FORECAST OF THE PORTSMOUTH MEETING OF THE BRITISH ASSOCIATION[1]

THIS year, for the first time in its history, the British Association for the Advancement of Science will meet at Portsmouth. There is no other town of similar size and importance in the United Kingdom which has not extended hospitality to the British Association during the fourscore years of its existence. Why Portsmouth should have remained unvisited until now it is difficult to say. The ancient centers of learning like Oxford and Cambridge and the great manufacturing centers of the midlands and the north naturally have had the principal claim on the attention of the British Parliament of Science in the course of its peripatetic career. But ports and resorts along the south coast besides Portsmouth were long ago visited by the British Association, and some have received a second visit. Plymouth was the scene of the association's annual meeting as far back as 1841, and again welcomed the association in 1877. Southampton was visited in 1846 and 1882, Brighton in 1872, and Dover in 1899.

With one exception, the experience of the British Association does not encourage hopes of a large gathering when the meeting-place is on the south coast. At the first Plymouth meeting in 1841, which began on July 20, under the presidency of the Rev. Professor W. Whewell, the attendance numbered only 891 persons; nor was the youthfulness of the association at that time the only explanation of the smallness of the number, for both at Glasgow in the previous year and at Manchester in the following year the attendance was 50 per cent. more. At the second Plymouth meeting, which opened in the middle of August, 1877, under the presidency of Professor A. Thomson, M.D., the attendance numbered 1,229 persons—considerably more than on the previous occasion, but less than half the attendance at Glasgow in 1876 and at Dublin in 1878. At the first Southampton meeting in 1846, which opened on September 10, under the presidency of Sir Roderick Murchison, the attendance was only 857, as compared with 1,079 at Cambridge in the previous year and 1,320 at Oxford in the following year. Again, at Southampton in 1882, when Dr. C. W. Siemens presided over a meeting which opened on August 23, the attendance numbered 1,253, and this meeting was sandwiched in between two of very much larger proportions, the attendance at York in 1881 being 2,557 and at Southport in 1883 being 2,714. At Dover, also, in 1899, when the association met in the middle of September, under the presidency of Sir Michael Foster, the attendance of 1,403 was very much less than the attendance at Bristol in the previous year (2,446) or at Bradford in the following year (1,915).

Brighton, however, furnishes an exception to the series of small meetings along the south coast, the strength of the meeting there in point of numbers being such that Portsmouth will do well if it attracts anything like the same attendance. The British Association met at Brighton on August 14, 1872, under the presidency of Dr. W. B. Carpenter, and the number of people registered as in attendance was returned as 2,533, a figure which compares favorably both with the attendance of 2,463 at Edinburgh in 1871 and with the attendance of 1,983 at Bradford in 1873. Of late years, quite apart from the particular place of meeting, the numbers taking part in the annual gatherings of the British Association have shown a tendency to decline. This is not surprising, seeing the way in which scientific meetings, congresses and publications, affording constant opportunity for making known the results of research work and for the discussion of those results, have multiplied. But the British Association still holds an important and unique position as the one body which affords an opportunity for intercourse and exchange of ideas between men who are interested in different branches of scientific investigation, and who in these days are more subject than ever they were to the dangers of too narrow a specialization. In providing a counteracting influence for this natural and inevitable tendency

[1] From the London *Times*.

of modern scientific inquiry, the British Association for the Advancement of Science may fulfil a function not less useful than any which it has served in the past. Those responsible for the conduct of the association's affairs have not been blind to the changing needs of the changing times, and although there is room for further modification in this direction, the efforts which have been made in the last few years, and are still being made to promote discussions among the different sections on subjects of broad and mutual interest, are deserving of all praise and encouragement. It would be a mistake to conclude from the somewhat disappointing attendances at recent British Association meetings that the association has outlived its usefulness. There is need for it to adapt its work to present-day conditions, and as and when this is done the long-hoped-for revival of interest in the annual meetings will naturally follow.

