

CONTENTS

Foreword (B. F. Straub)	V
Introduction	VII
List of contributors	IX
CHAPTER 1	
Topics, materials and methods	
(A. Czeizel, H.-G. Benkmann, H. W. Goedde and L. Timár)	1
CHAPTER 2	
The origins of the Hungarian population (I. Fodor and A. Czeizel)	7
The ancient history of the Hungarians	8
The ancient homeland in the Ural Mountains	9
The ancient homeland of the Finno-Ugrian peoples	9
The period of Ugrian coexistence	10
The ancient homeland of the Hungarians	11
Magna Hungaria	12
Levedia	12
Etelköz	14
Population genetic consequences	15
Changes in the number of Hungarians	17
Physical anthropology	19
References	21
CHAPTER 3	
Ethnic groups in Hungary	22
A historical overview of the Hungarian ethnic groups (I. Katona)	22
Literature	26
The Őrség group (I. Herényi)	26
Literature	30
The Palóc group (F. Bakó)	30
Literature	34
The Matyó group (F. Bakó)	35
Literature	39
The Kiskun and Nagykun groups (Gy. Henkey and L. Szabó)	39
Literature	49
	XI

The Jász group (L. Szabó)	49
Literature	53
The Transdanubian Székely group of Bukovina origin (B. Andrásfalvy and A. Kelemen)	53
References	58
The Csángó group (B. Andrásfalvy and A. Kelemen)	59
References	64
The Gypsy groups (T. Tauszik)	64
History of Gypsies in Hungary	65
Circumstances of Gypsies today and their inner structure	68
Differences in physical traits between Gypsies and non-Gypsy Hungarians	69
References	72
Jewish population (A. Czeizel)	73
History	74
Hungarian Jewry	75
References	79
The mixed population of Budapest (A. Czeizel)	79
References	81
 CHAPTER 4	
Anthropometrical traits (Gy. Henkey)	82
Introduction	82
Materials and methods	82
Results	83
Distance calculations by the Hiernaux method	87
The sigma ratio	88
Taxonomic composition of the Hungarians	88
Ethnogenetic connections	95
Summary	110
References	114
 CHAPTER 5	
Blood groups and the results of certain blood group tests in Hungary	
(T. Tauszik and K. Hummel)	116
Blood group frequencies in Hungary	116
Blood group tests in some ethnic groups of Hungary (ABO, MNSs, P, Kell, Rh)	119
Red cell antigen Diego(a)	121
References	122
 CHAPTER 6	
Genetic markers, serum protein and erythrocyte enzyme polymorphisms	
(H.-G. Benkmann and H. W. Goedde)	124
Glyoxalase (GLO)	125
Glutamate pyruvate transaminase (GPT)	126
Esterase D (ESD)	127
Acid phosphatase (ACP)	128
6-Phosphogluconate dehydrogenase (6-PGD)	130
Adenosine deaminase (ADA)	131
Adenylate kinase (AK)	132
Phosphoglucomutase (PGM ₁)	133
Phosphoglycolate phosphatase (PGP)	135
Third component of complement (C3)	136
Transferrin (TF)	137
Haptoglobin (HP)	138
Group-specific component (GC)	140
Properdin Factor B (BF)	141

Amylase (AMY ₂)	142
Plasminogen (PLG)	143
Immunoglobulin (Gm and Km)	144
References	146
CHAPTER 7	
Other traits	150
Dermatoglyphic data on the mixed Budapest population (A. Czeizel)	150
Material and method	150
Results	151
Qualitative parameters of the palm	151
Quantitative parameters of the palm	153
Qualitative parameters of the fingers	157
Quantitative parameters of the fingers	157
Left-handedness (L. Velkey)	163
Some other polymorphisms (G. Forrai and T. Tauszik)	164
PTC taste sensitivity	164
Acetone smelling	165
Betanin excretion	165
Middle phalangeal hair	167
References	167
CHAPTER 8	
Ecogenetic and pharmacogenetic phenomena	
(H. W. Goedde and H.-G. Benkmann)	169
Introduction	169
Alpha-1-antitrypsin deficiency and lung emphysema	171
Alcohol sensitivity and aldehyde dehydrogenase polymorphism	177
N-acetylation polymorphism	181
Paraoxonase polymorphism and exposure to E 605	184
Plasma cholinesterase and prolonged apnea	186
Delta-aminolevulinic acid dehydratase polymorphism and lead exposure	189
General remarks	190
References	193
CHAPTER 9	
The genetic polymorphism of adult intestinal lactase activity (G. Flatz)	197
Introduction	197
The physiological adult lactase phenotypes	198
Genetic determination of the lactase phenotypes	199
Medical and nutritional problems connected with the lactase polymorphism	200
A study of lactose digestion in Hungarian twins	201
Distribution of the adult lactase phenotypes in Hungary	203
Distribution of the lactase phenotypes in the world population	205
Natural selection and the human adult lactase polymorphism	206
Lactase phenotypes in Hungary in the context of their distribution in Central Europe	208
References	209
CHAPTER 10	
Drinking behaviour and alcoholism	212
Genetic predisposition (H. W. Goedde and H.-G. Benkmann)	212
Alcohol consumption in Hungary (A. Czeizel)	216
Female drinkers	219
Fetal alcohol syndrome	222
References	224

CHAPTER 11

Psychometric traits	226
General intelligence (M. Szegedi)	226
Mental retardation (A. Czeizel)	230
Exceptional talents (A. Czeizel)	233
References	236

CHAPTER 12

Disease spectrum (K. Sankaranarayanan and A. Czeizel)	237
Demographic aspects	237
Pregnancy outcomes	237
Postnatal mortality	238
Infant mortality	238
Early mortality	242
Adult mortality	243
Late mortality	243
Life expectancy	250
Genetic and partially genetic diseases	251
Mendelian diseases	251
Autosomal dominants	251
Autosomal recessive and X-linked conditions	253
Chromosomal diseases	255
Multifactorial diseases	256
Congenital abnormalities	257
Common multifactorial diseases	259
Detriment	264
Congenital abnormalities	264
Methods of analysis	265
Common multifactorial diseases	267
Methods of analysis	267
Mortality patterns and estimates of years of life lost	268
Estimates of impaired life years	269
Comparison of estimates of detriment for multifactorial diseases with those for mendelian and chromosomal diseases	273
Epilogue (A. Czeizel)	277
References	278

CHAPTER 13

Comparison of allele frequencies in 24 genetic markers for 12 Hungarian ethnic groups and for 8 other non-Hungarian reference populations (K. Hummel and N. Kazarinowa-Fukshansky)	281
Genetic distances	281
The mathematical method	281
Genetic distances among Hungarian ethnic groups and reference populations	284
Genetic distances and geography	299
The Homozygosity Index	302
References	304

CHAPTER 14

Conclusions (A. Czeizel, H.-G. Benkmann and H. W. Goedde)	307
The population genetic evaluation of the Hungarians	307
Demographic data and disease spectrum	308
Genetic polymorphisms	309
Ecogenetic aspects	311

The relation among Hungarian ethnic groups and the origin of Hungarians	313
Technical biases of the study	313
Hungarian ethnic groups	314
The Gypsy groups	314
The Jewish group	316
The Őrség group	318
The mixed population of Budapest	319
The Palóc group	319
The Matyó group	321
The Kiskun and Nagykun groups	323
The Jász group	325
The Székely group	326
The Csángó group	327
The origin of the present Hungarian population at large	330
References	333
Subject index	335