

of very different types of both heterozygous and homozygous forms recently obtained from various sources will be completed.

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March 19.

Pinhole Photography.

WHILST the design of the photographic lens has received so much attention of recent years and its performance has reached such a high state of perfection, the possibilities of the simple "pinhole" camera are apt to be overlooked and forgotten. The accompanying photograph (Fig. 1) of the Royal College of Science, which I have taken recently by

Watt's "Index of Spectra." I soon found at $600.3 \mu\mu$ a very fine antimony line marked 10 s.c., that is, with a power of 10 (the highest) sharp and clear. Placing poles of metallic antimony in my spark forceps, I viewed this line through a flint prism in one of my spectrometers. I found it to be admirably adapted for any measurements of refractive index.

Although I myself think the difference between line D ($589.7 \mu\mu$) and this one ($600.3 \mu\mu$) small when small instruments are concerned, in the case of large telescopes, and where computers wish great accuracy, I can strongly recommend effecting achromatism by equalising focal lengths for this antimony line and the E line, with line A at shortest focal length.

J. WILLIAM GIFFORD.
Oaklands, Chard, April 5.



FIG. 1.—Pinhole photograph of the Royal College of Science, South Kensington.

means of the "pinhole" method, may therefore be of interest to readers of NATURE. The following are particulars of the photograph:

Distance of plate from aperture, 8 cm.
Diameter of aperture (using Abney's formula), 0.35 mm .

Exposure (sun being obscured by cloud), 7 minutes.
Angle subtended by extremities of building, 78° .

The photograph shows that for architectural subjects (where wide-angle work is necessary) the "pinhole" still stands unrivalled.

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The Choice of Wave-lengths for Achromatism in Telescopes.

REFERENCE to my paper on the above subject was made by Prof. Townsend Smith in NATURE of October 11, 1924, p. 536, and my reply appeared in the issue of November 1. Although fully endorsing his findings, writing then as I did from Cornwall, I was unable to go much further. I have now returned to my laboratory here.

Prof. Smith pointed out that, in order for the minimum focal length to be at $560 \mu\mu$ (by which I think he meant line A at $560.7 \mu\mu$), instead of combining lines D and E it would be necessary to find a line slightly less refrangible than D for such a combination, and that this line should have for wave-length $600 \mu\mu$.

On returning here I looked this up in Dr. Marshall

theory of evolution as a fact. In each case the bills were defeated; in North Carolina by a vote, as reported by newspapers, of 64-46. Furthermore, the matter was voted on in North Carolina after the publication of this book. The vote in Kentucky was taken a couple of years ago and was closer.

This statement is made in order to "keep history straight."

BERT CUNNINGHAM.

Duke University,
Durham, N.C., U.S.A.,
April 18.

A Curious Survival.

IN the days of Galileo, medieval objections to experimental evidence and direct observation were prevalent. Jupiter's satellites, for example, were regarded as trivial deceptive appearances, not worth the trouble of looking at; and one argument against their reality was that they would be useless, and therefore could not exist.

It is interesting, though surprising, to find quite similar arguments still in use, and regarded as at least forensically valid to-day; and those who are concerned with the dissemination of scientific method and interest among educated classes, such as the British Science Guild, would find it instructive to read Sir Herbert Stephen's letter to the *Times* of Saturday, May 2, p. 8.

OLIVER LODGE.

Paris, May 3.