courts, government and the rest; each must be enabled to give what he best can and to receive what he most needs. And, as I said twenty-two years ago—before that "infant industry" eugenics had begun its career—in my address as president before this association:

> We not only hold the clay in our hands to mould to honor or dishonor, but we also have the ultimate decision as to what material we shall use. The physicist can turn his pig-iron into steel, and so can we ours; but he can not alter the quantities of gold and iron in his world, whereas we can in ours. Our responsibility is, indeed, very great.

J. MCKEEN CATTELL

NOTES

THE portrait by Henry Ulke of Joseph Henry, first secretary of the Smithsonian Institution, has been transferred by a senate resolution, from the Capitol to the Smithsonian Institution, where it has been hung in the National Gallery of Art, in the new building of the National Museum.

DR. ALEXANDER GRAHAM BELL, inventor of the telephone, was awarded the Civic Forum Gold Medal for distinguished public service in New York on March 21. The presentation address was made by Dr. John H. Finley, state commissioner of education. Dr. Bell is the third recipient of the medal. It was awarded to Major General George W. Goethals in 1914, and to Thomas A. Edison in 1915.

DR. WILLIAM H. WELCH was the guest of honor at the tenth annual banquet of the Æsculapian Club, Philadelphia, on February 6.

THE portrait of Professor R. D. Salisbury, planned for by his former students, was presented to the University of Chicago on the afternoon of February 8.

THE Adams prize at Cambridge has been awarded to J. H. Jeans, M.A., sometime fellow of Trinity, for an essay on "Some Problems of Cosmogony and Stellar Dynamics." No election has been made to the Isaac Newton Studentship.

PROFESSOR A. N. WHITEHEAD has been elected president of the British Mathematical Society.

THE membership of the Botanical Committee of the National Research Council has just been completed, as follows: From the National Academy, J. M. Coulter (chairman), D. H. Campbell, R. A. Harper; from the American Association for the Advancement of Science (Committee of One Hundred), George T. Moore, B. E. Livingston, L. R. Jones; from the Botanical Society of America, Erwin F. Smith, Edward M. East and H. H. Bartlett.

DR. FABIAN FRANKLIN, associate editor of the New York *Evening Post* since October, 1909, has resigned. Dr. Franklin was professor of mathematics in the Johns Hopkins University from 1879 to 1895.

DR. ROBERT GRANT AITKEN, astronomer in the Lick Observatory, has been granted by the University of California four months' leave of absence to go to the Atlantic coast to complete arrangements for the publication of his work on the double stars.

PROFESSOR WALDEMAR LINDGREN, of the Massachusetts Institute of Technology, has gone to Chile in connection with geological work on some of the copper properties.

DR. JOSEPH A. BLAKE, formerly professor of surgery in Columbia University, who has rendered distinguished services at Neuilly and at Ris-Orangis, has accepted an invitation from the French government to become head of the great Doyen Hospital.

DR. CHARLES D. WALCOTT, secretary of the Smithsonian Institution, has been elected chairman, and Dr. S. W. Stratton, of the Bureau of Standards, secretary of the military committee of the National Research Council.

SCIENTIFIC BOOKS

CYTOLOGY, GENETICS AND EVOLUTION

Cytology, Genetics and Evolution. By twelve authors. Philadelphia: University of Pennsylvania Press. 168 pages, 19 figures. 1941.

THIS little book represents a survey of the subject as a part of the bicentennial celebration of the founding of the University of Pennsylvania. The papers are grouped into four departments, with three in each group: Chromosomes and Heredity, Cytogenetics and Evolution, Cytology and Genetics of Protozoa and Physiology of the Nucleus. The contributors and their subjects run as follows with a brief summary quoted in each case:

Demerec, M. "Nature of the Gene." "Thus an attractive possibility is open for speculation that each salivary band may consist of a single molecule, which is repeated a great many times, the length of the molecule determining the width of the band."

Metz, Charles W. "Chromosome Structure." "No one knows just what a chromosome is or how it is constituted."

Schrader, Franz. "The Sex-chromosomes, Heteropycnosis and its Bearing on Some General Questions of Chromosome Behavior." "The evidence from a wide range of cases strongly indicates that during a certain period of the meiotic prophase there is a defi-

nite and specific tendency for all heterochromatin to come together."