Apart from these fundamental considerations, the place and precise time of year fixed for each meeting unquestionably have much to do in determining the number participating in it, and consequently the sum of money at the disposal of the council for scientific grants. In this respect the Portsmouth meeting has much in its favor. It will open on Wednesday, August 30, and a careful analysis of the attendances at different meetings of the association held at different times of the year has shown that the meetings commencing in the last ten days of August have been among the most largely attended of any in the history of the association. Portsmouth itself has many and varied attractions, both for those who regard the week of the association's meetings as a time for the serious examination of an interesting field of study, and for those who look upon the week rather as a time of pleasant holiday, combining country excursions with brilliant social functions and the occasional hearing of instructive lectures delivered by the most eminent scientific men of the day. The history of the town extends back to the middle ages, and reveals constant and growing recognition of the advantages conferred on it by its situation, viewed from naval and strategical points of view. Ever since 1295 it has returned two members to parliament, and to-day the population of the county borough considerably exceeds 200,000. Portsmouth includes within its borders not only a great naval station and arsenal, but a popular watering-place, Southsea; and it is, as everybody knows, within easy reach both of the Isle of Wight and of the New Forest, districts which offer excellent opportunities as well for holiday jaunts as for the pursuit of field studies. The town itself is admirably equipped with educational institutions, in which the members of Section L will find much to interest them, while the dockyard presents an object-lesson in the application of modern engineering science to naval needs which will be appreciated by many besides the members of Section G. The arrangements for the meeting afford a guarantee that visitors will be able to see Portsmouth to the best advantage. Subject, of course, to the limitations imposed by the necessity of safeguarding national interests, special facilities will be afforded to the members of the British Association to view the dockyard, battleships and submarines and other government establishments.

The meeting will assemble, as usual, under the patronage of the king, Canon T. G. Bonney will be succeeded as president on the opening day by Sir William Ramsay and a very representative body of vice-presidents, including the Princess Henry of Battenberg, Alderman T. Scott Foster, the mayor of Portsmouth, Lord Winchester, Lord Lieutenant of the County of Hants, the Archbishops of Canterbury and York, and the Bishop of Winchester; Admiral Sir Arthur William Moore, the Commander-in-Chief at Portsmouth; Rear Admiral H. G. Tate, the Admiral Superintendent of the Portsmouth dockyard; Field-Marshall Earl Roberts, and Major-General J. K. Trotter, the General Officer Commanding Southern Coast Defenses. As in former years, there will be two evening discourses in addition to the presidential address. On Friday, September 1,

Dr. Leonard Hill will lecture on "The Physiology of Submarine Work," and on Monday, September 4, Professor A. C. Seward will lecture on "Links with the Past in the Plant World." The Saturday evening lecture to the operative classes will be delivered by Dr. Hugh Robert Mill. An attractive series of social functions is being arranged, including a garden party and reception, and an evening fête by the mayor of Portsmouth, and on Saturday, September 2, there will be excursions to the Isle of Wight, the New Forest, Chichester, Petworth and Arundel. On the Sunday there will be a special service at St. Mary's church, at which the Bishop of Winchester will preach.

In his presidential address Sir William Ramsay will sound as his leading note the increasing need of scientific training with a view to future as well as to present-day requirements. He will pass under review modern conceptions of the nature and constitution of the elements, especially radium and its products, and will proceed to consider the available sources of energy in this country and whether a reasonably economical use is being made of them. Having come to the conclusion that the present-day methods are wasteful, seriously limiting the period of our national existence, he will advocate an immediate stock-taking of our possessions of potential energy as the first step towards their judicious conservation.

For the following particulars of the sectional proceedings we are indebted to the courtesy of the sectional presidents and recorders.

Section A (Mathematical and Physical Science) will be presided over by Professor H. H. Turner, who proposes to consider in his opening address some of the lessons taught by the observational sciences (astronomy, meteorology, magnetism, seismology) as regards methods of work. He will emphasize the need for better organization, and will enforce his remarks by recalling recent cases which illustrate the need. A joint meeting between Section A and Section G (Engineering) has been arranged for a discussion on mechanical flight, which will be opened by Mr. A. E. Berriman, the technical editor of *Flight*. In the course of the week there will also be discussions on Stellar Distributions and Movements (to be opened by Mr. A. S. Eddington), and the Principle of Relativity (to be opened by Mr. E. Cunningham). Among the papers to be presented to the section will be one by Professor F. R. Watson, of Illinois, on the "Effect of Air Currents on Sound Waves"; Professor Pettersson will present a paper on "Great Boundary Waves," and will consider the parallactic tide set up in the bottom layers of the sea by the moon; Major E. H. Hills will have something to say on the "Infra-Red Spectrum," and Professor F. T. Tronton on the "Peculiarities in the Absorption of Salts by Silica."

