

THE
ELEMENTS
OF
GENETICS

Irwin H. Herskowitz

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Preface

THIS BOOK WAS WRITTEN to fulfill the author's need for a college text in genetics that can be used (a) in a one quarter or a two or three credit one semester course, (b) by students in nursing or health science programs, in addition to (c) biology majors who have had only one year of college biology or human physiology. The overall philosophy of the approach taken here is the same as was stated in the preface of my *Principles of Genetics*.

Most first courses in college biology provide a reasonably good introduction to genetics. Accordingly, students starting their first course in college genetics not only have some background in the origins and early advances in genetics, but also have some knowledge of the recent progress made through biochemical and microbial studies. Because of this prior exposure, the students also come to the course with enthusiasm and interest. It is feasible, therefore, to approach the subject in a highly structured manner.

This book aims to elucidate the principles of genetics, many of which were recently discovered in molecular and microbial studies. Since principles are dealt with rather than history, no distinction is made between "classical" and "modern" genetics, and the presentation aims to be logical rather than chronological.

As before, each chapter starts with a brief introduction followed by a series of numbered conclusions or postulates, each of which is then proved, supported, or discussed. Each chapter ends with a summary and questions and problems. Also, as before, (a) the few names in the text—Watson, Crick, Wilkins, Mendel, Barr, Hardy and Weinberg—are there simply because they are uniquely important, widely known, or commonly used; (b) a glossary; and (c) answers to selected questions and problems are included.

The present text differs from *Principles of Genetics* mainly in the following respects: (a) eukaryotic principles are illustrated with examples from human beings whenever possible; (b) the chemistry of genetics is less detailed; (c) the applications and implications of genetics are

discussed in much greater detail; (d) the main body of the chapters in all but the last part of the text has been shortened by about 40 per cent; (e) the technical terminology has been reduced more than 20 per cent; (f) much of the text remaining has been rewritten for clarity; (g) many new diagrams have been added; (h) all but less than a dozen questions and problems are new; (i) the appropriate bibliography follows the glossary; and (j) the supplementary sections and biometrical appendix have been omitted.

I wish to thank my wife, Reida Postrel Herskowitz, for her help with the typescript, and for her support and encouragement.

Abbreviated Contents

PART I WHAT THE GENETIC MATERIAL IS

<i>Chapter 1</i> Genetic material is nucleic acid	3
<i>Chapter 2</i> Structural organization of nucleic acids and chromosomes	16

PART II WHAT THE GENETIC MATERIAL DOES

<i>Chapter 3</i> Chromosome replication	43
<i>Chapter 4</i> Transcription	56
<i>Chapter 5</i> Translation and its code	67

PART III HOW THE GENETIC MATERIAL IS VARIED, PACKAGED, AND DISTRIBUTED

<i>Chapter 6</i> Mutation	87
<i>Chapter 7</i> Genetic recombination between viruses	101
<i>Chapter 8</i> Genetic recombination between bacteria: I. Transformation and generalized transduction	113
<i>Chapter 9</i> Genetic recombination between bacteria: II. Restricted transduction and conjugation	123
<i>Chapter 10</i> Genetic recombination in eukaryotes: I. Mitosis, meiosis, and segregation	137

<i>Chapter 11</i>	Genetic recombination in eukaryotes:	
II.	Sex linkage and crossing over	158
<i>Chapter 12</i>	Gross changes in nuclear chromosomes	172
<i>Chapter 13</i>	Nonmendelian genes in eukaryotes	190

PART IV HOW THE GENETIC MATERIAL CHOOSES WHICH PARTS ARE PRESENT AND FUNCTIONAL

<i>Chapter 14</i>	Programmed gene synthesis, destruction, and mutation	207
<i>Chapter 15</i>	Regulation of gene action	221
<i>Chapter 16</i>	Heterochromatization in eukaryotes	236

PART V HOW GENE PRODUCTS INTERACT AND THE PHENOTYPIC CONSEQUENCES OF GENE ACTION

<i>Chapter 17</i>	Phenotypic effects of environment, genotype, and single loci	249
<i>Chapter 18</i>	Phenotypic interactions of two or more loci	262
<i>Chapter 19</i>	Determination of sex in eukaryotes	275
<i>Chapter 20</i>	Differentiation and development	289

