

# SCIENCE:

## A WEEKLY RECORD OF SCIENTIFIC PROGRESS.

JOHN MICHELS, Editor.

PUBLISHED AT

229 BROADWAY, NEW YORK.

P. O. Box 3838.

SATURDAY, DECEMBER 4, 1880.

### NOTICE TO SUBSCRIBERS.

We consider it due to those subscribers who have favored us with their subscriptions, previous to the publication of our club rates, that they should have the privileges of the list. They can therefore send us subscriptions for any of the publications named at the reduced double rates, less \$4, the subscription price of "SCIENCE."

Since the publication of the club rates last week, we have received rates from the proprietor of *The American Journal of Science and Arts*, the terms of which are \$6 a year. The club rate with SCIENCE will be \$8.50 per annum.

EARNEST advocates of a higher order of education now regard with satisfaction the prospect of the establishment of a State University in Texas upon a sound, financial basis.

As early as 1839 public land amounting to fifty leagues were dedicated to found a university for this State, and when commissioners were appointed to locate the city of Austin, forty acres were reserved, and forever devoted as a site for the University of Texas.

For twenty years the matter remained in abeyance, but in 1858 an attempt at organization was made, the Legislature passing an act for the immediate establishment of the University, and one hundred thousand dollars were appropriated from the State Treasury for the purpose. The approach of the civil war led to a second postponement, and a third attempt in 1866 was equally unsuccessful.

The present prospects for the future of the University of Texas are very encouraging to those who desire its early establishment and successful organization. Professor Oscar H. Cooper, in an article in the *International Review*, gives the following information on the subject, which will be read with interest:

He states that the constitution adopted in 1876 supersedes all previous legislation and is the organic law of the State. Its provisions concerning the University are wise and generous. It directs the Legisla-

ture to inaugurate the institution as soon as practicable, secures to the funds all previous appropriations, directs that only the interest on the funds shall be used, and adds to already growing resources one million acres of the public domain—a territory considerably larger than Rhode Island. It prescribes the object of the University to be "the promotion of literature and the arts and sciences," and incorporates as a branch of the University, for instruction in agriculture, the mechanic arts and sciences connected therewith, the State Agricultural and Mechanical College, already in 1871 under the federal appropriation for such institutions.

It requires that the location of the University shall be determined by a vote of the people of the whole State, and directs that a College or branch University be established and maintained for the instruction of the colored youths of the State.

Thus the policy of past legislation has been sacredly to guard and freely to augment the resources of the University until they became ample for founding an institution worthy of the name. About half of the land donation to the University has been sold for about \$500,000, and the proceeds have been either invested in five, six, or seven per cent. State bonds, or held in ten per cent. land notes.

The sum of \$100,000, appropriated to the University in 1858 was borrowed by the State, and in 1866 was replaced by five per cent. State bonds. The invested funds therefore amount to nearly \$600,000, and by the sale of lands are steadily increasing. The accrued interest will, at the end of the present year, amount to more than \$200,000, and the annual interest on the invested capital exceeds \$40,000. The unsold lands are worth at present \$1,500,000. The endowment funds, buildings, grounds, etc., of the department of Agriculture and the mechanic arts are valued at \$400,000. The University of Texas is worth, therefore, exclusive of \$200,000 accrued interest, \$2,500,000, and this superb endowment is enhancing in value with the growth of the State in wealth and population. Few even of the most famous institutions of the world began their career on so generous a foundation, and neither Harvard nor Yale was so wealthy at the completion even of their first century.

The people of Texas are said to be now showing a keen interest in the question of education, and, no longer contented with these magnificent provisions for the future, demand the immediate execution of the scheme, the Governor no doubt expressing the popular wish, when he stated "I am opposed to waiting longer."

The probability that the University of Texas will be almost immediately organized has already called for

expression of opinions from those who are anxious for it to fulfill the best hopes of its promoters, and Professor Cooper leads the van of those who, with hopes and fears, already see danger ahead, and would be in time with their council.

