It was only after much experimenting that Tyndall succeeded in obtaining absolutely optically-pure air, so clear that the path of even the most intense light is invisible. In experimenting upon water Lallemand was unable to obtain optically-pure water, and was led to question its existence. Professor Spring, of Liège, has, however, succeeded in thus purifying water and an extended account of his work is given in the *Bulletin* of the Royal Academy of Belgium. That the visibility of the path of a ray of light is due to suspended matter is shown by the fact that in the optically-pure water of Spring the path is wholly invisible. Such water cannot be obtained by distillation, nor by filtration, these processes having no tendency to purify water optically, but often rather the contrary. Optically-pure water can be obtained by the action of a weak high-tension current on water which contains suspended matter, or by sedimentation of colloidal precipitates, such as aluminum, ferric, etc., hydroxids, or by filtration of the water through colloidal precipitates. Crystalline precipitates, such as calcium oxalate, have little or no effect; nor can organic liquids be purified by colloidal precipitation. Spring believes that the illumination of the water is probably not caused by the dust itself, but by minute bubbles which adhere to the dust particles. These occasion different colors, in which red and orange predominate, and hence the blue color of natural waters cannot be due to a selective absorption on the part of the suspended matter. J. L. H.

## *THE BRITISH MUSEUM.*

A RETURN dealing with the British Museum has been issued in the form of a Blue-book. We learn from a report in the London *Times* that it contains an account of the income and expenditure of the British Museum (Special Trust Funds) for the year ended March 31, 1899; a return of the number of persons admitted to visit the Museum and the British Museum (Natural History) in each year from 1893 to 1898, both years inclusive; together with a statement of the progress made in the arrangement and description of the collections and an account of objects added to them in the year 1898.

Part VI. of the return, which gives an account of the general progress at the Museum at Bloomsbury, states that the number of visitors to the Museum in the year 1898 is the highest on record since the year 1883, amounting to a total of 612,275, as against 586,437 in 1897. The visitors on Sunday afternoons numbered 41,858, as against 37,594 in 1897. The total number of visits of students to the reading room during the year was 190,886, a slight increase on that of the previous year, which was 188,628. The daily average was 627, as against 624 in 1897. The number of volumes, etc., supplied to readers in the year was 1,397,145, as against 1,419,159 in 1897. There has been a marked increase in the number of visits of students to the several other departments other than the reading room. The total amounted to 48,214, as against 40,976 in 1897. This increase is partly to be attributed to the extension of students' rooms. The new building commenced last year for the accommodation of the bookbinders has been completed, and the bookbinding staff has been transferred thither. The basement rooms of the Museum which have thus been vacated are being fitted for the storage of newspapers.

The part of the return relating to the British Museum (Natural History) states that the total number of visitors to the Natural History Museum in 1898 was 419,004, as compared with 422,607 in 1897. The slight falling-off shown in these figures has taken place in the week-day visitors, the Sunday attendance for the year (50,432) being a little in excess of that for 1897. The average daily attendance for all open days during the year was 1,151; for week-days only, 1,181; and for Sundays, when the Museum is open only in the afternoons, 970. The new whale room was opened to the public on Whit Monday, May 30, 1898, and has been much appreciated by visitors. A photographic studio has been erected at the back of the Museum. Renewed application has been made to the Lords Commissioners of the Treasury for funds for lighting the galleries and studies of the museum by electric light, and a sum of £2,000 has been provided for 1899–1900 for the introduction of the light into the work rooms and studies.

Important acquisitions by purchase have been made during the year, among which special mention may be made of the Norman collection of marine invertebrates and land and fresh-water shells (first instalment, consisting of over 26,000 specimens); a complete skeleton of an aboriginal Tasmanian, a race now extinct; a specimen of the rare mollusc *Pleurotomaria beyrichii* from Japan, the only living specimen yet discovered; an entire specimen of the rare elasmobranch fish, *Squatina alifera*, from the lithographic stone of Nusplingen; a valuable and unique collection of fossil insect remains formed by the late Rev. P. B. Brodie (4,700 specimens); the Piper collection of fossils from all the strata of the Ledbury Tunnel (1,806 specimens); and a selection from the late Rev. T. T. Lewis's collection of old red sandstone fishes, &c., of historic interest as having been specially studied and referred to by Sir Roderick Murchison. The number of separate presents reported as having been received during the year by the several departments of the Museum was 1,610, as compared with 1,622 in the preceding year. Many of these comprised a large number of individual specimens.

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*UNIFORMITY IN SIZE OF PAGES OF SCIENTIFIC PUBLICATIONS.*

A COMMITTEE of the British Association for the Advancement of Science was appointed in 1896 to secure, if possible, uniformity in the pages of scientific transactions and journals. It has already issued one report on the subject, and now, in a circular letter, strongly recommends that there should be but two standard sizes, octavo or quarto form, with the following dimensions, as issued with pages uncut:

1. *Standard Octavo Size.*—Pages 14 by 22 cm., or $5\frac{5}{8}$ in. by $8\frac{3}{4}$ in.

From stitching to outer margin of letterpress, 12 cm., or $4\frac{5}{8}$ in.

Height of letterpress including running headline, 18 cm., or 7 in.

Limits: pages not less than 14 by 21.5 cm., or $5\frac{1}{2}$ in. by $8\frac{1}{2}$ in.

Letterpress not more than 12.5 cm., or $4\frac{7}{8}$ in., from stitching, and 18.5 cm., or $7\frac{1}{4}$ in., high.

2. *Standard Quarto Size.*—Pages 22 by 28.5 cm., or $8\frac{3}{4}$ in. by $11\frac{1}{4}$ in.; letterpress 18.5 cm., or $7\frac{1}{4}$ in., from stitching to outer margin of letterpress, and 21.5 cm., or $8\frac{1}{2}$ in., high.

Limits: pages not less than 21.5 by 28 cm., or $8\frac{1}{2}$ in. by 11 in.

Letterpress not more than 19 cm., or $7\frac{1}{2}$ in., from stitching, and 23 cm., or 9 in., high.

In order to secure satisfactory binding together, the printed area should be small enough not only to escape being cut into, but also to leave a reasonably large margin, and the paper used should be large enough always to reach to the cut edge of a bound volume. Plates should be folded within the standard sizes so as not to be injured when the edges of the book are cut in the binder's press. It is also recommended that every article should always begin at the top of a right-hand page, even if that involves a blank left-hand page, so that a paper can be extracted from a journal without mutilating one or the other.

We fear that these recommendations can scarcely be carried out in the United States. A majority of our leading scientific journals are of a size almost exactly intermediate between the standard octavo and standard quarto forms. The convenience of this size seems to be indicated by the fact that it has been chosen by the committee for the publication of their report

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*STANDARD MEASURING INSTRUMENTS.*

THE Committee of Standards for Instruments of Measure, of the American Chemical Society, consisting of Messrs E. E. Ewell, chairman; Louis A. Fischer, H. P. Talbot, C. E. Linebarger and G. E. Barton, have drawn up a report which has been adopted by the Council. This is as follows:

Your committee, to which you have assigned the duty of making a study of the means by which the American Chemical Society can hasten the adoption of uniform systems of graduation, definite limits of accuracy, and standard methods for using all forms of measuring instruments employed in chemical laboratories, beg to make the following preliminary report:

The committee was promptly organized by correspondence after its members had been notified of their appointment by the proper officer of the Society. After much discussion the com-