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THE GROWTH IN OPPORTUNITIES FOR EDUCATION AND RESEARCH IN PHYSICS DURING THE PAST FIFTY YEARS[1]

By Sir J. J. THOMSON

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DURING the last year we have lost by the death of Professor Albert Michelson a physicist whose work was of quite exceptional importance. The famous experiment known everywhere as the Michelson-Morley experiment has, since it is the basis of the theory of relativity, been largely responsible for the trend of physical thought during the present century. It is a very striking example of the great philosophical consequences which can result from what might seem the rather mechanical process of improving the precision of physical measurements; the importance of the experiment depended entirely on the accuracy of the measurements being great enough to detect with certainty changes amounting only to one part in a hundred million.

The additions to our knowledge of physical phenomena and the number of new ideas introduced into physics since the last anniversary meeting have been so great and cover such a wide range that it would be impossible in the time at our disposal to give an account of them which would be at all adequate or even intelligible to those not already acquainted with them. There are, however, advances of another kind of great importance to the progress of physics which lend themselves more readily to a less inadequate treatment in such an address as this. Such advances are the increase in the opportunities for teaching and research in physics caused by the foundation of many new laboratories, the increase in the attention paid to the teaching of physics in our schools, the endowment of research workers and the increase in the opportunities for these to obtain remunerative employment, the increased recognition of the importance of research in industry and last but not least the improvements

[1] Address of the president of Section A—Mathematical and Physical Sciences, British Association for the Advancement of Science, London, September, 1931.