PART VI HOW THE PRECEDING CAME ABOUT IN INDIVIDUALS AND POPULATIONS

<i>Chapter 21</i>	The origin and evolution of genetic material	307
<i>Chapter 22</i>	Population genotypes and mating systems	315
<i>Chapter 23</i>	Factors that affect gene frequencies in populations	323
<i>Chapter 24</i>	Genetic variability of populations and speciation	332

PART VII THE PRESENT AND FUTURE CONSEQUENCES OF GENETICS

<i>Chapter 25</i>	Applications to agriculture and ecology	343
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ABBREVIATED CONTENTS

xi

<i>Chapter 26</i> Applications to behavior, and social and political issues	357
<i>Chapter 27</i> Applications to medicine and public health	373
Glossary	395
Bibliography	409
Answers to selected questions and problems	421
Index	427

Detailed Contents

PART I WHAT THE GENETIC MATERIAL IS

<i>Chapter 1</i>	<i>Genetic Material Is Nucleic Acid</i>	3
1.1	Evolution of the Universe	3
1.2	Features of Organisms	4
1.3	Need for Genetic Material	8
1.4	RNA and DNA Genetic Material	9
1.5	Meaning of Genetic Material	13
1.6	DNA as Main Genetic Material	13
1.7	Scope of Genetics	14
	Summary and Conclusions	15
	Questions and Problems	15
<i>Chapter 2</i>	<i>Structural Organization of Nucleic Acids and Chromosomes</i>	16
	Nucleic Acid Structure	16
2.1	RNA Structure	16
2.2	DNA Structure	18
2.3	The DNA Double Helix	19
2.4	Watson, Crick, and Wilkins	20
2.5	Information Content of Nucleic Acids and Organisms	22
2.6	Determination of Base Sequence	24
2.7	Double-helical Regions	25
2.8	Making and Breaking Double Helixes	27
2.9	Usefulness of Manipulating Double Helixes	28
	Chromosome Organization	31
2.10	In Viruses	31
2.11	In Bacteria	33
2.12	In Nuclear Chromosomes	36
	Summary and Conclusions	38
	Questions and Problems	40

PART II WHAT THE GENETIC MATERIAL DOES

<i>Chapter 3</i>	Chromosome Replication	43
	RNA Replication	43
3.1	<i>De novo</i> Synthesis	43
3.2	Template Synthesis	44
3.3	Genes Defined	45
	DNA Replication	46
3.4	Semiconservative Replication	46
3.5	In Prokaryotes and Eukaryotes	46
3.6	DNA Modification	51
3.7	DNA Restriction Nucleases	52
	Summary and Conclusions	53
	Questions and Problems	54
<i>Chapter 4</i>	Transcription	56
4.1	Genetic Material Redefined	56
	Transcription in Prokaryotes	57
4.2	In <i>E. coli</i>	57
4.3	Tailoring Transcripts	59
	Transcription in Eukaryotes	60
4.4	General and Unique Features	60
	Transcription in Viruses	62
4.5	Relation to Host	62
4.6	One or Two Sense Strands	64
	Reverse Transcription	64
4.7	RNA Viruses	64
	Summary and Conclusions	66
	Questions and Problems	66
<i>Chapter 5</i>	Translation and Its Code	67
5.1	General View of Translation	68
5.2	The Common Amino Acids	70
	The Genetic Code	70
5.3	Degeneracy of the Code	70
5.4	Universality of the Code	73
	Translation	73
5.5	Ribosomes	74
5.6	Ribosomal Functions	74
5.7	tRNA's and Their Functions	76
5.8	Basis of Degeneracy	78
5.9	Starting, Continuing, and Ending Polypeptide Synthesis	79
5.10	Polyribosomes	79
5.11	Polyribosomes in Prokaryotes vs. Eukaryotes	79
5.12	Signal Polypeptides and Membranes	81
	Summary and Conclusions	83
	Questions and Problems	83

**PART III HOW GENETIC MATERIAL IS VARIED,
PACKAGED, AND DISTRIBUTED**

Chapter 6 Mutation	87
6.1 Types of Mutation	88
6.2 Detection of Mutations	89
6.3 Undetected and Protein-modifying Mutations	89
6.4 Transitions and Transversions	91
6.5 Physical Mutagens	93
6.6 Repair of Mutations	94
6.7 Errors of Repair	96
6.8 Spontaneous Mutations	97
Summary and Conclusions	99
Questions and Problems	99