The advice of Professor Cooper is most excellent, but in part it appears to us somewhat superfluous; that "the first President of the University of Texas should be pre-eminently an organizer, conversant with the best systems both in America and Europe, and alive to the growing demands of the age, and that the instructors should be the best men, sought without regard to section or creed," are recommendations which involve principles universally acknowledged; if the appointments are not made to accord with these principles, it will not be from ignorance that such a course should be followed.

But alas, academical appointments, like those in political life, are often influenced by "interest" and at some times by "expediency." As an instance of the latter class, we may refer to a case in which a most eminent American Naturalist was a candidate for the chair of Natural History in a Northern University. His high claims over other candidates for the position were admitted, and he was told informally that he had been appointed. The professor was preparing for his new home, when he received the very sudden announcement that another of the candidates had been finally selected for the position. The explanation of the mystery was very simple. The University, or College, was supposed to be filling the chair of Natural History, as Professor Cooper would desire, "with the best man without regard to creed or section," but unfortunately there was a want at the establishment for a man to do ministerial duties; the result was that the trustees, in filling the chair of Natural History, rejected the eminent Naturalist, and selected from among the candidates the one who had the greatest capacity for prayer.

For our part, we believe that such complications suggested by Professor Cooper, are not to be anticipated; when the buildings are ready, the right men to fill the positions in the faculty will be forthcoming. The establishment of a University in America, is no new experiment, and the experience of the past will be a valuable aid to those who will organize the University in Texas.

As a rule, the management of the Universities and Colleges in the United States, is one of the redeeming points which has done much to restore confidence in the institutions of this country; the selection of Professors is also usually judicious, and among the corps of instructors, the number of those who do honor to the position they occupy is fortunately great, and no

American now has need to leave his native shores to obtain a thorough knowledge in any department of science.

#### TYCHO BRAHE'S NEW STAR.

On November 11th, 1572, Tycho Brahe noticed a new and very bright star in the constellation Cassiopeia. Afterwards it appeared that this star had been seen before at various places in Europe, and Tycho, in order to fix its position, and to determine whether it moved, began a series of measures with his sextant, by which he connected the position of the new star with nine known stars in the same constellation. The new star shone with a wonderful brightness, being brighter than the planet Jupiter, and, according to some reports, it was visible in full daylight. In January, 1573, its brightness began to wane, and in May of the same year it was only of the second magnitude, or as bright as Polaris. It remained visible to the naked eye, however, until March, 1574.

This star was also remarkable for the changes of color that it exhibited. At first it was white, then it became yellow, and, finally, red. But in May, 1573, it was again of a dull white color, and remained so until it disappeared.

Although many cases have occurred of new stars blazing out for a short time, and then fading away beyond the sight of the naked eye, such as those of 1866 and 1876, yet Tycho's star, on account of its brilliancy and its long duration, is the most remarkable of any star of this kind of which we have any authentic record; and his observations of it have been carefully reduced and discussed by several astronomers. Professor D'Arrest, of Copenhagen, made a very complete catalogue and chart of 212 stars, which are within a distance of ten minutes from the position of Tycho's star. This catalogue is for the year 1865, and it will serve for a standard of reference in case Tycho's star should again blaze out. Mr. J. R. Hind, of England, by the reduction of a part of Tycho's observations, found the position of the new star to be for 1865,

$$A.R. = 4^{\circ} 16' 48'' : Decl. = + 63^{\circ} 23' 5''.$$

(Monthly Notices, Royal Astronomical Society, Vol. 21, p. 233.) From a more complete reduction of Tycho's observations Argelander found for 1865,

$$A.R. = 4^{\circ} 19' 58'' : Decl. = + 63^{\circ} 23' 55''.$$

(Astronomische Nachrichten, Band 62, p. 274.) This position agrees very well with that of a small star of the 10 $\frac{1}{2}$ th magnitude, which is No. 123 of D'Arrest's catalogue. The position of this small star for 1865 is,

$$A.R. = 4^{\circ} 19' 30'' : Decl. = + 63^{\circ} 22' 54''.$$

When we remember that Tycho's observations were made without the aid of telescopes or of any magnifying power, we may consider the difference of these positions as within the limits of the probable error of his determination. We conclude, therefore, that Tycho's star is still visible in our telescopes, and that its brilliant appearance in 1572 was only an extreme case of the variations of light that are frequently happening among the stars.