Blakeslee, Albert F. "Cytogenetics and Evolution." "Interchanges are only one of the types of chromosome alteration which have evolutionary significance."

Dobzhansky, Th. "Chromosome Differences between Races and Species of Drosophila." "It seems justifiable to conclude that, with the exception of translocations, all the types of chromosome changes which are known to differentiate its species are met with in races as well."

McClung, C. E. "Evolution of the Germ Plasm." "We are certain of the continuity of germ plasm, and of the general nature of the material record of racial experience. It seems evident that the hope for an understanding of racial and individual development waits upon a fuller knowledge of the nature and behavior of the visible elements which embody the germ plasm."

Jennings, H. S. "Hereditary Status of Rhizopods." "There is nothing known as to Mendelian heredity in Rhizopods. There is no knowledge of inheritance and variation in sexual reproduction. . . . It deals with heredity and variation in reproduction from a single parent, in vegetative reproduction. . . . There remains the question: Is it the chromosomal materials, is it the genes that become altered when hereditary diversities are produced in a single clone through the action of the environment or otherwise? Jollos is of the opinion that it is *not* the chromosomal materials that are altered."

Diller, William F. "Nuclear Behavior and Reproduction in Ciliated Protozoa." "Underlying all the apparent diversity and variability of nuclear phenomena one comes to discern a fundamental similarity whose expressions are differences in degree and not in kind."

Sonneborn, T. M. "Inheritance in Ciliated Protozoa." "I have reviewed in this paper some situations in ciliate genetics, in which typical genetic inheritance is unquestionably involved, but I have also attempted to set forth a number of situations, including by far the greater part of what is known about ciliate genetics, which are extremely difficult to interpret along orthodox genic lines. . . ."

Churney, Leon. "The Physico-chemical Properties of the Nucleus." The author discusses the properties under the headings: Colloid chemical properties of the nucleus and cytosome, viscosity, osmotic properties of the nucleus, permeability of the nuclear membrane to water, amphoteric properties of the nuclear constituents.

Duryee, William R. "The Chromosomes of the Amphibian Nucleus." "Facts such as these offer strong support to commonly accepted genetic theory, that master molecules or molecular templates, as genes have been called, remain imbedded in the axis cylinder, ready to divide in mitosis and become distributed for work in some future cell."

Henshaw, Paul S. "Radiation and the Cell Nucleus." "As a consequence the exponential dose-action curves, in so far as they are reliable, may be taken to indicate that biologic changes as extensive as cell death may be induced by single event action—perhaps even by the production of single ion pairs."

These authors present a brief summary of important problems in their fields. The tentative nature of the subject is indicated strongly and the line of future work pointed out. Naturally, in so diversified a subject, there is lack of agreement, but it is surprising to see how far it really obtains on broad general principles. There is, for instance, practically no disagreement with regard to the chromosome theory of inheritance. Expressed or implied, it lies at the basis of each paper. In view of the fact that the subject of cytology is but seventy-five years old, and modern genetics but forty years, this is not a bad record. As presented in the symposium here it offers a very hopeful prospect for future developments.

C. E. McCLUNG

OCCUPATIONAL DISEASES

Occupational Diseases. Diagnosis, Medico-legal Aspects and Treatment. By RUTHERFORD T. JOHNSTONE. 558 pp. Philadelphia and London: W. B. Saunders Company. 1941.

THIS is an excellent book written by a man who has had years of experience not only in the diagnosis and treatment of a wide variety of industrial diseases but also in that newer and increasingly important field, the dealing with claims for compensation. The book covers the most important industrial poisons; the dusts, injurious and inert; the dermatoses; injuries from physical agents, and there is also a chapter on "the industrial back" and on hernia, and a full discussion of traumatic neuroses and malingering.

A chemist would be puzzled over the choice of title for the first section, "Gases, Solvents and Fumes," and still more by the groupings under this title. The halogenated hydrocarbons are scattered through five chapters, instead of being treated as a group, and such diverse bodies as nitrobenzene, dichlorofluoromethane and ethylene dichloride are grouped together. However, this does not really produce confusion and is of minor importance. What is of major importance is Dr. Johnstone's selection of material. He very wisely gives little space to the earlier literature, which is abundantly covered in the older textbooks, and instead covers fully the very latest contributions. This is especially well illustrated by the chapters on