Section B (Chemistry) will meet under the presidency of Professor J. Walker. The close relation between chemistry and agricultural science will be recognized in a joint meeting between Section B and Sub-section K, at which Dr. E. Frankland Armstrong will open a discussion on the part played by Enzymes in the Economy of Plants and Animals. At this meeting Mr. A. E. Humphreys will discuss the treatment of wheaten flour. Two other discussions will engage the attention of the chemists while at Portsmouth. In a discussion on Colloids, Professor Freundlich will deal with the "Theory of Colloids," Dr. G. Barger and Dr. E. Wechster with the "Absorption of Bromine by Graphite," and Dr. C. Desch with the "Colloid Theory of Cements." In another discussion on Indicators and Color, Dr. V. H. Veley will contribute a paper on the application of "Methyl Orange for the Determination of the Affinity Constants of Weak Acids and Bases," with a discussion on the Errors; Mr. H. T. Tizard will consider the "Use of Indicators in Modern Physico-Chemical Research"; Mr. J. E. Purvis, the "Absorption Spectra of Vapors"; and Dr. T. M. Lowry, the "Origin of General and of Specific Absorption." Professor G. Barus will submit to the section a paper on the "Diffusion of Gases through Water"; Professors W. H.

Perkins and W. J. Pope a paper on "Optically Active Systems containing no Asymmetric Atom," and Dr. W. Lewis a paper on the "Compressibility of Mercury." There will also be presented reports on "Electric Steel Furnaces," by Professor McWilliam, and "Solubility" by Dr. J. B. Eyre, as well as the reports of the research committees.

The president of Section C (Geology), Mr. A. Harker, proposes to deal in his presidential address with some aspects of the distribution of igneous rocks in "petrographical provinces" and the relations of these to the larger structure features of the globe. It is hoped to arrange for joint meetings with the Geographical Section, both for the consideration of the former connection between the South Coast of England and the Isle of Wight and for the consideration jointly with the Botanical Section of the plant life of the British Isles in relation to the glacial epoch.

In his presidential address to Section D (Zoology), Professor D'Arcy W. Thompson will deal with some of the new developments and problems of biology that have come into prominence during the past quarter of a century.

The debt which geography owes to the army and navy has been illustrated at several of the British Association meetings in recent years by the presence of a military or naval officer at the head of Section E. This year the geographers will meet under the presidency of Colonel C. F. Close, R.E. In the first part of his address he will discuss the purpose and position of geography, with special reference to its relations to other subjects. In order to ascertain the content of the subject, the last five years' work of the Royal Geographical Society will be examined and analyzed. The general effect of the work of geographical societies, schools and congresses will be indicated and an attempt made to determine the actual position of geography in the world of science. In the latter part of his address Major Close will give an account of the various ways in which the government departments have assisted the cause of geography, notably in the matter of mapping the empire. He will indicate the very large amount of this work which is being carried out all over the world, and will briefly describe some of the most important surveys. As regards the work of the section generally, an attempt has been made to arrange mainly for the discussion of a few subjects illustrating the advancement of geographical science, rather than for a multitude of separate papers. The way in which geography enters into every sphere of expanding activity will be demonstrated in a discussion on The Airman's Requirements, which it is hoped will be opened by Captain Bertram Dickson. Others expected to take part in this discussion are Captain Broke-Smith, of the Army Air Battalion; Mr. Eric H. Clift, Captain H. F. Wood, Captain Archibald R. Low, and Captain F. A. Sykes. A number of papers will relate to the sea. Mr. A. R. Hinks has promised a paper on the "Shape of the Sea Surface"; M. Ed. Henrici another on "Mean Sea Level"; Professor C. Pettersson will report the results of some "Recent Experiments on the Tidal Movements of the Deep Water of the Kattegat," and Dr. Gustav Ekman will describe some "Experiments with Automatic Current Measurements in the Open Sea." There will be a joint meeting with the geologists and botanists for the consideration of the relation of the present plant population of the British Isles to the Glacial Period, and probably another joint meeting with the geologists to discuss the former connection of the Isle of Wight with the mainland. Among various other contributions will be a lecture by Captain C. G. Rawling, of the British expedition to Dutch New Guinea, and a paper on "Mapping of Thermal Regions" by Professor A. J. Herbertson.

