First Glances at New Books

ELEMENTS OF PHYSICS—R. A. Millikan and H. G. Gale—*Ginn* ($1.64). A textbook presenting elementary physics in a way that should stimulate the pupil to do some thinking on his own account about the hows and the whys of the physical world in which he lives.

Science News-Letter, January 29, 1927

MAN AND BEAST—Samuel Scoville, Jr.—*Harcourt, Brace* ($2). An interesting story of the trials of the wild beasts of the South African Jungle and of America, and of their constant warfare with their most relentless enemy—man. The book is illustrated by Charles Livingston Bull.

Science News-Letter, January 29, 1927

PRINCIPLES OF PLANT GROWTH—Wilfred W. Robbins—*Wiley* ($2.25). The author discusses in non-technical language some of the fundamental principles of plant growth. It is a well-illustrated book not only useful as an elementary botany text but might well be in the hands of every man in any way concerned with agriculture.

Science News-Letter, January 29, 1927

COLLOID CHEMISTRY—Collected and edited by Jerome Alexander—*Chemical Catalog Co., Inc.* ($14.50). A 947-page symposium on the chemistry of colloids made up of chapters by international authorities including five Nobel prize winners in science.

Science News-Letter, January 29, 1927

PURPOSIVE EVOLUTION, The Link Between Science and Religion—Edmund Noble—*Holt*.

A new essay in the much-plowed but evermore-enticing field of teleology, with the urge behind it to set right the obviously out-of-joint state of thought of the world on the two important subjects of scientific knowledge and religious belief.

Science News-Letter, January 29, 1927

THERMODYNAMICS—C. N. Hinshelwood—*Dutton* ($1.80). An introductory treatise, designed especially for students of chemistry and physics. The reader's knowledge of calculus is assumed.

Science News-Letter, January 29, 1927

THE EVOLUTION AND DEVELOPMENT OF THE QUANTUM THEORY—N. M. Bligh—*Longmans, Green* ($3). A brief, but mathematical, exposition of this important physical theory.

Science News-Letter, January 29, 1927

GEOGRAPHY

A Science of Settlement

"The Covered Wagon," one of the most popular moving pictures ever produced, told the story of the pioneers of our western lands. They settled territory which has proved to be invaluable.

A plea for study of such "pioneer belts" as these lands once were is made by Dr. Isaiah Bowman, director of the American Geographical Society. He would create a new science, the science of settlement, to ease the way for the governments of over-populated countries and to develop lands potentially valuable for habitation and for the production of necessities. The idea is not to produce "a handbook for the pioneer by means of which he can locate a productive farm or increase his crop, but rather a guide for the makers of government policies, just as a city survey is a guide for city planning."

The "pioneer belts" of the world today include only a little land in the United States, more in Mexico and Canada, considerable territory in Asia, Australia, South Africa, and South America. In some places land is totally undeveloped and in others greatly underdeveloped.

The widest research is needed, Dr. Bowman said, to answer the question: What is holding men back from entering these areas? Does physical geography establish limits of a critical sort or do the social conditions of a frontier society repel the settler? How can the psychological inhibitions of the settler be dispelled? How can funds available be best expended in this project of settlement?

Science News-Letter, January 29, 1927

BOTANY

Persimmons Mellow on CO_2

The carbon dioxide given off by their own breathing will take the "pucker" out of Japanese persimmons, California scientists have found. Dr. Earle Long Overholser of the University of California, College of Agriculture states that persimmons kept in sealed containers from ten to fourteen days were completely free from astringency. The carbon dioxide given off by the respiratory processes of the fruit while sealed up is believed by scientists to produce this desirable effect.

The whole process can be speeded up by artificially subjecting the persimmons to the gas in larger quantities.

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PSYCHOLOGY

Einstein in Everyday Life

Is Einstein's theory plain common sense instead of the nonsense it has been called? One of the most startling of the conceptions of this theory of relativity is that space and time are not a fixed and universal framework as has been always supposed, but that both time and space are warped or wrinkled in the neighborhood of any piece of matter. This has generally been regarded as an inconceivable mathematical paradox but Prof. C. O. Weber of Wells College finds that it is our natural way of looking at the world. To the muscles distance in all direction is not the same in the vicinity of a mass of matter, for in going uphill 300 feet seems different than in going downhill. By several thousand experiments on fourteen persons, who were set to estimating ten-inch distances with a free arm movement and then moving various weights up to a half pound, he found that all subjects tend to shorten their muscular measurement of space when carrying loads. The greater the load the greater the error in reproducing the distance of the movement. The estimation of time by muscular movement is likewise made inaccurate by loads on the hand. When a person tries to draw straight lines with an iron stylus in a magnetic field which offers resistance to the movements in his hand, he draws curves instead. All these psychological effects correspond with Einstein's idea that space and time are distorted in any such field of force.

Science News-Letter, January 29, 1927

AGRICULTURE

Bones for Fertilizers

An historic note of almost a century ago, that throws an interesting sidelight on the faked wartime report on the use of dead soldiers in German fertilizer factories, has been unearthed by Prof. Paul B. Sears of the University of Nebraska.

In looking over the Second Annual Report of the Geological Survey of Ohio, dated 1838, he encountered the following statement by Prof. W. W. Mather:

"Europe and Africa send wheat to our eastern markets, and at the same time send out orders for our refuse bones, bone earth and sugar refiners, comb factories, etc. Many of the bones of the battle-ground of Waterloo, and from the bone caves of Germany and Italy, have been transported to England and France to supply a material which has become deficient in their soils."

Science News-Letter, January 29, 1927