tages and privileges should be accorded to the orally taught deaf and to the manually taught deaf, pursuing oral methods in the education of the former, manual methods with the latter. In bringing up the subject, Mr. Greenberger disclaimed any unfriendly feeling towards the college, and I wish to do him the justice to state that he had no desire to embarrass you in your noble work, but, moved by a sense of justice, he felt that the time had come when the association should take a stand in favor of the higher oral education of the orally taught deaf of the country, in the college at Kendall Green if possible, if impossible, then outside in a separate school. Now, while the question was disposed of, for the time being at least, in a way that exhibited the kindliest feeling toward you and your college work, I feel that sooner or later it will have to be met and disposed of to the advantage of the college or to its disadvantage, strengthening it if an oral department be added, weakening it if, refused in what they believe to be just demands, the friends of higher oral instruction for the deaf establish a separate college for their higher education. The oral instruction of the deaf, whether wisely or unwisely, is unquestionably commanding increased public attention and public sympathy, and the college that seeks to provide the highest and best educational facilities for the deaf as a class should stand ready to meet every reasonable demand. The number of orally taught deaf is constantly increasing, they are seeking higher instruction than the primary schools afford, where shall they obtain it?

They hesitate, and object, and refuse when directed to Kendall Green, not because it is not a good school, nor because its professors are not competent men, but because of a well-founded fear that that which they have spent much time and labor in gaining, namely, their speech and their ability to read speech, may be very seriously impaired. Shall this class of deaf-mutes come to Kendall Green to profit by instruction at the hands of its able and experienced professors, greatly strengthening the power and influence of the college, or shall they be driven to another school?

To me, interested as I am in the success of the only college for the deaf in the world, this is a most important question, and I believe it will receive the careful consideration that its importance demands at your hands. The formation of an oral department with the means you have at your command should not present any serious difficulties, nor prove seriously harrassing to your well-ordered college work. For material you would have the best from every school in the land, and for support you would have the sympathy and active influence of every friend of the deaf throughout the world. A. L. E. CROUTER.

March 5.

NOTES AND NEWS.

THE faculty of Cornell University has been invited to send representatives to take part in the Tercentenary Festival of the University of Dublin, next summer, and has accepted, Professor Corson going as its representative. Dr. Thurston has received a personal invitation from the University of Dublin for the same occasion, and is expected, if he should be able to go, to remain in Dublin as the guest of Dr. Lucius O. Hutton of Fitzwilliam Place.

— The second number of 1892 of the Bulletin of the Ohio Experiment Station summarizes the experience of the station in the culture of mangolds and sugar beets. Mangolds have been grown on the station farm for ten or twelve years past, to serve as food for the dairy cows; twelve to fifteen tons per acre being an ordinary yield. The beets are eaten with great relish by the cows, they cause an increased flow of milk, and the milk is thought to be of a better quality. The milk from this dairy is sold direct to consumers, and these have claimed that they could tell when beet feeding began in the fall by the improved flavor of the milk. In 1891 a number of varieties of sugar beets were grown alongside the mangolds; it was found that the sugar beets were considerably less productive than the mangolds, yielding but seven to nine tons per acre, against twelve to twenty tons for the mangolds. The sugar beets, however, showed on analysis about six per cent of sugar, while the mangolds showed but three per cent. The labor-cost of producing an acre of beets is from thirty to forty dollars, as grown at the station, where they are planted in rows sufficiently wide to admit of horse culture. By planting in rows only half as far apart the crop might largely be increased, but the cost of cultivation would also be increased. In a bulletin issued a year ago by the Chemical Division of the United States Department of Agriculture, a table is given showing that the average cost of manufacture in 113 German beet sugar factories in 1889–90 was nearly $3 per ton of beets. If it were possible to raise an average crop of fifteen tons per acre of sugar beets in Ohio at a cost of $30 per acre, or $2 per ton, or to manufacture them at a cost of $3 per ton, the total cost for production and manufacture would be $75 per acre. Such a crop would yield 1,800 pounds of sugar, at the rate shown by the station analysis, worth $72 at four cents per pound, thus leaving no margin whatever to either producer or manufacturer to cover the losses from bad seasons on the farm or in the factory. It is true the present bounty would afford this margin; but the bounty ends with 1895, unless renewed, and its future is very uncertain. Sugar beets grown in the dry climate and on the rich soils of Nebraska and Iowa show an average of about thirteen per cent sugar, or more than twice that found at the Ohio station, thus following the well-known law that the sugar beet reaches its highest development in northern latitudes. Beets grown in northern Ohio would probably show a higher per cent of sugar than has been found at the station, but it is extremely doubtful if the culture and manufacture of sugar beets can be made profitable in any part of Ohio in competition with the more favored regions of the North-west and of California, and the Experiment station would advise Ohio farmers to be very cautious about entering upon any large undertaking in sugar beet culture. There are probably spots in northern Ohio where spring wheat could be grown, and it is possible cotton might mature in sheltered coves in Lawrence County; but it would hardly be advisable for the farmers of either section to enter into competition with the spring wheat growers of the North-west or the cotton planters of the Gulf States.