Section F (Economic Science and Statistics) will have as its president the Hon. W. Pember Reeves, formerly High Commissioner for New Zealand, and now Director of the London School of Economics. His opening address will deal with the subject of land taxation. In the later proceedings of the section, a discussion on land value taxes will be

opened by Mr. C. F. Bickerdike. Another discussion on Irish Finance will be opened by Professor C. H. Oldham. There will also be papers on "Variation of Wages," by M. Waxweiler, the Director of the Institut Solvay, Brussels; on "Destitution," by Mr. C. J. Hamilton; "Prison Reform," by Miss C. Smith Ronic; "The Merchant Service," by Mr. W. J. Hinton; "English Beet Sugar Industry," by Mr. Sigmund Stein, and the "State of Economic Science," by Mr. E. S. Grogan.

Section G (Engineering), which will meet under the presidency of Professor J. H. Biles, will have under consideration a number of subjects of great interest and importance. Besides the joint discussion with Section A on Aeronautics, to which reference has already been made, there will be a discussion on the respective merits of Super-Heated Steam Engines, Suction Gas Plants and Diesel Engines. Papers on these subjects will be contributed by Captain H. Riall Sankey, Mr. Tookey and Mr. Charles Day. It is hoped that Professor T. W. Howe will be able to show some interesting experiments on wireless telegraphy, and that Captain Sankey will be able to exhibit a portable wireless telegraphy equipment. Several papers relating to ships will be presented, dealing with recent improvements such as the Gyro-Compass (Mr. G. K. B. Elphinstone), Electrical Steering (Mr. B. P. Haigh), Electrical Drives for Ships' Propellers (Mr. H. A. Moor), and Marine Engines adapted for Burning Crude Oil (Mr. J. H. Rosenthal). Other papers will deal with the problem of Smoke Abatement (Dr. J. S. Owens), the Origin and Production of Corruption on Tramway Rails (Mr. Worby Beaumont), and the Vibragraph (Mr. Digby).

The president of Section H (Anthropology) will be Dr. W. H. R. Rivers, who will devote his address to a "Consideration of Ethnological Analysis of Culture." He will direct attention to the complexity of cultures often supposed to be simple and primitive, and will urge that the analysis of this complexity is a necessary preliminary to the study of the origin and development of institutions. The principles on which the analysis should be based will also be considered. As usual, a large number of papers on separate topics will be presented to the section, but a general discussion on the subject of totemism has been arranged. To this discussion papers will be contributed by Dr. A. C. Haddon, Dr. Kohler, Professor Graebner, M. A. van Geneep, Professor Hutton Webster, Dr. Goldweiser and Mr. Andrew Lang; it is hoped that Dr. C. G. Seligmann, Professor Fraser, Mr. R. R. Marett, M. Waxweiler, Mr. E. Thurston and Mr. E. S. Hartland will also take part in the discussion. The Roman portraits recently discovered in Egypt will be described by Professor H. M. Flinders Petrie, and some "Paintings in the Temple of the Tiger at Chichen Itza," by Miss A. C. Breton. The archeology of Peru will be discussed in a paper by Dr. Max Uhle. Major A. J. N. Tremearne has promised some "Notes on Hausa Folklore," and M. Malinowski a paper on the "Nature of the Australian Family." Ancient Britain will provide subjects for a number of papers, Mr. A. L. Lewis dealing with "Dolmens and Cromlechs," Mr. R. R. Marett with the "Recent Discovery of Pleistocene Man in Jersey," and Mr. W. Dale with "Prehistoric Man in Hampshire." "Paleolithic Man" will furnish the subject of a paper by Dr. A. Keith. Dr. F. C. Shrubsall will discuss the "Anthropology of Wessex," and "Some Unpublished Measurements of the Inhabitants of Dorset" will be presented by Mr. J. Gray.

