 CHARTS–	CIRCLE APPROPRIATE NUMBER BELOW		
	+24 to +8	+7 to −9	−10 to −24
	TRUTH	INDEFINITE	DECEPTION
RESULTS FOR 3 CHARTS–	CIRCLE APPROPRIATE NUMBER BELOW		
	+36 to +12	+11 to −14	−15 to −36
	TRUTH	INDEFINITE	DECEPTION
RESULTS FOR 4 CHARTS–	CIRCLE APPROPRIATE NUMBER BELOW		
	+48 to +16	+15 to −19	−20 to −48
	TRUTH	INDEFINITE	DECEPTION

The Backster "conversion" table depicted below reflects progressively lower score requirements per chart as the number of charts in the tally increase until only minimum scores on all charts are needed to reach a conclusion.

CONVERSION TABLE	TOTAL →	← ADD → TARGET "B"	
FOR 1 "YOU" PHASE "B" RUN -- CIRCLE BELOW			
+12 to +5	+4 to −4	−5 to −12	
TRUTH	INDEFINITE	DECEPTION	
FOR 2 "YOU" PHASE "B" RUNS – CIRCLE BELOW			
+24 to +9	+8 to −8	−9 to −24	
TRUTH	INDEFINITE	DECEPTION	
FOR 3 "YOU" PHASE "B" RUNS – CIRCLE BELOW			
+36 to +13	+12 to −12	−13 to −36	
TRUTH	INDEFINITE	DECEPTION	

Figure 3

Backster reduced the scores equally for both Truth and Deception in each subsequently administered chart to address possible habituation. This author theorized that the Guilty examinee may habituate to the control questions but not the relevant questions, whereas the Truthful examinee may habituate to the relevant questions, but not to the control questions. For a detailed discussion, read (Matte 1978, 1980 and December 2011).

The Cut-Off scores for the Truthful were subsequently reduced in 1989 by this author from +4 per chart to +3 per chart as a result of published research (Matte 1989). The 44J question regarding drugs was eliminated as being superfluous and a possible distraction from the target issue.

However, a most significant change to the Backster ZCT was the amelioration of Backster's " Either-Or" Rule, which according to Backster, formed the nucleus of his Zone Comparison technique. (Matte 2010).

Backster's "Either-Or" Rule

To arrive an at interim spot analysis tracing determination of (+2) or (-2) there must be a significant and timely tracing reaction in either the red zone or the green zone being compared (Backster (1989, Matte 1996, 2007 and 2010).

(a) If the red zone indicates a lack-of-reaction it should be compared with the neighboring green zone containing the larger timely reaction.
(b) If the red zone indicates a timely and significant reaction it should be compared with the neighboring green zone containing no reaction or the least reaction.

In order for the "Either-Or" Rule to work, it has to have access to a control question on either side of each relevant question. Hence, Backster included a third control question #48 following the second relevant question #35 (Backster Notepack 1979).

Therefore, if there is an equal, strong reaction to the first control question #46 and its neighboring relevant question #33 that immediately follows it, that control question is deemed defective, and the examiner compares that relevant question to the control question #47 that immediately follows it, which hopefully has little or no reaction and thus is considered an effective control question.

The problem with this scenario, especially in this day and age, is that the format and psychological structure of the various polygraph techniques have been published and are readily available on the internet. Hence, a guilty examinee intent on using a coun-

termeasure, will not restrict its use to just the first control question, but to all of the control questions, thus rendering them all as defective, resulting in an inconclusive finding.

The Matte Quadri-Track ZCT uses tracks, wherein each track contains a control/relevant question, necessitating that each relevant question be compared only to the control question preceding it within the same track, thus eliminating Backster's selective approach. Therefore, when the aforementioned situation occurs where the relevant and its neighboring control questions within the same track have equal strong reactions, that control question as defined by Backster is deemed defective, thus a score of minus -1 is assigned to that track, rather than a -2 with the Backster ZCT, but only in the pneumograph and Cardiograph tracing. The electrodermal activity (EDA) tracing is not included due to its volatility, and in such circumstance is given a zero score.

However, if all three tracks produce a minimum score of -2 for a total of -6, and this is duplicated by a second or third chart, the results would indicate Deception, inasmuch as the cut-off score for Deception is -5 per chart. Hence it would appear that the use of countermeasures against the MQTZCT in that instance would be ineffective.

Backster did not believe in the usefulness of the Stimulation test, used in the Reid and Arther Techniques, hence did not teach its use in the Backster ZCT. However, the MQTZCT did use it in conjunction with the administration of the Quadri-Track ZCT. But unlike the Reid and Arther Techniques which administered the Stimulation test as the second chart, after the collection of the first relevant chart, the Quadri-Track ZCT abandoned the Second Chart approach, and administered the Stimulation test as the first chart before any of the relevant tests were administered. See (Abrams 1989, Matte Nov. 2012).

It becomes evident from the aforementioned documentation that the Matte Quadri-Track Zone Comparison Technique, while emanating from the Backster Zone Comparison Technique, became a unique polygraph technique with significant changes and improvements, some of which Backster subsequently adopted. A full and detailed review of the workings of the Matte Quadri-Track Zone Comparison Technique, may be found in Matte 1996, with its 2012 Supplement. The reader is also invited to visit website at www.mattepolygraph.com where more than sixty published studies and articles on the polygraph authored by Matte are listed, many with links to the actual study or article.

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