Chapter 7 Genetic Recombination Between Viruses	101
7.1 T-even Phage Life Cycle	102
7.2 Genetic Recombination Expected	105
7.3 Genetic Recombination Observed	106
7.4 Sequencing Loci from Recombination Frequencies	107
7.5 Circular Recombination Map of ϕ T4	109
7.6 Recombination Between RNA Viruses	110
Summary and Conclusions	111
Questions and Problems	112

Chapter 8 Genetic Recombination Between Bacteria: I. Transformation and Generalized Transduction	113
8.1 Clones	113
Genetic Transformation	114
8.2 DNA Transforms	114
8.3 Transformation as Genetic Recombination	115
8.4 Occurrence in Various Organisms	117
Generalized Genetic Transduction	117
8.5 Temperate Phage as Mediator	117
8.6 DNA in Generalized Transducing Phage	119
8.7 Occurrence in Various Organisms	120
Summary and Conclusions	121
Questions and Problems	122

Chapter 9 Genetic Recombination Between Bacteria: II. Restricted Transduction and Conjugation	123
Restricted Transduction	123
9.1 Life Cycle of $\phi\lambda$	123
9.2 Transduction by $\phi\lambda$	126

Bacterial Conjugation	128
9.3 Sex Particles	128
9.4 Plasmid and Episomal Sex Particles	130
9.5 Hfr and Generalized Transduction	130
9.6 F Derivatives	133
9.7 Other Plasmids and Sex Particles	134
Summary and Conclusions	134
Questions and Problems	135

Chapter 10 Genetic Recombination in Eukaryotes:

I. Mitosis, Meiosis, and Segregation 137

Mitosis	137
10.1 DNA Replication and Nuclear Cycle	137
10.2 Mitotic Stages	138
10.3 Genetic Program for Mitosis	141
10.4 Nuclear Chromosome Characteristics	142
10.5 Complete and Partial Redundancy	143
Meiosis	144
10.6 The Stages of Meiosis	145
10.7 Special Features in Females	148
10.8 Segregation	149
10.9 Independent Segregation	150
10.10 Genetic Program for Meiosis	151
Summary and Conclusions	153
Questions and Problems	155

Chapter 11 Genetic Recombination in Eukaryotes:

II. Sex Linkage and Crossing Over 158

Sex Linkage	158
11.1 Sex Chromosomes and Autosomes	158
11.2 Common and Unique Sex Chromosome Loci	159
11.3 Albinism and Colorblindness	159
11.4 Phenotypic Ratios and Sex Linkage	163
11.5 Nondisjunction	164
Crossing Over	166
11.6 Crossovers	166
11.7 Genes Tend to Remain Linked	167
11.8 Crossover Recombination Maps	168
Summary and Conclusions	169
Questions and Problems	170

Chapter 12 Gross Changes in Nuclear Chromosomes

172

12.1 Detection of Gross Changes	172
Unbroken Chromosome Changes	173
12.2 Polyploidy	173
12.3 Loss or Gain of Individual Chromosomes	174
12.4 Detriment Due to Chromosome Loss or Gain	175
12.5 Monosomic and Trisomic Human Beings	176

Broken Chromosome Changes	178
12.6 Ligation of Broken Ends	178
12.7 One Nonrestituted Break	179
12.8 Chromatid Breaks	180
12.9 Two Nonrestituted Breaks	180
12.10 Reciprocal and Half-translocation	183
12.11 Reciprocal and Half-translocation in Human Beings	185
Summary and Conclusions	187
Questions and Problems	188

Chapter 13 Nonmendelian Genes in Eukaryotes 190

13.1 Foreign Nonmendelian Genes	190
13.2 Nonmendelian Genes Changed to Mendelian Genes	191
13.3 Mendelian Genes Changed to Nonmendelian Genes	193
13.4 Chloroplast DNA is Genetic Material	193
13.5 Nonmendelian Recombination of chl DNA	195
13.6 Mitochondrial DNA is Genetic Material	196
13.7 Mapping of rDNA and tDNA in mit DNA	198
13.8 Nonmendelian Recombination of mit DNA	199
13.9 Other Normal Cytoplasmic DNA's	200
Summary and Conclusions	202
Questions and Problems	203

