

and two floors in each wing, which gives a total number of 256 boys' rooms, but, as it is intended that there shall never be more than 240 students in the College, the 16 rooms surplus will be occupied by the under-masters and ushers. All the stairs leading to these dormitories are fire-proof; the floors of the dormitories themselves will be cement, with porcelain tiles laid over, and, as we have said, there will always be high pressure fire mains kept ready for instant use at intervals along each floor.

Such are the domestic arrangements that have been made for the reception of the students at this noble institution. It was expected that before this time the building would have been sufficiently advanced to enable it to begin its great educational career, but the governors have wisely erred upon the side of caution in drying the building, and intend not to admit students till the middle of January, 1859.

So much for the college itself. Let us look now for a moment at its objects and expectations. As our readers are aware, it is founded for the education of the orphan sons of officers of her Majesty's army and navy and the officers of the Indian army. The English public in all parts of the world contributed to the foundation of this institution, for it was generally felt that no more appropriate monument could be raised to the memory of the illustrious Duke than a building which, exclusive of its external appearance and architectural merit, should serve the higher purpose of giving a nearly gratuitous education to the orphans of that profession of which he was himself the head and brightest ornament. The total amount of subscriptions received, including interest on sums invested, and donations of £25,000 from the Patriotic Fund, and £3,000 from Sir J. Bailey, M.P., is nearly £159,000. Of this sum £105,000 has been invested on mortgage at 4 per cent., yielding an annual income of no less than £4,200. The cost of the 120 acres of land (exclusive of the 12 acres on which the college stands, which was presented by Mr. Gibson) was £1,200. The lowest tender for the erection of the college was barely under £40,000, including the principal fixtures and fittings; but adding to this amount the sums for the purchase of the 120 acres, for the erection of a chapel and infirmary, for boilers and steam machinery, or kitchen apparatus, and for ensuring an abundant supply of pure water, and the total outlay will not probably be less than £55,000. The chapel and infirmary, however, are to be postponed for the present.

The governors propose to open the college with 100 boys, and as their funds increase to extend the number of admissions to 240 boys; the total number for which the building is calculated to provide accommodation.

The first 100 boys will be admitted on the following terms:—

FOUNDATIONERS (i. e. ORPHANS).

First class.—20 boys to pay £10 a-year each, to be nominated by the governors; 18 to pay £10 a-year each, to be nominated by the Commissioners of the Patriotic Fund; three boys to pay £10 a-year each, to be nominated by Sir Joseph Bailey, M.P.

Second class.—20 boys to pay £15 a-year each, to be nominated by the governors.

Third class.—20 boys to pay £20 a-year each, to be nominated by the governors.

NON-FOUNDATIONERS.

Fourth class.—19 boys to pay £40 a-year, to be nominated by the governors.

Boys not orphans, the sons of officers serving in the army, will be admitted in this class.

The above payments are to cover all expenses for board, education, books, washing, medical attendance, and partial clothing—that is, two suits of clothes a-year for each boy.

The subjects of instruction given to the boys will include—

1. What is usually understood by a good English and classical education.
2. Those branches of scientific knowledge which have a special application to the arts, commerce, and industry of the country.
3. The modern languages.

The religious worship and teaching is, of course, to be according to the doctrine and principles of the church of England; but attendance on such worship or teaching will not be required of boys whose guardians may object on the grounds of religious dissent.

Thus, then, the annual income of the college, including the payments to be made by the (100) boys, will be £6,160, which is considered sufficient to provide a suitable staff of masters, and to cover all expenses for 100 boys: as the funds of the college increase the boys admitted will be all placed on the foundation, and the fourth class or non-foundations ultimately abolished.—*London Times*, 10th September.

