

designated in the proposed legislation as "The Food and Drugs Administration." The gamble taken by the authorities was successful. Not a single member of the House raised a point of order. They passed an Enabling Act, transferring the administration of the law to this new unit and abolishing the Bureau of Chemistry absolutely. The mangled remains of the Bureau, *fastigia rerum*, as Virgil would call them, were transferred to the Bureau of Soils, and a new Bureau of Chemistry and Soils was created. This left Dr. Browne high and dry, *sine officio*. The new chief of the bureau, according to the article in SCIENCE, is to be handpicked in a kind of examination heretofore unheard of. I have not seen the legislation which authorized the Civil Service Commission to appoint a board of special examiners for this purpose.

The proper way to have gone about this thing would have been the introduction of a bill abolishing the Bureau of Chemistry, establishing a new Bureau of Chemistry and Soils, and creating a new unit of administration for the Food and Drugs Law, with a repeal of that part of the Food Law which charged the Bureau of Chemistry with its enforcement. If this proposition had come before the Congress of 1906, which enacted the Food and Drugs Law, I doubt if it would have received an affirmative vote in either house. Numerous attempts were made during the pending legislation for the law to take the administration away from the Bureau of Chemistry, but every one of these attempts was overwhelmingly negated. The only persons, then, who really wanted to see the Bureau of Chemistry divorced from the Food and Drugs Act were the adulterators of foods and drugs.

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10,300,000 VACCINATIONS FOR SMALLPOX WITHOUT ONE SINGLE REPORTED CASE OF SYPHILIS¹

It has come to the attention of the undersigned that false statements are being circulated, that have caused some people to believe or fear that vaccination against smallpox may cause syphilis. Since the activities under our charge furnish direct evidence in refutation of this idea we have considered it our duty to issue a statement that syphilization as a result of vaccination does not occur.

Before the discovery of smallpox vaccine, the only protection against the dangers of smallpox was by inoculating a person intentionally with the disease and

¹ The original signed copy of this statement is on file at the Office of the Surgeon General, United States Public Health Service, Washington, D. C.

thereby producing, in general, a milder attack than that contracted when smallpox was caught in a natural manner. In this way the inoculation of syphilis along with smallpox, or even of syphilis instead of smallpox, was possible. This possibility also existed when vaccination first supplanted smallpox inoculation, and was performed, as was smallpox inoculation, from the arm of one human subject to another. Cases of syphilis following inoculation or vaccination with human vaccine were, nevertheless, extremely rare. Syphilis, however, is a disease confined in nature to the human species alone, and as soon as the use of calf vaccine instead of human vaccine became universal *the possibility of transferring syphilis by vaccination was entirely done away with.*

Since 1917 the United States Army has vaccinated approximately 4,700,000 members of its personnel; the United States Navy has vaccinated approximately 950,000 members of its personnel; and of these 5,650,000 persons, *not one* of them ever developed syphilis as a result of vaccination. In not one of them was there ever any suspicion of syphilis in connection with vaccination. During this same period, the United States Public Health Service has also vaccinated 2,918,748 persons in carrying out its quarantine, immigration and hospital work. While the service has not always had the opportunity of following up these vaccinations, as is carefully done in the Army and Navy, no one has ever alleged that any particular individual vaccinated by the Public Health Service has contracted syphilis as a result of vaccination.

During the past ten years more than 2,000,000 persons, including school children, have been vaccinated by state and local health authorities in cooperation with the United States Public Health Service, making a grand total of 10,568,748 vaccinations recorded by the government medical services, and not one of the undersigned has ever received an allegation or a statement charging that any particular individual of this number has contracted syphilis as a result of vaccination. In fact, there has never been reported anywhere a case of syphilis attributable to vaccination following the use of bovine smallpox vaccine.

