Rational Diagnosis and Treatment

Henrik R Wulff

With a Foreword by J E Lennard-Jones



Contents

	Foreword	vii
	Acknowledgments	x
	Introduction	1
I	The Foundation of Clinical Decisions Collection of data 7 Scales of measurement 12 Reliability of data 15	5
2	Symptoms and Signs Taking the history 18 Reliability of symptoms 20 The physical examination 21 Reliability of physical signs 23 The total evaluation 24	18
3	Medical Data in a Technological Age The reliability of descriptive data 30 Is the Gaussian distribution normal? 33 The reliability of quantitative paraclinical data 38 The normal range 39	29
4	The Concept of Disease Taxonomy 43 A survey of the history of nosology 44 Comments on a textbook of medicine 49	43
5	The New Mathematics in Medicine	61
6	Diseases—The Vehicles of Clinical Experience Different types of diseases 67 The clinical spectrum 73 The clinical pattern 75	66

7	Diagnosis and the Laws of Chance Three types of diagnosis 78 Conditional probabilities and Bayes' theorem 79 Bayes' theorem and clinical experience 82 Specificity and sensitivity 84 Bayesian diagnosis and quantitative data 96	78
8	Diagnosis as a Matter of Opinion Is computerized diagnosis possible? 101 Diseases with a concealed defining criterion 102 Syndromes 104 Causal diagnosis 108 Assessment of new diagnostic methods 109 Diagnostic strategy 112	101
9	Our Therapeutic Legacy Uncontrolled clinical experience 119 Random variation 123 From empirical to rational treatment 128	118
10	The Controlled Therapeutic Trial Selection of patients 134 Randomization 135 Choice of treatment in the control group 136 Prevention of psychological bias 137 Other designs 138 Assessment of treatment results 139 Statistical evaluation of controlled trials 139 The situation today 146 The placebo effect 150	132
	Appendix: Statistics for Readers of Medical Journals The presentation of data 153 Confidence limits 155 Significance tests 159 Other statistical methods 169 Two common pitfalls 178	152
	References	176
	Index	180