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PLANT PHYSIOLOGY—PRESENT
PROBLEMS.*

CONTENTS.

<i>Plant Physiology</i> : PROFESSOR BENJAMIN M. DUGGAR	937
<i>Scientific Books</i> :—	
<i>Shattuck on the Bahama Islands</i> : W. M. D.	953
<i>Societies and Academies</i> :—	
<i>The Philosophical Society of Washington</i> : CHARLES K. WEAD. <i>The Science Club of the University of Wisconsin</i> : F. W. WOLL. <i>The San Francisco Biological Club</i> : PRO- FESSOR W. J. V. OSTERHOUT. <i>The Psycho- logical Club of Cornell University</i>	955
<i>Discussion and Correspondence</i> :—	
<i>An Automatic Catalogue of Scientific Lit- erature</i> : G. N. COLLINS. <i>'Life and Chem- istry'</i> : PROFESSOR M. A. BRANNON.....	958
<i>Special Articles</i> :—	
<i>The Ideas and Terms of Modern Philosoph- ical Anatomy</i> : PROFESSOR HENRY F. OS- BORN. <i>Some Ph.D. Statistics</i> : PROFESSOR RUDOLF TOMBO, JR.....	959
<i>Botanical Notes</i> :—	
<i>Michigan Forestry; A New Book on Ecol- ogy; Original Descriptions of Species; North American Rusts</i> : PROFESSOR CHARLES E. BESSEY.....	963
<i>Museography</i> : C. R. E.....	964
<i>The University of Wisconsin</i>	964
<i>The Museum of the Brooklyn Institute</i>	965
<i>Award of the Barnard Medal</i>	965
<i>The American Anthropological Association</i> ..	966
<i>Scientific Notes and News</i>	966
<i>University and Educational News</i>	963

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son-on-Hudson, N. Y.

To the very year one century has elapsed since Theodore de Saussure published his remarkable investigations relating to the nutrition of plants and to the influences upon plants of certain well-known physical forces. Although preceded by the publications of Duhamel, Hales, Ingenhous and Senebier, as well as by those in a somewhat different line, by Konrad Sprengel and others, we may look upon the work of de Saussure as a wonderful production for his time and as strikingly indicative of the status of plant physiological problems a century ago. His paper may be regarded in a sense as the original charter or constitution of plant physiology. Fortunately, it is assigned to an eminent and experienced botanical historian to recite the amendments which mark the wonderful growth of this historic instrument. There remains, therefore, the task of suggesting some directions of future growth.

No distinction need here be made between those problems which are readily seen to involve the closest work in such other sciences as physics and chemistry and those which do not show a relationship so close. There is certainly much in physiology which must be based upon physics and chemistry, but when dealing with the causes of the activities of living organisms, it is in relatively few cases that explanations may ever be offered in terms of

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