PDF - HUMAN BIOLOGY AND HEALTH - researchcub.infoMedical geneticserupted in the late 1950s and early 1960s because the human chromosome number(and anomalies of that number) could be seen with better techniques introducedby Tjio and Levan in Sweden, by Lejeune and Turpin in France, and by PatriciaJacobs and others in the United Kingdom. The U.S. jumped on the bandwagon ayear or two later with studies of other autosomal trisomies. Very rapidly camenew staining technologies (quinacrine and Giemsa staining) and the most medicaltechnique of all, prenatal diagnosis through cultured embryonic cells(amniocentesis) in the 1970s. Cytogenetics led the way, but parallel to it wasthe explosive growth for biochemistry applied to the working out of metabolicpathways and their applications to human genetic disorders. Harper shows thisin superb detail and we are treated to both the physicians involved and theirlaboratories, learning how their careers had drifted into medical genetics.Reading this book is both a visual treat and a stimulating mental excursionacross the world of academic medicine, a world not known to most geneticistsworking in laboratories with experimental plants and animals. The authorincludes photographs of virtually all the major contributors to human andmedical genetics. He provides a global outlook so we are not limited to justAmerican and United Kingdom contributions. We learn why some programsflourished in some countries and not others. We find pleasure in his footnotes,which are less a reference to cited works than anecdotal asides on the playersin this unfolding story. Harper includes dozens of tables that givechronologies of each new topic or field that develops. He poses challenges inevery chapter for future historians to pick up threads he has not explored, sovast is the amount of material that he has tried to cover. In his finalchapters, Harper returns to the theme of the aims of medical genetics. Humangenetics is not a problem because it has become a basic science, purged ofeugenics and no longer focused on saving humanity from deterioration. Medicine,however, has always been a moral science. It treats, it makes diagnoses. Itspractitioners have a range of moral responses on what to do in catastrophes aswell as in individual cases. Medical schools vary in their moral outlooks, somebecause they are embedded with religion instead of eugenics and the state sothat this alters how they see the use of their services. We run into this withthe debates over elective abortion, the use of contraceptives, stem cellresearch, and the use of IVF embryos, as well as many new challenges that willemerge as the Human Genome Project fragments into utilizable pieces that can beused to diagnose and treat illnesses. Medicine is goal oriented—to diagnose andto treat—and this thrusts it into a moral world that Harper explores. He hopeswe have learned from the past and will not allow the excesses of the past toreturn. He loves his field and knows how easy it can be seduced for the publicgood, which all too often becomes just another dung heap. Reading this volumeis a good way to immunize future practitioners in medical genetics from fallinginto that mire. Elof Axel Carlson, Biochemistry & Cell Biology, Stony BrookUniversity, Stony Brook, New York

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