

SCIENCE

FRIDAY, APRIL 15, 1910

CONTENTS

<i>The Chemical Industries of America:</i> PROFESSOR CHARLES E. MUNROE	561
<i>Scientific Notes and News</i>	574
<i>University and Educational News</i>	576
<i>Discussion and Correspondence:—</i>	
<i>Air Currents in Mountain Valleys:</i> FRANÇOIS E. MATTHES. <i>The Effect of Asphyxia on the Pupil:</i> DR. JOHN AUER. <i>Free Public Museums:</i> DR. A. R. CROOK. <i>Facts vs. the Advancement of Science:</i> BENJ. C. GRUENBERG. <i>Why Pavlov?</i> PROFESSOR J. F. ABBOTT. <i>The Norwood "Meteorite":</i> DR. G. F. LOUGHLIN	577
<i>Scientific Books:—</i>	
<i>Friese's Die Bienen Afrikas:</i> PROFESSOR W. M. WHEELER. <i>Clowes and Coleman's Quantitative Chemical Analysis:</i> PROFESSOR E. RENOUF. <i>Godfrey's Elementary Chemistry:</i> J. L. G. GAUPP'S <i>Die Normalen Asymmetrien des menschlichen Körpers:</i> DR. A. HEDLIČKA	580
<i>Scientific Journals and Articles</i>	583
<i>Botanical Notes:—</i>	
<i>Papers on Trees; Plant Breeding; General Notes:</i> PROFESSOR CHARLES E. BESSEY....	584
<i>Special Articles:—</i>	
<i>Artificial Production of Multivoltine Races of Silkworms:</i> PROFESSOR J. F. ABBOTT ...	586
<i>The American Association for the Advancement of Science:—</i>	
<i>Section B—Physics:</i> PROFESSOR ALFRED D. COLE	588
<i>Section L—Education:</i> PROFESSOR C. R. MANN	591
<i>The Entomological Society of America:</i> DR. J. CHESTER BRADLEY	597
<i>The Association of Official Seed Analysts:</i> E. BROWN	598
<i>Societies and Academies:—</i>	
<i>The Geological Society of Washington:</i> EDSON S. BASTIN. <i>Section of Biology of the New York Academy of Sciences:</i> L. HUSSAKOF	598

MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

THE CHEMICAL INDUSTRIES OF AMERICA¹

THE topic which you have done me the honor to invite me to address you upon appears on first consideration quite specific, but investigation shows that this is not quite the case. Thus we find the popular idea of a chemical industry to be one producing acids, alkalies, salts, explosives, fertilizers, dyestuffs and extracts, pigments, distillation products and elementary substances like bromine, phosphorus, sodium and others, and the officials of the U. S. Census Bureau in 1880, in fixing a classification, styled in the various censuses "chemical production" or "chemicals and allied products," adopted this popular view.

In discussing this, I have said:²

A reason for the variation in the industries included at the different censuses is found in the very general and indefinite title used, for in the strictest technical sense every material thing is a chemical, and accordingly every industry in which the materials used undergo a chemical change in the process of manufacture, as in the smelting of iron from its ores or the production of leather from a hide, may be considered as a chemical industry. It is evident that if this view of the significance of the title were taken, "Chemicals and Allied Products" would properly cover every manufacture except those like furniture making, machine construction, or textiles, in which the material remains unchanged in composition during the manufacture but is turned, or cast, or woven into other shapes. The popular idea of the term limits its application but admits as chemical industries the manufacture of gunpowder, fertilizers and similar mixtures, whose ingredients

¹ Address delivered before the American Institute of Chemical Engineers at Philadelphia, December 9, 1909.

² Bull. 92, Census of 1905, p. 9, by Charles E. Munroe.