Smallpox vaccine is a standard medicinal product, the quality of which is prescribed by the "United States Pharmacopeia" and as such is subject to the provisions of the pure food and drugs law. Furthermore, smallpox vaccine, together with other vaccines and serums for human use, has been deemed of such importance by the government that its production for sale within the jurisdiction of the United States has been under the special protection of an act passed July 1, 1902, antedating even the pure food and drugs law. Under this law all establishments producing smallpox vaccine for interstate sale must be licensed

by the secretary of the treasury upon the recommendation of the United States Public Health Service, and the production is controlled by regulations drawn up by a board composed of the undersigned. These regulations provide for repeated inspections of the producing laboratories, for proper labeling, and for all safeguards which may be thrown about the making of such an important product. At present even the placing of the vaccine in the small tubes and the sealing of these tubes is required to be done in such a way that no hand, even though sterile, touches the vaccine. Repeated examinations of the product, for safety, are required.

This vaccine was used in the vaccination of the millions mentioned in the above table and is exactly the same as that used by doctors in private practice in the vaccination of the general public throughout the United States.

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Surgeon General, U. S. Army,

E. R. STITT,

Surgeon General, U. S. Navy,

H. S. CUMMING,

Surgeon General, U. S. Public Health Service.

FACTS AND THEORIES IN GEOLOGY

As a member of the American Association for the Advancement of Science for more than one decade, may I be allowed to reply briefly to various people who have expressed themselves adversely regarding my "New Geology, a Text-book for Colleges"?

Professor Edwin Linton's second communication (SCIENCE, Vol. LXIV, No. 1665, pp. 526-7) is the latest of this kind that I have noticed. He looks upon my book as a "transcendent absurdity," though in reality the one point wherein it differs from other text-books on this subject is that it endeavors to make a clear distinction between geological facts and geological theories. Why is not this sharp distinction between facts and theories just as essential for text-books on geology as for text-books on physics or chemistry or astronomy? That I have stated some theories of my own which are not generally accepted is a very small matter; the real peculiarity of my book is that I have endeavored to make this separation, so that the student may have some chance for his intellectual freedom of choice. If I have not always succeeded in making this separation, that would be cause for just criticism; but that this book should try to make this separation hardly entitles it to be called a "transcendent absurdity." I do not think that Bacon or Newton, Linnaeus or Agassiz would look upon it in that light.

Three ideas are outstanding in this text-book and in my various other books:

- (1) An emphasis on the fact that uniformitarianism is at best only a theory, to be evaluated according to the facts of modern discoveries, like any other theory.
- (2) The fact, as stated by T. H. Huxley, that "All that geology can prove is local order of succession"; and "the moment the geologist has to deal with large areas, or with completely separated deposits," there is danger of "incalculable mischief" in confounding similarity of stratigraphical arrangement with "synchrony" or identity of date; hence that "not proven and not provable" must be recorded against all the grand hypotheses of the paleontologist respecting the general succession of life on the globe."¹ If this has become a "transcendent absurdity" in this year 1927, I should like to know wherein we have outgrown the "methods" which Huxley condemned in 1862.
- (3) That monophyleticism should be frankly and openly repudiated; and we should just as openly and frankly affirm, as Dr. Leo S. Berg, of the University of Leningrad, has done in his recent notable book, that "not only do phyla, classes, and orders not infrequently prove to be polyphyletic, but such is often the case with lesser taxonomic divisions."²

As I have been contending for this last idea for many years, it is some satisfaction to see Dr. Berg declaring that "Organisms have developed from tens of thousands of primary forms" (p. 406). *E pur si muove.*

May I call attention to two other works that I have not yet seen noticed in the columns of SCIENCE? One is "The Case against Evolution," by Dr. Geo. Barry O'Toole, issued two years ago by the Macmillan Company. It devotes some twenty pages to endorsing wholeheartedly my geological argument. The other is "The Dogma of Evolution," by Professor Louis T. More, delivered as a series of lectures at Princeton University, in the spring of 1925. This book is issued by the Princeton University Press, and is handled here in England by the Oxford University Press. When works like these are loftily ignored by the official organ of the American Association for the Advancement of Science, is there not danger that we may degenerate into a mere mutual admiration society?

I do not have the space to reply to my other critics, like Arthur M. Miller and Edwin Tenney Brewster. Dr. Chas. Schuchert's professedly formal review of "The New Geology" appeared shortly before I left America. He makes merry over his straw man; for

¹ "Lectures and Lay Sermons," pp. 29, 30, London, 1913.

² "Nomogenesis," p. 244, London, 1926.