

a mistaken emphasis in one of the two examples in which he exhibits his "centroids." Hamlet's line should run :

To be or not to be: that is the question.

Prof. Scripture is right in exalting rhythm as a main principle in English verse. He is clearly wrong in saying "it has no metre."

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### The Spectroheliograph.

IN the issue of NATURE for October 25, p. 628, is published an article by Prof. G. E. Hale on the spectroheliograph. It may be of interest to readers of NATURE to know that, so early as 1912, I made experiments with such an instrument, using a rotating disc in which was cut a number of radial slits.

Preliminary experiments were made and a rough model was constructed by the kind help and suggestions of Mr. F. Twyman, who also described the method to Prof. R. W. Wood. Unfortunately, owing to the pressure of more important work, these experiments were abandoned and the model dismantled, but not before certain conclusions were arrived at.

In January of 1923 the matter was taken up again and a series of measurements made and experiments carried out, to see if an instrument could be designed and constructed. There are certain difficulties to be met with, and one of these is to maintain an exactly similar movement of the image of the collimator slit on the corresponding slit passing in front of the eyepiece, but this can be overcome.

I do not see any reason why a spectroheliograph

built on rotating sector principle should not give excellent results, and there are further uses to which such an instrument could be applied.

A drawing of one of the models suggested was forwarded to several British astronomers in June 1923, including Prof. Fowler, of the Imperial College, who also commented favourably upon it. Fig. 1 is from a drawing of one of the instruments proposed. In place of the compound prism shown, a replica diffraction grating can be used with advantage.

The instrument consists of a rotating disc (2) in which are cut a number of radial slits. The light which forms an image of the sun or other object comes to a focus on the rotating disc at (16). The light passes through the slit and is collimated by the object glass (3), and passes through the deflecting system (4) and (4') and the pentagonal prism (5). The dispersing element (17) is a high dispersion compound prism which forms an image by means of

the object glass (7) on the disc at position (17). This slit image will be in monochromatic light and will pass out through the slit at (17) into the observing eyepiece (13).

When the instrument is in use, the disc (2) is rotated, by means of the pulley (15) and an electric motor, at a speed which will eliminate flicker, and the object is then seen in monochromatic light corresponding to that for which the compound prism is set. When light of a different wave-length is required, a suitable deflecting prism is interposed at (18). The degree of purity will, of course, depend on the width of slits employed. The deflecting prisms (4) and (4') are used to correct small errors of deviation due to the dispersing prism (17) and are driven by suitable gearing to make one complete revolution as the entrance slit passes the object.

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### Abney Sectors in Photometry.

IN the issue of NATURE for September 27, p. 466, there appears a letter from Mr. G. F. Wood describing, with illustration, a type of photometric sectored disc, the transmission of which is a function of the distance from the centre of the disc.

It may be of interest to Mr. Wood and to readers of NATURE to know that a disc of exactly this type was invented by Dr. E. P. Hyde in 1912, and described in an article in the *Astrophysical Journal*, vol. xxxv., No. 4, May 1912, page 237.

It should be noted that this type of disc can, in general, be used only where the light beam is of small dimensions compared with the dimensions of the disc; otherwise, there will be a non-uniform field of view. The disc invented by Dr. Hyde was intended for use with a spectrophotometer where the light beam is limited by the width of the slit.

In this connexion, I understand that the firm of Franz, Schmidt and Haensch, makers of photometric apparatus, list Dr. Hyde's disc in their catalogue as an auxiliary to their spectrophotometer.

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### Popular Science Exhibitions.

YOUR commendation of the Royal Society's Exhibition of Pure Science at the British Empire Exhibition, Wembley, will, I feel sure, be welcomed by all readers of NATURE. I hope you will allow me to suggest that it might be supplemented by a word of praise for the scientific chemistry exhibits, which, owing to the admirable enterprise and liberality of the chemical manufacturers, were detached from the science exhibits of the Royal Society and placed as a sort of intellectual heart in the centre of the fine display of manufacturing chemistry in the Palace of Industry. Incidentally also, this gave rise to the striking book on "Chemistry in the Twentieth Century" and to the publication of a series of popular pamphlets which have had a large sale in the Exhibition.

It is right to add a word of acknowledgment of the debt due to Mr. W. J. U. Woolcock, the manager of the Association of British Chemical Manufacturers, for the great part he has played in putting so clearly in evidence the creditable state of British chemistry, both pure and applied.

A. S.

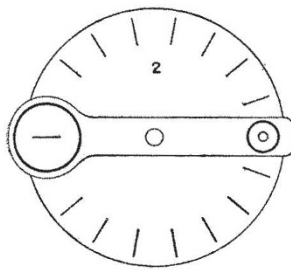
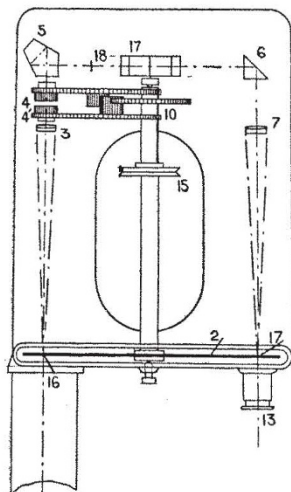


FIG. 1.