V. DONATI, ENCKE, AND TUTTLE'S COMETS.

Mr. W. C. Bond, Director of the Harvard College Observatory, publishes the following statements and predictions relative to the Comet, whose appearance is so splendid a feature in the nocturnal heavens at this time:

"Donati's Comet increases rapidly in size and brilliancy. It will be nearest the earth on the 9th instant, at which time its brilliancy will be nearly three times as great as on the 23rd of September, and its distance from us about fifty two millions of miles.

"According to Mr. Hall's computation, the tail of this Comet, on the 23rd ultimo, extended to the length of fifteen millions of miles. The nucleus will be nearest the earth's orbit on the 20th.

"Some confusion seems to prevail in regard to there being two comets, similar in appearance, now visible to the naked eye, but such is not the case. Donati's, which is seen in the northwest after sunset, is the same which has been seen in the northeast before sunrise in the morning. This is owing to the considerable northern declination of the Comet, with a right ascension differing but little from that of the sun. I mention this because I have had several letters from different parts of the country, making the inquiry whether there are two comets now to be seen by the naked eye.

"Encke's Comet is barely visible to the naked eye, Tuttle's Third Comet of 1858, can now be seen only with the assistance of a telescope." As Donati's comet, which has been so brilliant, is withdrawing from us, this new visitor from the wondrous, far away regions of space will be watched with interest. It can now be seen in the constellation Pegasus. This constellation is in range of a line drawn from the two pointers in the Great Dipper, through the North Star, and is the about as far from that body as Arcturus.

Professor Kingston, of the Provincial Observatory, Toronto, in a published letter, thus refers to Donati's comet: "The propriety of calling this comet after Donati is founded on the principle of nomenclature that that name is best which embodies fact, and does not imply a theory which may be afterwards overthrown. Thus, as long as the identity of this comet with any formerly seen, remains a matter of mere conjecture, it will continue to be called after Dr. Donati, who (during its present visit to the sun) first discovered it at Florence, on the 28th June, 1858.

"It was then seen about 70 degrees east from the sun, and with a declination about $1\frac{1}{2}$ degrees further north, and was found to be moving westwards, or towards its perihelion. After passing that point it reappeared early in September.

"When the comet was first seen by Donati it was by many supposed to be the expected comet of Charles V., whose arrival at its perihelion was predicted by Hind, on the 2nd of August, 1858, within a limit of two years. The fact of the arrival of Donati's so near the time predicted for Charles V.'s comet was certainly a presumption in favor of the two being identical, but unfortunately there is this fatal objection to the opinion that the two comets are moving in opposite directions; that of Donati being retrograde, while that of Charles V. was direct.

"The identity of a comet with one seen at a former epoch is inferred from the general resemblance of what are termed the elements of the orbits. These elements are certain numbers which define the position, form and magnitude of the orbit and the epoch at which the body passes its perihelion, and also supply the means of determining the periodic time or the time that elapses between two consecutive perihelion passages. The elements of any comet that has formerly been seen ought then to inform us when it will arrive again, and to enable us to determine, when it does arrive, whether it is in fact the same or some other comet that has not been seen before.

"The elements either of a planet or a comet are not directly observed, but are calculated from at least three but usually from several observed geocentric positions of the body with the corresponding times. Some positions of the body are better adapted than others for determining these elements correctly, and for a planet these can generally be employed; but as the visibility of a comet is usually of short duration, it is not generally possible to use any choice in the selection of the best positions, and hence another difficulty with which astronomers have to contend. Much more might be written on this subject, but I think I have said enough to show, in some measure, how great the difficulties are that attend the researches of astronomers on the question of new comets, and that it is no discredit to their skill, or to the science of astronomy, that they cannot arrive at conclusions without the possession of the facts from which only such conclusions can be legitimately derived."

The comet, according to a French astronomer, reached its perihelion on the 22nd of October; will cross the constellation of Hercules in January next; will disappear in March, but be again visible in the southern hemisphere. It will temporarily disappear towards the end of this month, but will soon make its appearance a little before sunrise in the constellation of the Little Lion.

The longitude of the perihelion of this comet is about thirty de-