plants. This showed me at once that in order to propagate my white-fruited berries I could not rely upon seed. Experiments are still in progress and the results will be reported later.

WILLIAM A. MURRILL
UNIVERSITY OF FLORIDA

INSTIGATOR OF THE WEATHER BUREAU

I WISH to add some evidence to the article by Edward P. Alexander in SCIENCE for March 31, 1944, showing that Increase A. Lapham was the father of our present system of forecasting the weather. The question of originality is of long standing. It is mentioned in a memorial to Lapham written by Dr. P. R. Hoy in 1876.[1] On page 234 of this volume is to be found the following letter:

SMITHSONIAN INSTITUTE,
WASHINGTON, Feb. 3, 1876.

DR. P. R. HOY, Racine, Wis.:

Dear Sir: Your letter was received during a great pressure of business, and I now embrace the first opportunity to give it a reply.

The action of Congress in regard to the signal service was due to the immediate exertions of Mr. Lapham through the member of Congress from his district, General Payne, in setting forth the advantages of the system to the commercial interests of the great lakes.

Yours very truly,

JOSEPH HENRY.
Secretary.

A. W. SCHORGER
MADISON, WIS.

SCIENTIFIC BOOKS

CIVILIZATION AND DISEASE

Civilization and Disease. By HENRY E. SIGERIST. xi + 255 pp. Cornell University Press. 1944. $3.75.

THIS volume of approximately two hundred and fifty pages is based on the Messenger Lectures delivered by Sigerist in 1941 at Cornell University. In scope, these lectures represent the attempt to correlate medicine with the processes of the humanization of man in society. The method by which Sigerist seeks to attain his end lies in the linkages between civilization as a whole and disease and the more detailed relationships between disease, economics, sociology, law, history, religion, philosophy, science, literature and art. This constitutes a fairly large order which must needs have failed had its fulfilment been undertaken by any other than such an intellectual amphibian as Dr. Sigerist.

The first chapter which lays down the thesis that the broad, general processes of civilization necessarily involve the incidence of disease, because social progress along the path of man's ascent is bound up with proper food supply, avoidance of physical hazard, protection against the elements and the general safeguarding of body functions. This in turn means, by and large, the preservation of function or the sacrifice of it to disease. Sigerist, in common with all the other well-known historians, starts his story with primitive man. Indeed he starts back farther than that, with the transition from paleolithic to neolithic man. I have been waiting for years for some medical historian to go even farther back than that and show what primitive man himself learned from animals, by way of mutual aid and self-cure. It can be done. Prince Peter Alexander Kropotkin has well defended the thesis that mutual aid has been a greater factor in evolution than has conflict in the struggle to survive. Sigerist himself hints at this fact in his chapter on "Disease and Law," in which he comments on the social life among animals.

Throughout the entire volume there is clearly manifest the author's profound interest in the sociological problems of health. This slant, however, is most clearly manifest in the first chapter in which malnutrition, maldistribution of goods and wealth and the consequent evils are pictured. The effect of clothing and climate, personal hygiene, housing, lighting and heating of homes, sewage disposal and water supply is discussed in their historic relation to disease. Even gluttony is not overlooked.

These considerations lead logically to the chapter on "Disease and Economics," in which is laid down with broad and sure strokes the author's picture of the influence of economics on disease. Starting with the basic concept that work is a powerful factor in health, he travels along the road of occupational health hazards, documenting his views with citations from the literature dating as far back as Ulrich Ellenbog's 1473 treatise on toxic fumes and coming as far into recent times as Falk's 1936 work on "Security Against Sickness." He relies on McCready to support the thesis that no small part of the ill health of Americans is due to the struggle after wealth, and he quotes the founder of experimental hygiene, von Pettenkofer, in support of the truth that the economic loss due to disease is enormous.

No bridge is necessary to cross the gap from economics to social life in relation to disease. Sigerist slides smoothly into this topic with the opening sen-

[1] *Trans. Wis. Academy of Sciences, Arts, and Letters,* Vol. 3, 1876, p. 265.

tence, "No one lives alone." So condensed is the substance of this section that a scant page separates the Sumatran Kubu tribes from the Christian ideal of charity, healing and restoration. Venereal disease, tuberculosis, leprosy and mental disease are the *leit motifs* in the exposition of the interrelationships of disease and social life.

