

scientific knowledge and its applications to industry; and in these developments scientific instruments are an essential and predominant factor.

Of the part played by scientific instruments in the advancement of scientific knowledge there is no need to speak. The laboratories of the universities and kindred institutions where scientific research is prosecuted would be disabled were they without scientific instruments of the highest trustworthiness and precision. The variety and extent of the industrial purposes served by scientific instruments are so great that there is probably no important industry in the country which is not dependent on scientific instruments of one kind or another for the performance of its productive functions. Moreover, the field of application of scientific instruments is constantly widening; the uses of the microscope in the textile and steel industries, of the polarimeter in the sugar and essential oil industries, of the pyrometer in the metallurgical industry, and of X-rays in the iron and steel industries, are but a few of the many examples that could be cited to illustrate the invasion of scientific instruments into fields of industry in which they were at one time unknown. That the industries gain in sureness and accuracy and in a deeper and wider knowledge of the fundamental scientific principles involved is obvious. And the process continues and must continue. Tomorrow new instruments will be devised and new uses found for old instruments.

Moreover, as was stated in the leading article published in *NATURE* of February 10, 1921, the scientific instrument industry, springing directly from the loins of science, and progressing as scientific knowledge widens, is one of the most highly skilled industries we have. Its expansion means a definite increase in the numbers of academic and technical scientific workers and of the most highly skilled artisans; and the national wealth, in any comprehensive conception of the term, must be enlarged by the increase of the numbers of such educated and skilled classes.

For these and other reasons a flourishing and efficient scientific instrument industry is

vital to the nation, whether in peace or war. And, although it is obvious that the users of scientific instruments, whether in the industrial or academic domain, must not be prejudiced or hampered by being unable to obtain the best instruments, from whatever source, it would be a disaster of the first magnitude if British scientific instruments should not be produced equal to the best that the world has to offer.

AN ENGLISH JOURNAL OF SCIENTIFIC INSTRUMENTS¹

NATURE may be continuous and the divisions of time and space no more than artificial articulations devised to suit the human intellect. Nevertheless, physical science is based on measurement, and proceeds only by the use of selected units of time, space, quantity, and so forth. Every new branch of science leads to the creation of a new set of units, and according to the latest theory it would appear that energy itself is most conveniently regarded as divided into "quanta"—measurable and related units. Many of the most illuminating advances in theory and actual discoveries of fact have come about by more refined methods of weighing and measuring. By these, argon, radium, and many new elements have been isolated and identified; by these the structure of the atom and the new alchemy which transmutes one element into another have been revealed. In every laboratory a new research implies the devising of new apparatus or the detection of deficiencies in existing apparatus. The literature in which such advances in technical methods are published is scattered all over the civilized world. It is written in many languages and at present there is no adequate system of indexing or recording it. Doubtless the patent offices contain sufficient descriptions of improvements with actual or possible commercial value; but even this field is so vast that applicants have to employ special agents before they can guess if their claims are novel. But for a large proportion of the methods devised in the prosecution of research patents are neither sought nor desired. Sir Richard Glaze-

¹ From the London Times.

brook, when director of the National Physical Laboratory, recognized the waste of time and the duplication of effort arising from this confusion. He had his opinion confirmed by many men of science, Government Departments, trade associations, and private firms. His successor, Sir Joseph Petavel, and the Advisory Council of Scientific and Industrial Research have taken up the question where he left it, and now hope to found a journal to deal with the methods of measurement and instruments. A preliminary number is being prepared under the direction of the Institute of Physics, the Research Department, and the National Physical Laboratory. It is hoped that the distribution of this, the cost of which is to be borne by the Department of Scientific Research, will secure sufficient support to place the venture on a permanent basis. There can be no doubt that the establishment of the proposed journal would be of value to the progress of all branches of scientific work.

JOURNAL OF THE OPTICAL SOCIETY OF AMERICA AND REVIEW OF SCIENTIFIC INSTRUMENTS

DURING the past few years there has been an increasing appreciation of the need in America of a journal devoted to scientific instruments of all kinds. This need is due to a number of causes. The ever increasing volume of scientific material which is being offered for publication is so crowding many of our journals that space does not permit an adequate description of apparatus used. Further, many instruments and instrumental methods, developed for a single experiment, can be applied to a variety of measurements. If described only in connection with the work for which they were developed, the description is relatively inaccessible since it is subsidiary to the main scientific discussion of the article.

In many sciences there is no medium for the publication of articles describing apparatus primarily for pedagogical purposes in lecture demonstrations and laboratory. Such short articles or notes should serve a very useful purpose since every real teacher is always on the lookout for means of improving his teaching. Further, newly developed apparatus and

methods of one science are very frequently applicable to work in another science. A medium of publication readily accessible to all would save much time and energy.

The first steps toward the development of an instrument journal were taken by the National Research Council and the Association of Scientific Apparatus Makers of the United States of America in jointly taking under advisement the establishment of a new journal for the purpose. After extensive consideration it seemed unwise to start an independent journal. Finally representatives of the Optical Society of America, which was publishing a bi-monthly journal under the title *Journal of the Optical Society of America*, were invited to a conference which ultimately resulted in an arrangement whereby the Optical Society, cooperating with the National Research Council and the Apparatus Makers Association, is to add to its journal a section on scientific instruments. The enlarged journal is to be published under the title *Journal of the Optical Society of America and Review of Scientific Instruments*, and will be issued monthly, beginning with May, 1922. It will be under the direction of an editorial board composed of Dr. P. D. Foote, Bureau of Standards, editor-in-chief; Professor F. K. Richtmyer, Cornell University, assistant editor-in-chief and business manager; and a representative board of associate editors.

In addition to articles on theoretical, experimental and applied optics in the section on optics of the new journal, there will be published in the instrument section original articles on scientific instruments of all kinds (*i. e.*, electrical, mechanical, etc., as well as optical) for research and instruction in chemistry, physics, biology and other sciences. The editors announce that they will be glad to receive manuscripts for publication, and suggestions as to desirable subject matter to include in the journal.

GIFT OF THE PROCEEDS OF RESEARCH FOR RESEARCH

ON January 26, 1922, a contract was signed between The Babies' Dispensary and Hospital and the W. O. F. Laboratories Company, Cleveland, Ohio, in connection with the manu-