

# Contents

PREFACE by <i>T. T. S. Ingram</i>	vii
AUTHOR'S INTRODUCTION	ix
CHAPTER 1. REVIEW OF THE LITERATURE	
Classifications of the degree of mental retardation	1
Classifications of the causes of mental retardation	1
Previous studies on the aetiology of mental retardation, using other than neuroradiological techniques	4
Previous neuroradiological studies on the aetiology of mental retardation	11
CHAPTER 2. THE PRESENT STUDY: AIMS, MATERIAL AND METHODS	
Aims	17
Material: patients (criteria for selection, age and sex distribution, degree of mental retardation)	17
Methods (case history, physical examination, laboratory studies, electroencephalography, auditory evoked potentials, chromosome karyotyping, skull X-rays, echoencephalography, cerebral angiography, pneumoencephalography, brain scanning with a radioisotope, macroscopic and microscopic neuropathological examinations)	20
Statistical analysis	25
CHAPTER 3. RESULTS	
Clinical history (social class, maternal marital status, family history of mental retardation, previous abortions and stillbirths, maternal age, abnormalities during pregnancy, primiparity, delivery without skilled assistance, obstetrical procedures, birthweight, maturity at birth, multiple pregnancy, condition of child immediately after birth, abnormalities during the later neonatal period, early manifestations of mental retardation, epileptic seizures)	26
Physical and other non-neuroradiological findings (height, weight and head circumference, cephalic index, handedness, dyscrania, major malformations, cutaneous findings, abnormal neurological findings, cerebral palsy, disturbances of functional skills, psychiatric evaluation, laboratory investigations, electroencephalography, auditory evoked potentials, electromyography, chromosome karyotyping)	31
Neuroradiological investigations (skull X-ray, echoencephalography, cerebral angiography, pneumoencephalography, brain scanning with a radioisotope)	42
Neuropathological studies	55
CHAPTER 4. THE AETIOLOGICAL CLASSIFICATION OF THE 338 PATIENTS, WITH SELECTED EXAMPLES OF CHARACTERISTIC NEURORADIOLOGICAL FINDINGS	
Yannet's Classification	56
The WHO's classification	56
Infections and intoxications	58
Trauma and physical agents	64
Disorders of metabolism	73
Gross brain diseases	73
Unknown prenatal influence	78

Chromosome aberrations	89
More than one probable cause	89
Other and unspecified causes	98
Comparison of present aetiological diagnosis with previous aetiological diagnosis	102
The aetiology of the mental retardation in those patients who were not selected for further neuroradiological studies	103
<b>CHAPTER 5. STATISTICAL CORRELATIONS BETWEEN THE VARIOUS SETS OF DATA AND THE AETIOLOGICAL CATEGORIES OF MENTAL RETARDATION</b>	
Sex, age and degree of mental retardation	105
Case history data (social class, unmarried mothers, mentally retarded siblings and close relatives, previous abortions and stillbirths, maternal age, births without trained help, obstetrical operations, birthweight, abnormal maturity at birth, asphyxia immediately after birth, abnormalities during the later neonatal period, type of development of mental retardation, epilepsy)	107
Physical and other non-neuroradiological findings (height, weight, head circumference, cephalic index, dyscrania, handedness and psychotic signs, other neurological findings, motor and social skills, malformations)	112
EEG findings	116
Neuroradiological findings (skull X-rays, cerebral angiography, pneumoencephalography)	117
<b>CHAPTER 6. DISCUSSION</b>	
Selection of patients (sex distribution, age distribution)	127
Significance of data taken from case histories in the elucidation of the aetiology of mental retardation (social class, unmarried mothers, abnormalities of pregnancy, delivery without skilled assistance, birthweight, abnormal maturity at birth, asphyxia immediately after birth, abnormalities during the later neonatal period, epilepsy)	128
Significance of physical findings in the aetiological diagnosis of mental retardation (height, weight and head circumference, cephalic index, dyscrania, sinistrality, major malformations, cutaneous malformations, neurological disorders, deafness and blindness)	131
Significance of EEG findings in the aetiological diagnosis of mental retardation	134
Significance of neuroradiological methods in the elucidation of the aetiology of mental retardation (skull X-ray, echoencephalography, cerebral angiography, pneumoencephalography, brain scanning with radioisotopes)	136
Comments on the aetiological classification of mental retardation (changes in the aetiological classification as a result of the present study)	142
Conclusions	145
<b>APPENDICES</b>	147
<b>REFERENCES</b>	160
<b>NAME INDEX</b>	169