THE ELEMENTS OF GENETICS

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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.

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