BOOK REVIEW

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Annual Review of Genomics and Human Genetics. Vol 1. Editors E Lander, D Page, R Lifton. Palo Alto, California: Annual Reviews. 2000. www.AnnualReviews.org

The Annual Reviews series has been a source of state of the art reviews in yearly volumes on Genetics, Medicine, Neuroscience, Microbiology, etc. The series started in 1932 with the Annual Review of Biochemistry. The year 2000 sees the first volume of the Annual Review of Genomics and Human Genetics. The expansion of knowledge resulting from the Human Genome Project has not only increased the influence of genetics in many spheres of biology and medicine, but has also raised issues that are best dealt with under the umbrella of genomics and human genetics.

This volume, edited by Eric Lander, David Page, and Richard Lifton, contains 19 chapters written by leaders in their fields. The chapters show the breadth of issues pertinent to the subject, ranging from mathematical genetics to cell biology and from monogenic diseases to human anthropology. The volume begins appropriately with an overview of the roles of human genetics and genomics in modern medicine (Barton Childs and David Valle) and a fascinating historical perspective of 20th century genetics (James F Crow). The remaining chapters in the book can be grouped into the following categories.

(1) Reviews of groups of monogenic diseases or disease causing proteins: iron metabolism (N Andrews); structural heart diseases (R Nicol, N Frey, and E N Olson); trinucleotide repeat diseases (C Cummings and H Y Zoghbi); DNA helicases, genomic instability, and human genetic disease (A J van Brabant, R Stan and N A Ellis); Williams syndrome and related disorders (C A Morris and C B Mervis), and a review on apo E (R W Mahley and S C Rall).

(2) Genomics issues: gene family evolution (J W Thornton and R DeSalle); how many genes can make a cell? (E V Koonin); the human HLA complex (S Beck and J Trowsdale); estimating allele age (M Slatkin and B Rannala); methods for analysing DNA sequence variation (K U Mir and E Southern); bioinformatics tools for whole genomes (D B Searls).

(3) Complex traits: patterns of genetic variation and complex traits (M E Zwick, D J

Cutler, and A Chakravarti); methods to detect selection in populations (M Kreitman).

(4) Genetic perspectives on human origins and differentiation (H Harpending and A Rogers).

(5) Public concern about genetics (P R Reilly).

(6) Genetic screening of newborns (H L Levy and S Albers).

The chapters are typically 20-40 pages in length and are extensively referenced. In general, the tricky balance between detail and a general overview is admirably managed. For instance, Cummings and Zoghbi provide an excellent and up to date summary of the important issues pertaining to the different trinucleotide repeat diseases in one chapter. The chapters that I found particularly interesting and which I believe would have a wide appeal were the historical overview by Crow, the balanced appraisal of public concern about genetics (Reilly), and the lucid assessment of some critical issues pertinent to the analysis of complex traits (Zwick, Cutler, and Chakravarti).

This volume would be an asset both to clinicians with an interest in human genetics and to basic scientists. Many of the chapters are excellent up to date summaries that can be used as reference material for advanced undergraduate courses. I look forward to the second volume in this Annual Review series.

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