before its tip develops. When the plants are in good condition the runners attain a length of 20 to 30 centimeters or even more before development of the tip occurs. When the length of 2 to 3 centimeters of a growing runner is kept at a temperature of 3° to 4° C., development of the new plant usually begins within two to four days, and very little further growth in length of the runner occurs, even though its length is much less than the normal length of runner produced by the same plant. Since each plant produces numerous runners in succession, and since the normal length of runner at any given time is very definite, several runners, of both earlier and later origin than the experimental runner and from the same plant, may be used as controls. There is no wilting of the runner distal to the low temperature zone, and the tip evidently receives nutrition, for the growth and development of the new plant take place as rapidly as in normal runners which have attained their full length. It should be noted, moreover, that these runner-tips are not permitted to touch the ground and become rooted, but are kept suspended in air.

Work with this method is being continued and further results will be reported and apparatus and technique more fully described in later papers. The results already obtained, together with certain conclusions to which they point are summarized as follows: first, the inhibiting action of the growing tip of the plant upon other buds, or of a leaf upon buds on other leaves, as in *Bryophyllum,* can be blocked by a zone of low temperature which does not prevent the flow of water and nutritive substances; second, the block produced by the zone of low temperature does not involve any visible or permanent alteration of the tissues, but is wholly reversible; third, a temperature which is at first an effective block may become ineffective after a few days, because of acclimation of the cooled zone to that temperature; fourth, in view of the above facts it appears at least highly probable that the inhibiting action of growing tip, a leaf, or other active region of a plant, depends for its passage from point to point upon metabolically active protoplasm, rather than upon purely physical transportation in the fluids flowing through "preformed channels" in the plant. In other words, the mechanism of this physiological correlation appears to possess at least certain of the characteristics of a transmissive or conductive, as distinguished from a purely transportative mechanism.

C. M. CHILD,
A. W. BELLAMY

SCIENTIFIC EVENTS

THE BRITISH NATIONAL PHYSICAL LABORATORY

SIR RICHARD GLAZEBROOK, as already recorded in SCIENCE, resigned the directorship of the National Physical Laboratory, Teddington, which he has held since its inception in 1899 on September 18, his sixty-fifth birthday.

Sir Richard was principal of Liverpool University when he received the appointment to the laboratory, which was founded by the Royal Society, and was originally intended as an extension of Kew Observatory. When the new buildings were opened at Teddington in 1902 it had but two departments and a staff of twenty-six. At the present time the staff numbers about 600, and building operations are still in progress for the accommodation of new departments in research work.

As already announced Richard Glazebrook is succeeded by Professor Petavel, professor of engineering and director of the Whitworth Laboratory in the University of Manchester.

The London *Times* writes:

Sir Richard Glazebrook, who retires from the directorship of the National Physical Laboratory, has controlled its fortunes from its small beginnings in 1899 to its present great place in the scientific organization of the nation. It was first intended merely to carry out investigations required in connection with the manufacture and testing of instruments of precision, and in 1902, when it was moved to new buildings at Teddington, it had only two departments and a staff of twenty-six. It has now seven scientific departments, a secretariat, and a staff of over 600 persons. These deal with heat, optics, acoustics and molecular physics, with electricity, metrology, engineering, metallurgy, the forms of ships and aerial machines, and aero-dynamics. It is the supreme

scientific court of appeal and advice for all questions involving the physical properties of matter, the strength and quality of materials, gauges and standards. During the war it rendered invaluable service. In the financial year ending in March, 1918, the Ministry of Munitions alone paid it £42,000 for work done, and when it is remembered that the expenditure was not on manufacture, but merely on examining and testing, some measure of its service may be gained. Until last year the Royal Society was the governing body of the laboratory, and conducted its affairs with the assistance of a general board of thirty-six members, of whom twelve were nominees of industrial and commercial institutions. It was an almost ideal combination of science and industry, and Sir Richard Glazebrook gained the respect and admiration of his theoretical and practical masters. But the financial responsibility was heavy and increasing, and from April 1, 1918, the Department of Scientific and Industrial Research took over the burden. Fortunately under the new arrangement the department assumes only the control necessary for an accounting authority. Sir Richard will hand over to his distinguished successor, Professor Petavel, not only an institution of great and growing usefulness, but a tradition of harmonious cooperation between science and industry. He has provided the new Department of Scientific and Industrial Research with a working organization sufficient to justify their existence, and with a model on which we may suppose that their most successful creations, the Industrial Research Councils, have been formed.

THE DYE INDUSTRIES

During the course of its sessions at Philadelphia the Dye Section of the American Chemical Society, unanimously passed the following resolutions:

Whereas, The manufacture of dyes from coal tar distillates involves the same general processes and materials used in the manufacture of explosive and poison gases for military use,

Resolved, That the question of the importation of dyes and of intermediates from which they may be made is a military question,

Resolved, That the importation of such dyes, the bases from which dyes are made or the intermediate products produced in the manufacture of such dyes is a menace to the possible future defense of our country, for the reason that such importations foster and support in foreign countries which would furnish an enemy with essential munitions of war,

Resolved, That insofar as dyes or intermediates or coal tar distillates are allowed to be imported in time of peace, such importations prevent or discourage the establishment, development and maintenance of an industry that is essential to national defense in time of war,

Resolved, That a copy of these resolutions be submitted at once to the advisory committee of the American Chemical Society for such action as in its judgment the circumstances merit, with the suggestion that copies be sent to the President of the United States and the chairman of appropriate committees of the Congress.

Whereas, The American armies were factors in the victorious completion of the Great War *vs.* Germany, and

Whereas, The allied governments are placing corps of skilled chemists to oversee operations in the dyestuff plants in the occupied areas of Germany, and

Whereas, The American dyestuff industry is very much in need of any information that can be obtained to assist the development of this industry,

Now, therefore, be it resolved, That it should be brought to the attention of the President of the United States and an urgent request made that we have our share in the operating control of these factories and that we should have qualified representatives stationed there, the information gained to be used for the benefit of American industry.

Be it further resolved, That this tentative resolution be submitted at once to the Committee on National Policy of the American Chemical Society for such action as they think the circumstances merit.

Whereas, We find at the head of the laundry list of the Bellevue-Stratford Hotel the following notice: "Owing to dyes now being used, we will not assume any responsibility in the laundering of guests' apparel," and

Whereas, We find the similar lack of confidence in American dyes expressed by the department stores,

Now, therefore, be it resolved, That the Dye Section views with great disapproval the expression of any such misleading statements as to the quality of the American dyes,

Resolved, That this tentative resolution be submitted at once to the Committee on National Pol-