— The Oriental History Society of Altenburg will celebrate in the autumn of 1892 the seventy-fifth anniversary of its establishment, and will take advantage of this opportunity to pay tribute to three of the honorary members of the Society, by the erection of a simple, worthy monument in the capital city of Altenburg. They are Christian Ludwig Brehm, his son, Alfred Brehm, and Professor Schlegel, who died at Leyden. The researches of these three men in zoology, and particularly in ornithology, are known, not only among their associates, but throughout the world, and deserve that their memory should be honored. A committee, consisting of Prince Moritz of Saxe-Altenburg; Professor Dr. Blasius, Braunschweig; Dir. Professor Flemming, Altenburg; Major A. v. Homeyer, Greifswald; Hugo Koehler, privy-councillor of commerce, Altenburg; Dr. Keopert, Altenburg; Professor Dr. Liebe, privy-councillor, Gera; Professor Dr. Pilling, Altenburg; Dr. Reichenow, Berlin; Dr. Rothe, privy-councillor of medicine, Altenburg; Chevalier von Tschusi zu Schmidhoffen, Hallein; Dr. Voretzsch, Altenburg; and Dr. Leverkuhn, Munich, under the patronage of His Highness, Prince Moritz of Saxe-Altenburg, also an honorary member of the society, solicits contributions from the friends of these eminent scientists, for the purpose of aiding in the erection of the proposed memorial. It is respectfully requested that contributions be forwarded to Hugo Koehler, privy-councillor of commerce, in Altenburg, and that inquiries and letters be addressed to Dr. Koepert, in Altenburg.

— Mr. R. H Scott delivered a lecture at the Royal Institution on March 18, on a subject of much importance to England, viz.: "Atlantic Weather and its Connection with British Weather." He pointed out, says *Nature*, that less than a quarter of a century ago, before synchronous charts were in vogue, it would have been impossible to have traced a storm across America and the Atlantic to Britain's coasts; but this can now be done with considerable certainty. The broad principles which govern the weather system of the Atlantic were shown on two diagrams exhibiting the mean pressure, and the regions of greatest disturbance of temperature, on the globe in our winter. The latter chart showed that, at that

season, the relatively warmest district is near Iceland; and the barometer chart showed that close to the same region the barometer is lowest. The reasons of these relations, which involve the first principles of modern weather knowledge, were fully explained. The more northern part of the Atlantic area interests us the most. The whole region from 40° to 70° north is constantly visited by cyclonic depressions, and in order to throw some light on the origin and history of these depressions, and of the storms which they at times bring with them, various institutions have published daily maps of the weather in the Atlantic. The most complete of these maps were published by the Meteorological Office for thirteen months, commencing with August, 1882. The last twelve of these months have been carefully examined, and show no less than 264 depressions in various parts of the ocean. Of these, out of 62 which originated south of 40° north, only 16 had sufficient energy in them to cross the meridian of Greenwich, while out of 22 which originated further south only 11 crossed the Atlantic, and these were not all felt as actual storms in England. The practical outcome of obtaining telegrams from America has not been satisfactory, but this failure has probably been mainly due to the fact that the reports "have been neither numerous nor full enough." This accurately represents the case at the present time; but we hope it is not too much to expect that, with our present knowledge of the paths taken by depressions with regard to areas of high pressure, some further advance may shortly be made in predicting storms by means of more numerous and fuller telegraphic reports both from outward and homeward bound ships.

— At the British Institution of Electrical Engineers recently an interesting paper, illustrated by experiments, was read by Professor D. E. Hughes, F.R.S., on the value of oil as an insulator of electricity, especially for currents of high potential and frequency. Professor Hughes was led to recognize the merits and to suggest the use of oil as early as 1858, after the failure of the first Transatlantic cable, according to *Engineering*. It then appeared to him that a fluid insulator with self-correcting properties would be preferable to a solid insulator, such as gutta percha or india-rubber, which, when once punctured by a spark, cannot close the wound like oil, and thus renders the entire circuit useless until the fault is removed. Professor Hughes made many experiments on various oils at that time, and embodied his results in a British patent, dated Jan. 11, 1859, for "an improved mode of insulating electrical conducting wires." The oil he had found most serviceable was resin oil, which has an extraordinarily high resistance and is somewhat viscid. He proposed to contain it in tubes of gutta-percha or metal, through which the conductors, coated either with a thin layer of gutta-percha or merely covered with fibrous material, would run. The inventor tried for two years to get English electricians to adopt his method, but in vain; and, having to proceed to the Continent, he was obliged to abandon it. The late Mr. David Brooks of Philadelphia subsequently introduced it in America, with great success and profit to himself, for insulating underground telegraph wires. Oil is now used for insulating transformers, and it promises to be employed in a great many other ways.