PART IV HOW THE GENETIC MATERIAL CHOOSES WHICH PARTS ARE PRESENT AND FUNCTIONAL

Chapter 14 Programmed Gene Synthesis, Destruction, and Mutation 207

Gene Synthesis	207
14.1 Replicons in Prokaryotes	207
14.2 Regulator Genes and Replicons	208
14.3 Replicons in Eukaryotes	209
14.4 Amplification	211
Gene Destruction	216
14.5 Programmed in Eukaryotes	216
Mutation	218
14.6 Programmed in Prokaryotes	218
14.7 Programmed in Eukaryotes	218
Summary and Conclusions	219
Questions and Problems	219

Chapter 15 Regulation of Gene Action 221

In Prokaryotes	221
15.1 The Promoter Region	221
15.2 The Operator	224
15.3 The Transcription Terminator	226
15.4 Translation and mRNA	226
15.5 Other Translation Regulators	228

In Eukaryotes	228
15.6 Heterochromatin	228
15.7 Histones	229
15.8 Histones as Repressors	231
15.9 Nonhistone Proteins as Activators	232
15.10 Regulation of Translation	233
Summary and Conclusions	234
Questions and Problems	235
 <i>Chapter 16 Heterochromatization in Eukaryotes</i>	 236
Human Beings and Other Mammals	236
16.1 Dosage Compensation	236
16.2 Suppression of One of Two Alleles	237
16.3 Heterochromatization Causes Suppression of Alleles	237
16.4 Position Effect	238
16.5 Permanency of Heterochromatization	239
<i>Drosophila</i>	240
16.6 Dosage Compensation	240
16.7 V-type Position Effects	241
16.8 Heterochromatization Causes V-type Position Effects	241
16.9 Factors Affecting Heterochromatization	242
Maize	243
16.10 Controlling Genes	243
Summary and Conclusions	245
Questions and Problems	245

PART V HOW GENE PRODUCTS INTERACT AND THE PHENOTYPIC CONSEQUENCES OF GENE ACTION

<i>Chapter 17 Phenotypic Effects of Environment, Genotype, and Single Loci</i>	249
17.1 Twin Studies	249
17.2 Genetic and Nongenetic Environment	251
17.3 Penetrance and Expressivity	252
17.4 Phenocopies	253
17.5 Multiple Phenotypic Effects of Single Genes	254
17.6 Dominance and Recessiveness	255
17.7 Adaptiveness and Recessiveness of Mutants	258
17.8 Allele Dosage and Optimum Phenotypic Effect	258
17.9 Alleles and Viability	259
Summary and Conclusions	259
Questions and Problems	260
 <i>Chapter 18 Phenotypic Interactions of Two or More Loci</i>	 262
18.1 Proteins Act Alone or in Combination	262
18.2 Dominance and Phenotypic Classes	263

DETAILED CONTENTS	xix
18.3 Epistatic–Hypostatic, Complementary, and Duplicate Genes	266
18.4 Continuous (Quantitative) Traits	268
18.5 Genetic Basis for Quantitative Traits	268
18.6 Variability of Quantitative Traits	269
18.7 Dominance and Quantitative Traits	271
18.8 Selection and Quantitative Traits	271
Summary and Conclusions	272
Questions and Problems	273
<i>Chapter 19 Determination of Sex in Eukaryotes</i>	275
Yeast	275
19.1 Mating Type and Transposable Genes	275
<i>Drosophila</i>	276
19.2 Sex Types and Chromosomal Balance	276
19.3 Mosaicism and Gynandromorphs	278
Hymenoptera	279
19.4 Sex Type and Number of Chromosome Sets	279
Human Beings	280
19.5 Genotypic and Phenotypic Sex	280
19.6 Chromosome Number and Abnormal Sex Types	281
19.7 Sex Chromosome Rearrangements and Abnormal Sex Types	283
Environmentally Determined Sex	285
19.8 Based on Single Genotypes	285
Summary and Conclusions	286
Questions and Problems	286
<i>Chapter 20 Differentiation and Development</i>	289
20.1 Differential Gene Transcription	289
Survival During Early Development	291
20.2 Stockpiling in Oocytes	291
20.3 Use of Stockpiled Materials	292
The Coordination of Body Parts	292
20.4 Intracellular Gene Action	293
20.5 Hormones	294
THE SYNTHESIS OF SPECIFIC TISSUE PROTEINS	
Hemoglobin Synthesis	295
20.6 Hemoglobins and Development	295
20.7 Regulation of Transcription and Translation	297
Antibody Synthesis	298
20.8 Antibodies and Plasma Cells	298
20.9 Regulation of Transcription and Translation	300
Summary and Conclusions	301
Questions and Problems	302

