irregularities following no law so far discovered occasionally presenting themselves. This is particularly evident if we compare Argelander's last formula in vol. vii. of the Bonn observations with the observed times of maxima during the last fifteen years. The place of the true χ Cygni of Bayer, which is the variable, is, for 1880·0, in R.A. 19h. 45m. 57·3s., N.P.D. 57° 23′ 18″; it therefore follows the star to which Flamsteed attached this letter, 4m. 4s., and is south of it 50″·6; Flamsteed's star ought to be called by his number, 17 Cygni. At the times when he was looking for Bayer's χ, as Argelander has remarked, the variable would be near a minimum; hence his observing the nearest star of similar brightness.

THE MINOR PLANETS IN 1879.—Advanced sheets of the *Berliner astronomisches Jahrbuch* for 1881, containing places of the small planets during the present year have been circulated amongst observers, the ephemerides for the planets coming into opposition early in the year, some time since. There are positions of the first 187 members of this group, with the exception of Nos. 99 and 155, for which sufficient data are not available. Only two out of the number approach the earth at opposition, within her mean distance from the sun: *Isis*, on June 20, is distant 0·995, with a south declination of 25°, and *Hertha*, on September 12, 0·988, just upon the equator. No. 154 travels as far south as 50½° about July 14.

BRORSEN'S COMET.—The observations of this comet made at Arcetri and Kremsmunster from March 10 to 19 with Dr. Schulze's other elements, fix the time of perihelion passage to about March 30·5716 G.M.T., which is nearly twelve hours later than that assigned by calculation. The following ephemeris is founded upon this corrected epoch for arrival at perihelion :—

For 12h. Greenwich M.T.

1879.	Right Ascension.	Declination, North.	Log. distance from Earth.	Log. distance from Sun.
	h. m. s.	° ′		
April 14	3 39 10	38 44·7	9·9202	9·8199
,, 15	3 43 59	40 3·9		
,, 16	3 49 0	41 23·0	9·9092	9·8317
,, 17	3 54 12	42 42·2		
,, 18	3 59 37	44 1·2	9·8986	9·8442
,, 19	4 5 18	45 20·0		
,, 20	4 11 16	46 38·4	9·8887	9·8571
,, 21	4 17 32	47 56·3		
,, 22	4 24 9	49 13·6	9·8794	9·8703
,, 23	4 31 8	50 30·0		
,, 24	4 38 33	51 45·4	9·8709	9·8836
,, 25	4 46 25	52 59·5		
,, 26	4 54 46	54 12·1	9·8633	9·8969
,, 27	5 3 39	55 22·9		
,, 28	5 13 7	56 31·6	9·8565	9·9103
,, 29	5 23 12	57 38·0		
,, 30	5 33 57	58 41·7	9·8507	9·9235

EDISON'S LAMP

A COMMUNICATION in yesterday's *Daily News*, from a New York correspondent of that paper, gives a glowing, and to all appearance justifiably so, account of Mr. Edison's success in attaining a form of electric lighting that seems to be in all respects much superior to anything hitherto produced. The first impression made on the correspondent was the mild effect of the light on the eyes, its steadiness, and the absence of that ghastly hue which seems to be an invariable accompaniment of the carbon. This new form of light has only been attained after many disappointments on the part of Mr. Edison, who, however, has all along been confident of success.

During the past two months the progress towards its present perfection has been very rapid. Chiefly contributing to this result has been the discovery of a new alloy, the fusing-point of which is much higher than either platinum or iridium, in fact, than any known metal. This discovery is spoken of by some of Mr. Edison's chief *employés* as the greatest achievement of his life. This alloy also reduces the cost of the valuable metals used in each lamp to such a point as to do away entirely with Prof. Tyndall's criticism. It is said to possess properties heretofore unknown, or at least undefined by scientific men. Not only has it cheapened the cost, but the union of the metals has increased the illuminating power to such a degree that six lights are now obtained per horse power where only four were possible with the pure platinum coil. Six lights per horse-power is the number authoritatively stated, but Mr. Edison's chief assistant does not hesitate to predict that eleven lights will eventually be obtained for each horse-power. This is not expected from the Gramme machine, however, which is now used; but is hoped for after the completion of the new generator, which a dozen of the most skilled workmen at Menlo Park are now engaged in constructing.

The lamp itself takes many forms. In some instances it is attached to the wall, like a gas bracket, and in many others it hangs from the ceiling and takes the external form of a glass globe, capped by brass or nickel attachments. There is none of the hissing, sputtering, and flickering observable in the carbon lamps. The lamp which attracts most attention is, in appearance, a St. Germain student lamp, without the reservoir for the oil. It stands in the middle of a small table, and two fine covered copper wires alone connect it with the main conducting cables from the Gramme machine. In this the *Daily News* correspondent tells us, are embodied all the latest improvements. He also tells us that there cannot possibly be any mistake, as Mr. Edison has taken crucial precautions in all directions. There is nothing in the lamp itself that gives any idea of its construction. The cunning device for rendering the flame steady is in reality the idea of the quadruplex telegraph applied to heat instead of electricity. Now that the new alloy has been discovered, its twofold purpose of preventing fusion and steadying the light is no longer served. The expansion of the tiny key, or switch, breaks the current for the fraction of a second, and permits the actual, though imperceptible, cooling of the incandescent coil. This connection is made and broken many times during each second, so that to human eyes the light is constant as the sun. The movement of a finger and thumb converts the glowing meteor before us into a night lamp for a sick-room. Again, it is seen at one-candle power, then at two, and so on. It is as manageable as a tallow dip, and much more satisfactory. It will not go out of itself, and needs no care. The little coil of wire is hermetically sealed in the glass chamber. It is not in a vacuum, but the chamber is filled with air. There is a sensitive spot on the metal cap in which the glass tube sits, and the expansion of the air manipulates the switch. The heat of the metal itself, therefore, is no longer relied on. The inventor explains that after all manner of severe tests this has been found the easiest and the least easily deranged manner of controlling the light. The difficulty of making thin plates of metal of equal density and weight rendered the previous method impracticable for small lights, although it will probably be the best form in which to secure the desired result where the lamps are to show lights of great intensity.

As there seems no reason to distrust the evidence of the *Daily News* correspondent, it may be accepted that Mr. Edison has succeeded in going a long way to solve some of the difficulties connected with the practical adoption of electric lighting. It is stated that in a few months the Edison Company will be prepared to supply the light to such private consumers as may desire it at at least one-third or one-fourth the cost of gas.