— At the meeting of the Belgian Academy of Sciences on March 6, Professor Spring announced, as we learn from *Nature*, that the late Professor Stas had left, in an almost completed condition, a long and important memoir describing the results of several further stoichiometrical investigations. It is entitled "Silver," and will forthwith be edited, presumably by Dr. Spring, and published. It may be remembered that, after the publication of Professor Stas's classical memoir upon the preparation of absolutely pure silver and the atomic weight of that metal, doubts were thrown by Professor Dumas on the validity of the work on the ground that the silver employed was not free from occluded atmospheric gases. Moreover, Professor Dumas expressed doubts as to the bearing of the work upon the celebrated hypothesis of Prout, according to which the atomic weights of all the other elements are supposed to be multiples of that of hydrogen. For, if silver possessed the atomic weight attributed to it by Professor Stas, the atomic weight of oxygen became 15.96 and not the whole number 16, and consequently Prout's hypothesis in its original form would be negatived. In order to set these doubts at rest, and to leave his work in a perfected condition, Professor Stas prepared a quantity of silver with such extreme precautions that he succeeded in obtaining it entirely free from occluded gases, and from even the minutest traces of the materials of the vessels employed. So perfect is the purity of this silver that even when heated to the temperature of the melting-point of iridium not a trace of sodium can be detected in the spectrum of the vapor. With this silver he repeated his former determinations of the atomic weight of the metal, and it is satisfactory to learn that the final number obtained is, as Professor Stas himself expected it would be, identical with that formerly obtained. Hence the objection of Professor Dumas cannot longer be entertained, and the atomic weight of oxygen would indeed appear to be 15.96 and not 16, for the numbers obtained by Professor Stas agree so remarkably that an error of four-hundredths of a unit would apparently be out of the question. In addition to this important memoir, Professor Stas has also left the data of a series of twelve separate determinations of the stoichiometric relation of silver to potassium chloride, the materials for which were the pure silver just described, and a specimen of potassium chloride, also prepared with a care and precaution quite in keeping with the rest of the work of the great analysist. The results of these determinations are described by Professor Spring as agreeing in a most wonderful manner, and will afford another valuable base to which the atomic weights of many other elements may be referred. Besides these two memoirs, a third is mentioned by Professor Spring, relating to the spectra of several metals which Professor Stas obtained in the purest state in which these metals have ever probably been seen. The whole of these memoirs, consisting of about fifteen hundred pages of manuscript, it is intended to publish forthwith in three separate treatises.

— Although preparations of lettuce have from very early times had a reputation in medicine for their soporific properties, the narcotic constituent of the plant has never been ascertained with any certainty. Various neutral, fatty, and waxy bodies separated from the milky sap of different species of Lactuca have been from time to time described as compounds of medicinal value, but on the other hand it has been denied that the dried milk-sap, lactucarium, in spite of its narcotic odor, possesses any sedative action, and in fact this preparation is no longer officinal in England or the United States. It is therefore interesting to learn in a communication from the Research Laboratory of the Pharmaceutical Society, read recently before the Clinical Society, that Mr. T. S. Dymond has established beyond doubt the presence of hyoscyamine, the principal alkaloid of belladonna and henbane, not only in the cabbage and Cos varieties of the common lettuce, L. sativa, but also in the wild lettuce, L. virosa. The amount in the young plants is certainly very minute, but in the officinal green extract, which, according to the directions of the "British Pharmacopœia," is to be prepared from the flowering herb of L. virosa, the mydriatic alkaloid occurs to the extent of 0.02 per cent.

— In a communication to the Paris Academie des Science, M. Le Chatelier states that by means of his pyrometer he has discovered that the temperatures which occur in melting steel and in other industrial operations have been overestimated. These exaggerations, we learn from *Engineering*, the author attributes to several causes. When estimates of temperature disagree there is a natural tendency to adopt the highest, because there is an instinctive desire to establish some sort of proportionality between the light emitted from a heated body, the amount of fuel required, and the temperature. But the fact is that both the amount of light emitted from a body, and the quantity of fuel required to heat it, increase much more rapidly than the temperature. Moreover, the calorimetric method has been that most frequently adopted for determining high temperatures. In this the assumption is made that the specific heat of the iron rods or balls used is constant, which is inaccurate. In the case of the flame of the Bessemer converter Mr. Langley has fixed the temperature of the issuing flame at 2,000° C., because platinum appears to melt rapidly in it. Mr. Chatelier has, however, found that platinum does not fuse in the flame, but only appears to do so because it alloys itself with drops of molten steel carried over by the blast.