PART VI HOW THE PRECEDING CAME ABOUT IN INDIVIDUALS AND POPULATIONS

<i>Chapter 21 The Origin and Evolution of Genetic Material</i>	307
21.1 Origin of Proteins and Nucleic Acids	307

21.2 The First Organism	308
21.3 The Genetic Code and Translation Machinery	309
21.4 Selection and Biochemical Complexity	309
21.5 The Quantity of Genetic Material	310
21.6 Evolutionary Trees	312
21.7 Evolution of Gene Functions	312
Summary and Conclusions	313
Questions and Problems	314

Chapter 22 Population Genotypes and Mating Systems 315

Random Mating	315
22.1 Allele and Genotypic Frequencies	315
22.2 The Hardy-Weinberg Principle	316
22.3 Dominance	317
Nonrandom Mating	318
22.4 Rare Alleles	318
22.5 Inbreeding	318
22.6 Consequences of Homozygosity	320
Summary and Conclusions	321
Questions and Problems	321

Chapter 23 Factors That Affect Gene Frequencies in Populations 323

Selection	323
23.1 Differential Conservation of Genotypes	323
23.2 Selection Coefficients of Detrimental Alleles	324
23.3 Heterosis Due to a Single Locus	325
23.4 Heterosis Due to Many Loci	326
Mutation	326
23.5 Effect on Allele Frequencies	326
23.6 Equilibrium between Mutation and Selection	327
Migration and Genetic Drift	329
23.7 Effect on Allele Frequencies	329
Summary and Conclusions	330
Questions and Problems	330

Chapter 24 Genetic Variability of Populations and Speciation 332

24.1 Great Genetic Variability in Populations	332
24.2 Genetic Load and Genetic Death	333
24.3 Adaptiveness of a Mutational Load	334
24.4 Race	334
24.5 Adaptiveness of Races	335
24.6 Partial Reproductive Isolation	335
24.7 Speciation of Races	336
24.8 Speciation from Founder Individuals	337
24.9 Speciation by Single Species Polyploidy	337
24.10 Speciation after Interspecific Hybridization	337
Summary and Conclusions	338
Questions and Problems	338

***PART VII* THE PRESENT AND FUTURE CONSEQUENCES OF GENETICS**

***Chapter 25* Applications to Agriculture and Ecology 343**

Genetics and Agriculture	343
25.1 Crops as a Source of Nutrition	343
25.2 Controlled Breeding and Artificial Selection of Plants	345
25.3 Polyploidy, Introgression, and Mutagenesis of Plants	348
25.4 Selective Breeding of Animals	350
25.5 Maintaining Genetic Variability	351
Genetics and Ecology	352
25.6 Unintended Ecological Changes	352
25.7 Intentional Ecological Changes	354
Summary and Conclusions	355
Questions and Problems	356

***Chapter 26* Applications to Behavior, and Social and Political Issues 357**

Applications to Behavior	357
26.1 Molecular Basis of Memory and Learning	358
26.2 Behavior Affected by One, Two, or More Loci	359
26.3 Abnormal Human Behavior and Genetic Changes	361
APPLICATIONS TO SOCIAL AND POLITICAL ISSUES	
Races and Intelligence	364
26.4 Adaptiveness of Human Races	364
26.5 Equalizing Different Human Races	364
26.6 Black and White Races	365
Politics	366
26.7 Stalin's Suppression of Genetics	366
26.8 Hitler's "Aryan" Master Race	367
Law and Religion	369
26.9 Ecclesiastical and Civil Laws on Marriage	369
26.10 Determination of Parentage	370
Summary and Conclusions	371
Questions and Problems	371

***Chapter 27* Applications to Medicine and Public Health 373**

Applications of Immunology	373
27.1 ABO Blood Types and Transfusions	373
27.2 Mother-Fetus Blood Incompatibility	374
27.3 Tissue Incompatibility	375
Applications to Aging, Death, and Cancer	375
27.4 Somatic Aging and Death is Programmed	375
27.5 Protein Damage as Cause of Aging and Death	376
27.6 Genetic Basis of Cancer	378
Applications to Environmental Mutagenesis	379
27.7 Physical Mutagens	379
27.8 Chemical Mutagens	381