prove of much direct interest to the scientific botanist, who will find much that he can apply to his own science in Professor Charles B. Davenport's 'Animal Morphology in its Relation to Other Sciences,' Professor Alfred M. Giard's 'Present Tendencies of Morphology and its Relations to the Other Sciences,' Professor Oskar Hertwig's 'Advances and Problems in the Study of Generation and Inheritance,' Professor William K. Brooks's 'Individual Development and Ancestral Development,' Professor William E. Ritter's 'Place of Comparative Anatomy in General Biology' and Professor Yves Delage's 'Comparative Anatomy and the Foundations of Morphology.'

These stately volumes are issued by Houghton, Mifflin & Company, which is a sufficient guarantee of their excellence in type, paper and presswork.

TWO AND THREE PISTILS IN CASSIA CHAMAECRISTA.

In the autumn of 1905 I chanced to find a single flower of *Cassia chamaecrista* with two pistils (carpels), one of normal size and the other much smaller, so small in fact that its ovules had not developed. A few days later while out with a party of students I directed their attention to what I had found, and suggested that they hunt for similar cases of two pistils in a flower. It proved not to be a difficult task to find such cases, and in most of those found, both pistils were of normal size. A considerable number of these twinned pistils were secured, and preserved for further examination. They appeared to be normal in every particular. I was especially interested in the discovery of two cases in which there were *three* pistils in each flower. In one of these cases the three pistils were of approximately equal size.

If we are right in thinking that the *Caesalpiniaceae* have probably been derived from *Rosaceae* by a reduction in the number of carpels (along with other floral modifications) we have in these cases of two and three carpels a reversion to the polycarpellary type. It became interesting to know whether these cases were sporadic, or whether there was a tendency in these plants to produce more than one carpel. Accordingly, I visited this year the station where we found the two- and three-carpelled flowers last year, and again found a considerable number of flowers with two carpels. None was found with three carpels, though this may have been due to the fact that the search was not as prolonged as last year. It is evident, however, that in this particular colony of these plants there appears to be a tendency to produce bicarpellary flowers.

ENGLER'S PFLANZENREICH.

The twenty-third and twenty-fourth *Hefte* of Engler's 'Pflanzenreich' are devoted respectively to the *Halorrhagaceae* (by A. K. Schindler) and the *Aponogetonaceae* (by K. Krause). In the treatment of the first, the author excludes *Hippuris,* usually included in this family, regarding it as more nearly related to the *Santalaceae.* Seven genera are retained, viz., *Loudonia* (with 3 Australian species); *Halorrhagis* (59 species, mostly Australian); *Meziella* (1 Australian species); *Laurembergia* (18 species, from New Zealand and Australia to tropical Asia, Africa and America); *Proserpinaca* (2 North American species); *Myriophyllum* (a cosmopolitan genus of 36 species); *Gunnera* (33 species from Africa to New Zealand). The second family (*Aponogetonaceae*) is a small one containing but one genus (*Aponogeton*), which includes 22 species ranging from Southern Africa to tropical Asia and North Australia. In both *Hefte* the numerous illustrations are excellent.

Charles E. Bessey.
The University of Nebraska.

CHEMICAL ABSTRACTS.

A year ago an effort was made to secure the cooperation of the London Chemical Society, the Society of Chemical Industry and the American Chemical Society in the publication of an abstract journal which should cover the whole field of chemistry and which should go to the members of each society. A plan for such a cooperation was carefully worked out and submitted to the two English societies, but the Society of Chemical Industry finally decided that it was impossible for them to take part in such a cooperative enterprise.

The American Chemical Society has now reached a membership of more than three thousand, and after a careful consideration of the questions involved the council of the society has decided that a set of abstracts should be furnished to the members of the society in the same manner that this is done by the other large chemical societies. The society has accordingly undertaken the publication of such abstracts in the form of a separate journal, which will appear under the name *Chemical Abstracts,* beginning with January 1, 1907. The journal will be published semi-monthly.

The corps of those in charge of the various divisions of the journal is already well organized and work upon the abstracts has been commenced. It is intended to include in the journal abstracts of all new work in chemistry published in the world after October 1, 1906. Chemical patents issued in the United States, Germany, France and England after July 1, 1906, will be included. The abstracts will be classified under the following divisions, the selection of abstractors and the oversight of each division being placed in the hands of the persons named:

Apparatus: W. H. Walker.
General and Physical Chemistry: G. N. Lewis.
Photography: L. H. Friedburg.
Electrochemistry: W. R. Whitney.
Radioactivity: H. N. McCoy.
Inorganic Chemistry: Alexander Smith.
Analytical Chemistry: L. M. Dennis.
Mineralogical and Geological Chemistry: W. F. Hillebrand.
Metallurgy: J. W. Richards, Henry Fay.
Acids, Alkalies and Salts: T. L. Briggs.
Glass and Pottery: G. E. Barton, Albert V. Bleininger.
Cements and Mortars: Harry Drew.
Fuel, Gas, Coke: J. D. Pennock.
Organic Chemistry: M. T. Bogert.
Petroleum, Asphalt, Turpentine, Wood Products: S. S. Sadtler.
Cellulose, Paper: A. D. Little.
Explosives: C. E. Munroe.
Dyes, Textile Fabrics, Bleaching, Inks: L. A. Olney.
Pigments, Resins, Varnishes, India Rubber: A. H. Sabin.
Fats, Fatty Oils and Soap: W. D. Richardson.
Sugar, Starch and Gum: C. A. Browne, Jr.
Leather, Glue: J. H. Yocum.
Biological Chemistry: L. B. Mendel.
Foods: W. D. Bigelow.
Nutrition: C. F. Langworthy.
Water, Sewage, Disinfectants, Insecticides: L. P. Kinnicutt.
Fermented and Distilled Liquors: Robert Wahl.
Pharmaceutical Chemistry: A. B. Stevens.
Soils and Fertilizers: F. P. Veitch, J. H. Pettit.
Patents: W. H. Seaman.

In order to cover the expense of the new publication the dues of the society will be increased from five to eight dollars per year. It is expected for the first year or two at least the cost of the abstract journal will be considerably greater than the increased receipts from dues, but the vote of the society upon the matter has given evidence of such a strong desire for the establishment of the journal that it is hoped that the increase in membership will be sufficient to support the enterprise financially within a very few years.

The *Journal of the American Chemical Society* will be continued and will contain original articles, book reviews and reviews of recent progress in the various fields of chemistry.

SCIENTIFIC NOTES AND NEWS.

DR. CH. WARDELL STILES, of the Public Health and Marine Hospital Service, has been named one of the experts to be sent to Germany to investigate customs tariff complaints.

THE sum of about $5,000 has been subscribed for the foundation for the advancement of geographical study in honor of Dr. von Neumayer.

DR. OTTO BÜTCHLI, professor of zoology at Heidelberg, has been elected an associate of the Royal Academy of Belgium.

DR. HEINRICH BRUNS has celebrated the twenty-fifth anniversary of his directorship of the Leipzig Astronomical Observatory.

DR. WILHELM WALDEYER, professor of anatomy at Berlin, and secretary of the Berlin Academy of Sciences, has celebrated his seventieth birthday.

DR. L. A. BAUER, assisted by Messrs. P. H. Dike and E. H. Bowen, of the Department of Terrestrial Magnetism of the Carnegie