Professor J. S. Macdonald, of Sheffield University, will preside over the deliberations of the physiologists (Section I). This section is one of those which usually receive a number of highly specialized papers capable of full appreciation only by the select few. This year, in addition to such contributions there will be three discussions of a wider range of interest, one on Sight Tests for Seamen, to be opened by Dr. C. F. Myers, followed by Dr. F. W. Edridge-Green; another on Ventilation in Confined Quarters, especially in Relation to Ships, to be opened

by Dr. Leonard Hill, followed by Professor N. Zunz, of Berlin; and a third on Inhibition, to be opened by Professor C. S. Sherrington, followed by Mr. Keith Lucas and Professor Macdonald. A report on Anesthetics will be followed by a paper on "Additions to the Use of a Chloroform Inhaler," by Professor A. C. Vernon Harcourt. Among a large number of other papers mention may be made of contributions by Professor Macdonald and Dr. J. E. Chapman on "Heat Production and Body Temperature during Rest and Work"; Dr. F. W. Edridge-Green, "Frequency of Color Blindness in Males"; Dr. Harriette Chick and Dr. C. J. Martin, of the Lister Institute, on the "Chemistry of Heat Coagulation of Proteins"; Dr. H. E. Roaf, "Some Considerations on the Influence of Hæmoglobin in the Hæmolysis of Red Blood Corpuscles"; Professor H. J. Hamburger, of Gröningen, "New Researches on Phagocytosis"; Dr. W. N. F. Woodland, on "Recent Views concerning the Physiology of Gas Production in connection with the Gas Bladder of Bony Fishes," and Dr. John Tait, various papers relating to the frog. An interesting exhibit, by Professor C. S. Sherrington, will be a model to illustrate Listing's law of the movements for the eyeball.

Professor F. E. Weiss will preside over Section K (Botany). A joint meeting has been arranged between this section and the Geological and Geographical Sections to consider the relation of the Present Plant Population of the British Isles to the Glacial Period. A general discussion on the subject will be opened by Mr. Clement Reid. Another discussion on the Principles of Construction of Phytogeographical Maps will probably be opened by Mr. A. G. Tansley. Additional interest will be lent to the proceedings of the section, and to these discussions in particular by the presence of a number of the most eminent continental and American plant geographers, who will be in England during August for an "International Phytogeographical Excursion to the British Isles." As the neighborhood of Portsmouth offers many attractions from the point of view of plant geography, excursions will play an important part in the program of the section. There will again be included in the "indoors" program a semi-popular lecture, which this year will be delivered by Mr. Francis Darwin. Other contributions to the sectional proceedings will include papers on "Phytogeography as an Experimental Science," by Professor Massart; "The Swiss National Park and its Flora," by Professor C. Schröter; "Some Petrified Jurassic Plants from Scotland," by Professor A. C. Seward; "Recent Work on Jurassic Plants of Yorkshire," by Mr. H. H. Thomas; "A Fifteen-Year Study of Advancing Sand Dunes," by Professor H. C. Cowles, of Chicago; "New Proposals in Ecology," by Professor F. E. Clements, of Minnesota; "The Vegetation of Pebble Beaches," by Professor J. W. Oliver; "The Seaweeds of a Salt Marsh," by Miss S. M. Baker; "The Water-content of Acidic Plants and the Wilting of Moorland Plants," by Mr. W. B. Crump; "The Morphology of Leguminous Nodules," by Professor Bottomley; "Nuclear Osmosis as a Factor in Mitosis," by Mr. A. A. Lawson; "Nuclear Division in *Spongospora*," and "The Polyphyletic Origin of the Cornaceæ," by Mr. A. S. Horne, and "The Transference of Sugar from the Host Plant to the Parasitic *Cuscuta*."