From here on the story runs smoothly through the interrelationships between disease and the law; disease and history (the role of the bubonic pest typhus, cholera, dysentery, malaria and scrofula as world plagues); disease and religion (with a sanely balanced and appreciative concept of faith healing as demonstrated by the rationalized Emmanuel movement, the decidedly nebulous cult of Christian Science and the frank humbug based on auto-suggestion techniques); disease and philosophy; disease and science (stressing such factors as the ferment in thought flowing from the labors of Vesalius, Harvey, Morgagni, Bichat and Pasteur); disease and literature; disease and art (largely a restatement of the objectives of Charcot and Richter in the "Nouvelle Iconographie" and other publications, and Hollaender's "Atlas of Medicine in Classical Art").

The final chapter on "Civilization Against Disease" furnishes Sigerist a platform for a short restatement of his well-known humanistic interest in social needs and the methods of their accomplishment.

All in all, the volume is a fine example of "infinite riches in a little room," substance that one may read as he runs. Its brevity lends charm through the skill with which the condensation is wrought. To the cognoscenti, there is evidence on every page of mastery, no small part of which displays itself in the selection of admirably suitable illustrations. An accurate index contributes value to the whole. Only one minor note jars a bit, Sigerist's loose use of "tubercular" for "tuberculous."

No review of this book on "Civilization and Disease" would be complete without reference to the peculiarly appropriate time of its appearance. To those of us who are sufficiently optimistic in temperament to visualize peace just around the corner and sufficiently hedonistic in our thinking to hope for a happier post-bellum world, there is solid substance in the lessons of the historic past, as Sigerist has set them down. Whether or not we shall be wise enough to see to it that these lessons are taken to heart in peace planning —well, in the language of the immortal Kipling, that is another story.

M. G. SEELIG

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BAROMETRIC PRESSURE

Barometric Pressure. By PAUL BERT. Translated by M. A. and F. A. HITCHCOCK. xxxii + 1055 pp. 89 figs. Columbus, Ohio: College Book Company. 1943.

THE completion of the formidable task of translating this celebrated monograph must afford its authors a great satisfaction, and must inevitably call forth well-deserved praise from its readers. Seldom are we privileged to study as careful and accurate a translation of a monumental treatise such as this chef d'oeuvre of Paul Bert. Constant attention undoubtedly has been paid to a presentation as close to the original as possible, and although at times a smoother translation could be desired, one feels that its sacrifice in favor of accuracy in most instances was wise. The improvements mentioned by the authors in their translators' preface are helpful indeed. They have arranged the format in a way to which most of us are much more accustomed than the French method, by placing the table of contents at the front of the book, and by including an admirable index at the end. The brief foreword, written by Professor John F. Fulton, sets the stage and forms an admirable curtain-raiser for the text that follows.

Although it might seem proper to restrict the present remarks to Professor and Mrs. Hitchcock's most timely and long needed translation, the reviewer feels that in this case it is necessary to say something about the work itself; a work which won for its author a high place, not only among his colleagues of the Academy of Sciences, but also among scientists of past and future generations. Remarks related to existence at high altitudes can be found in the literature as far back as Aristotle, and observations on air pressure have accumulated since the days of Galileo and Torricelli, but it remained for Paul Bert to point out the role of diminished partial pressure of oxygen in producing the physiological effects reported as a result of exposure to high altitude experiences. How astounding the revelation must have been to those aware of his discoveries, that oxygen, the basic necessity of life, so easily could become a prime factor in the destruction of cells and tissues, and in their ultimate death!

Bert's long series of investigations originally appeared in the *Comptes Rendus de l'Académie des Sciences* (1871–1875). The book, now translated for the first time, was published in 1878 and, as pointed out by Dr. Fulton, stands to-day as the cornerstone of modern altitude physiology. It is divided into three parts: historical, experimental and summary and conclusions. The historical section is an astonishing sum-