

CONTENTS

Acknowledgments	ix
About the Author	x
Preface	xii

Chapter	Page
1 History of Detecting Deception	1
Primordial Methods	1
Beginning of Modern Detection of Deception	3
2 Applied Theory of Detecting Deception	13
Accuracy of Polygraph	13
Psychological Set	14
Psychology of the Polygraph Test	18
Anti-Climactic Dampening Concepts	19
External Super-Dampening Concept	20
Other Psychological Factors	20
3 Polygraph Instrumentation	25
Recommended Chart Divisions	26
Computer Polygraph Instrument	27
Recording Physiology	28
Test Questions	28
Polygraph Folders	28
Artifact Markings	28
Scoring the Test	29
Algorithm	29
Print-Outs	29
Multiple Users	29
Conventional Polygraph	30
Pneumograph and Functional Procedures	30
The Pneumograph Vent	30
Pneumograph Sensitivity Adjustment	31
Electronically Enhanced Modules	31

	The Pen Centering Control	31
	The Sensitivity Control	31
	Recording Pens	31
	Pneumograph Function	32
	Cardiograph and Functional Procedure	32
	Pen Centering Control	33
	Activity Control	33
	Cardio Vent	33
	Multifunction Electronic Module	33
	Cardiograph Function	33
	Galvanograph and Functional Procedure	34
	Galvanograph Function	34
	Galvanograph Recording Module	34
	Centering Control	35
	Function of the Galvanograph Recording Module	35
	Kymograph	35
	Miscellaneous Accessories	36
	Research in Detecting Deception	37
4	Physiology as Applied to Detecting Deception	39
	Organ Systems	40
	Central Nervous System	42
	Peripheral Nervous System	42
	Autonomic Nervous System	42
	Simple Reflect Arc	44
	Comparison of Sympathetic and Parasympathetic Divisions	45
5	Normal and Abnormal Psychology (Abbreviated)	47
	Technical Names of Less Common Phobic Disorders	49
	Obsessive-Compulsive Disorders	50
	Neurotic and Psychotic Reactions Summary	50
	Anxiety	50
	Asthenia	50
	Hypochondria	51
	Conversion	51
	Disassociation	51
	Phobia	51

	Obsessive-compulsive disorder	51
	Neurotic-depressive disorder	51
	Psychosis	53
	Schizophrenic reactions	53
	Paranoia	54
6	Subjectivity-Objectivity	55
7	Test-Question Formulation	61
	Semantics	61
	Rules of Test Questions	62
	Relevant question	62
	Control question	62
	Irrelevant question	64
8	Polygraph Testing Formats	73
	Additional Techniques	81
	YES-NO Technique	82
	Reverse SKY Technique	83
	Peak of Tension	86
9	Polygraph Examination Procedures	91
	Test Preparation	91
	Pre-Test Procedure	91
	In-Test Procedure	98
	Post-Test Phase	104
10	Standard Chart Markings	107
11	Polygraph Chart Interpretation and Analysis	113
	Basic Rules for Respiratory-Chart Interpretation	114
	Answer-Cycle Rule Defined	114
	Recovery-Cycle Rule Defined	114
	Three-Cycle Rule Defined	115
	Deceptive Reaction Criteria	115
	Respiratory Reaction Criteria	116
	Galvanic Skin Response	116

	Cardiograph	118
	Vagus Pattern Defined	119
	Specific Reaction Criteria	120
	Standard Seven Point Scale	133
	GSR Ratio Scale	134
	GEORGE Pneumo Chart	147
	GEORGE GSR Chart	148
	GEORGE Cardio Chart	149
	Recapitulation of Detecting Deception	150
12	Validity and Reliability	153
13	Confirmation Procedures	159
	Recommended Procedure	159
14	Interpreting Body Language	165
	Basic Observation	165
	Truthful Responses	166
	Untruthful Responses	166
	The Art and Science of Kinesics	168
15	Polygraph Countermeasures	173
	Chemical Countermeasures	174
	Physical Countermeasures	174
	Muscle Tension	175
	Mental Concentration	175
	Signs and Warning Signals	175
16	Polygraph Case Studies	179
	Presupposing Guilt	179
	Case Studies	180
	Example Case Synopsis – Rape	180
	Example Case Synopsis – Murder	184
	Polygraph Test Results	185
	Test Analysis	186
17	Polygraph Problem Solving	189

Comprehensive Exam	197
Blank Exam Answer Sheet	217
Exam Answers	218
Glossary of Terms	219
References	227
Index	229

Figures	Page
1 Various computerized polygraph instruments	30
2 Inhalation and exhalation pattern example	32
3 Cardio systolic and diastolic patterns	34
4 Galvanic activity pattern	35
5 Conventional polygraph instrument	36
6 Respiratory patterns	108
7 Standard chart markings	109
8 Answer cycle, recovery cycle and three reaction cycles	115
9 Inhalation and exhalation	120
10 Hyperventilation	120
11 Changes in inhalation and exhalation ratio	121
12 Suppression following the answer and recovery cycles	121
13 Temporary baseline changes	122
14 Permanent loss of baseline	122
15 Holding during inhalation	123
16 Blocking/apnea during exhalation	123
17 Increased respiratory amplitude	124
18 Changes in respiratory-rhythm regularity	124
19 Serrated breathing	125
20 Degree and duration of GSR Reaction	125
21 GSR pattern illustrating mechanical adjustment	126
22 GSR multiple reactions showing degree and duration	126
23 Plunging reaction	127
24 Average cardiograph tracing	127
25 Increase in blood pressure	128
26 Increase and decrease in blood pressure	128
27 Decrease in blood pressure	129
28 Pulse rate increase	129

29	Pulse rate when question is asked	130
30	Increase in blood pressure amplitude	130
31	Decrease in blood pressure amplitude	131
32	Extra systoles	131
33	Dicrotic notch change	132
34	GSR reactions	137
35	Pattern equal in degree of reaction	137
36	Equal degrees of reaction	138
37	Simulated GSR reactions	139
38	Comparison of two reactions	139
39	GSR comparison ratios	140
40	Multiple reaction changing the score	140
41	Degree of reaction at the control question	141
42	Secondary reaction may not be counted	141
43	Secondary reaction may sometimes count	142
44	Applying the reaction-to-no-reaction rule	142
45	Temporary baseline change	143
46	Holding more significant than suppression	143
47	Rule of reaction-to-no-reaction obligated	144
48	No reaction	144
49	Significant baseline change	145