The Agricultural Sub-section is now attached to Section K. Its chairman, Mr. W. Bateson, proposes to devote his address to a consideration of the proper scope of an applied science, with special reference to the application of genetic research to agriculture and horticulture. The program of the subsection promises a series of most interesting and useful discussions and papers. Reference has already been made to the joint discussion arranged with the Chemical Section. Another discussion on How best the University Agricultural Department may come into Contact with the Farmer will be opened by Principal Ainsworth Davis, who will be followed by Mr. R. Hart-Synnot, dealing with the American and Canadian systems, and Mr. J. H.

Burton dealing with the place of the agricultural instructor. A third discussion on Bacterial Diseases in Plants will be opened by Professor M. C. Potter and further contributions to the consideration of the question have been promised by Mr. H. Priestley (Bacterial Diseases of Swedes and Celery), Mr. F. T. Brooks (Bacterial Gum Diseases), Dr. G. H. Pethybridge (Bacterial Disease of the Potato Plant in Ireland), Mr. G. T. Malthouse (Experiments on the Wart Disease of Potatoes), and Mr. A. Horn (Potato Disease). A popular lecture by Mr. A. D. Hall will discuss the soils and farming of the South Downs. Papers will also be contributed by Professor A. T. Wood, on "The Inheritance of Strength in Wheat"; Mr. B. T. P. Parker and Mr. V. F. Hillier, on "Cider Sickness"; Mr. S. U. Pickering, on "The Effects of Grass on Apple Trees"; Mr. J. H. Priestley and Mr. R. C. Knight, on "The Effect of High Tension Electric Discharges and Current Electricity on Plant Respiration"; Mr. C. C. Hurst, on "The Application of Genetics to Horse-breeding"; Mr. J. Wilson, on "The Inheritance of Milk Yield in Cattle"; Mr. J. Hindrick, on "The Effects of Ventilation on the Temperature and Carbon Dioxide of the Air of Byres"; Mr. J. Porter, on "Suggestions Relating to the Existing System of Imperial Avoirdupois Weights."

Bishop Welldon will preside over Section L (Educational Science), and proposes to take in his presidential address a general review of the existing educational system in Great Britain, particularly in England, with a view of suggesting some reforms in education, elementary, secondary and academical. He has been directly associated at different times with each of these three branches of education, as a fellow and tutor of his college, as headmaster of two public schools, and as a member of an education committee since he went to Manchester. His views will, therefore, be comprehensive in character, though necessarily he will be able to indicate only a few of the reforms which might be considered desirable in our educational system.

AUTOMATIC INCREASES IN SALARIES AT THE UNIVERSITY OF CALIFORNIA

THE regents on May 9 confirmed the following recommendation of the Finance Committee:

That it be of record that with the adoption of the budget for 1909–10, the regents inaugurated a system of automatic increases in salaries, whereby an instructor's salary is increased automatically $100 per year from $1,000 to $1,500, and the salaries of assistant professors $100 a year from $1,600 up to $2,000; and that the automatic increases do not apply to members of the faculty below the rank of instructor, nor above the rank of assistant professor, and that there is no automatic increase after instructors have arrived at a salary of $1,500, and after assistant professors have arrived at a salary of $2,000; further, that increases are not automatic in salaries of members of the faculty who are on part time only, as, for instance, certain members of the departments of architecture and law, nor in the case of the affiliated colleges, the department of agriculture, the Wilmerding School, etc.; nor in the case of instructors and assistant professors for a year of absence on leave, the two-thirds salary while on leave being based normally on the salary of the previous year, unincreased; and, further, that increases may, of course, be given in the cases cited above, in which no automatic increase is due as of right. Larger increases than of $100 are of course sometimes made at the discretion of the president, with the approval of the regents.

SCIENTIFIC NOTES AND NEWS

THE Paris Academy of Sciences has awarded its Lalande Prize to Dr. Lewis Boss. Its general prizes, each of the value of $2,000, have been awarded to M. Jules Tannery, of Paris, for his mathematical publications, and to M. Déperet, of Lyons, for his geological publications.

THE Paris Academy has elected corresponding members as follows: Professor Levi-Civita, of the University of Padua, in the section of mechanics; Dr. Paul Wagner, director