On the Observatory at Stone Vicarage, near Aylesbury.

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As the advowson of the living of Stone has been presented to the Council of the Astronomical Society, it may be desirable, for the purpose of future reference, to place in the Society's archives a short account of the Observatory which has recently been erected on the vicarage lawn.

This Observatory, without any pretension to accurate architectural detail, is an elegant Grecian building, consisting of a transit-room and a tower for the equatoreal. On the site, selected by Admiral Smyth, which commands the passage of *α Columbæ* to the south, and the lower transit of *α Cygni* to the north, 9-inch brick walls, surrounded by an air-drain 2 feet deep by 18 inches in width, were raised on a solid mass of concrete, resting on a natural bed of compact Kimmeridge clay. The transit-room is 11 feet in length, 10 in breadth, and 10 in height, having a flat roof covered with sheet lead. The slits in the north and south walls are 18 inches wide, and reach down below the level of the telescope. The vertical portion of the slits is closed by glazed windows, with shutters outside to exclude the solar rays, and the continuous portion through the roof is fitted with a north and south wooden flap, covered with copper, and opened by rods resting on suitable sockets. The floor is supported on strong joists forming square frames around the transit and clock bases, which are of solid masonry, whilst a free circulation is secured beneath by means of small iron gratings in the walls and air-drain. Three steps to a doorway in the eastern wall lead into a circular room nearly 14 feet in diameter, containing the polar axis, to which the large refractor is attached by an equatoreal mounting; and the wall-plate is capped by an iron channel containing balls of the same metal 4 inches in diameter. The conical dome of well-seasoned Riga fir, cut with the grain, and jointed together with thin laths, was formerly at Bedford, and will always be an interesting relic to those who can appreciate Admiral Smyth's most valuable contributions to astronomical science. It is pleasant now to hear the Admiral describe, under his old dome, where he rode at anchor, the results of his untiring labours; and the resolution with which he passed night after night in the measurement of double stars, never forgetting, to use the words of Shakspeare, his "bright particular star," *γ Virginis*, makes his motto, "Mors aut gloria," almost as applicable to his astronomical as to his naval exploits.

The transit instrument is supported on solid piers of Bath stone cut from a single block, which was purchased many years ago for the Observatory at Hartwell. The object-glass, $4\frac{1}{4}$ inches in diameter and 6 feet in focal length, is an interesting specimen of the skill of Mr. Peter Dollond; and Mr. Barrow, of Oxenden Street, has spared no pains in making the brass-work mounting very strong and of the most approved construction. The transit observations are entered and reduced on the plan adopted at Greenwich.

The object-glass of the equatoreal, 7·3 inches in diameter and 12 feet in focal length, is by Mr. Newman of York, and it well repays the large amount of labour both of calculating and grinding the proper curves. The flint-glass in the rough was purchased by Wm. Tulley for 70*l.*, and Mr. Chance of Birmingham supplied the glass for the crown lens. When the aperture is diminished to about 6 inches, it bears well the *experimentum crucis* of good workmanship, as it shows the concentric rings with equal distinctness when the eye-piece is placed on either side of the focus. Its "*space-penetrating power*" may be judged of by the precision with which the 5th and 6th stars in the trapezium of *Orion* are brought out. The surfaces, however, are not worked up to the highest polish, and there is consequently a felt loss of light when the deeper powers are applied.

The equatoreal mounting made under the direction of Mr. Gravatt by the village carpenter, Mr. George Carter, is generally similar to that adopted by Dr. Lee and Mr. Bishop, but the large 6-feet declination circles, of which one is fixed to the polar axis, and the other to the frame-work of the telescope, are of wood. Rhomboidal bracings of wood attached to the latter circle, and reaching from the object to the eye-end of the telescope, have received the unqualified approbation of many practical astronomers; and their construction is well shown in the beautiful model of the Observatory which accompanies this paper, and which has been made by Mr. Charles Carter, the son of the village carpenter before-mentioned.

The declination axis with the large iron cradle, in which the telescope lies, as well as the pivots and iron-work at either end of the axis, is the work of Mr. Donkin. The box of the declination axis is *square*, and not round, as is usually the case, and, in order to command a most important adjustment, it is inserted into a nearly square hole in the polar axis (the longer side being in the direction of the length of the axis), so that by means of a couple of wedges driven into this hole towards each end of the axis, the parallelism of the axis of the telescope and of the polar axis is perfectly attained. In this position the telescope points to the true pole during the whole revolution of the hour-circle, and the adjustment once made, can never be disarranged except by violent strain.

The telescope is furnished with a position wire micrometer by Tulley, and the usual range of astronomical powers; and an hour-circle, to be driven by clockwork, will be added by Mr. Whitworth of Manchester.

A complete set of meteorological instruments has been obtained under the direction of Mr. Glaisher, and monthly observations are regularly forwarded to the Registrar-General.*

* With respect to the achromatism of my solid eye-piece, which obtained a prize-medal at the Exhibition, Mr. Dawes says, in a note just received: — "I have only time to say that, compared with a Coddington lens, which I have, and which, curiously enough, happens to be of precisely the same focal length,