Though this theory seems more probable than the other, which assumes that the languages of our Indians were brought here from foreign shores, it must be frankly admitted that Linguistic Science is not now, and possibly never will be, competent to decide between them. If she is unable to decide fully as to the origin of the Indian's language, how can she be expected to solve the infinitely more complex problem which concerns the ultimate origin of the peoples who spoke them? She certainly has no solution for this problem now. When she considers the number of linguistic families, and the vast length of time it must have taken to develop their languages and dialects, she finds herself confronted by a problem beyond her present powers. And yet the case is not hopeless. Linguistic Science is still in her infancy, and her future may contain possibilities far exceeding the dream of the most sanguine.

When interrogated as to the origin of the Indian, all that she can now say is, that whether the Indian originated on this continent, where he was found, or elsewhere, it was in bygone ages, — ages so far removed from our own time that the interval is to be reckoned, not by the years of chronology, but by the epochs of geologic time. With such problems she affirms that at present she cannot deal.

I have presented the subject to you to-day, not to answer it, but to aid you in comprehending the tremendous difficulties that enshroud the problem. Much time and ingenuity have been expended in the past in attempting to force an answer to a question which cannot even yet be answered. The question, however, that really concerns the ethnologist of to-day is not *who* are the American Indians, but *what* are they, and what have they accomplished in working out the problems of life, which, ever since his birth, man has grappled with.

In reading the history of mankind, we are too apt to be blinded by the achievements of our own Aryan race. As the old Greeks classed as barbarians all who did not speak their own tongue, so we are prone to think that most of the good that has come to humanity has come through and by means of our race. In truth, there are valuable lessons to be learned from races less high in civilization than our own. Though many and diverse are the roads that lead man to the higher life, they all pursue about the same course, and time only is required to unite them into one broad stream of progress.

Many are the lessons taught by anthropology; but the grandest of them all is the lesson of the unity of mankind, — the unity of a common nature and a common destiny, if not of a common origin.

NOTES AND NEWS.

WE hear that the Russification of the German educational establishments in the Baltic provinces goes on apace. The University of Dorpat, in particular, is suffering in this respect. Recently the Czar specially sanctioned the Russianizing of the faculty of law within the next few years, and now it is intended to transfer the theological faculty from that seat of learning and enlightenment to Moscow or St. Petersburg, in order to deprive it entirely of its German-Protestant character. German culture evidently seems a dangerous element in the eyes of the Russian Government.

— *Nature* states that Herr Victor Apfelbeck, the entomologist, will shortly start, in behalf of the Bosnian Government, on a journey of research in Herzegovina. Last year he discovered in southern Bosnia five new species of eyeless cave beetles, and his investigations excited much interest among entomologists.

— The largest tree in Great Britain, and one of the most famous, is the Cowthorpe oak in Yorkshire, which is believed to be some fifteen hundred years old. When Evelyn wrote his "Sylva," in the seventeenth century, its circumference at the ground was seventy-eight feet; but later, earth was banked up around it, which covered some considerable projections, and reduced its girth. As told in *Garden and Forest*, at the beginning of the last century its branches overshadowed an area of half an acre of ground. The top or leading branch fell at some unrecorded date, curiously slipping down into the hollow trunk, where it remained. In the last century one of the main branches which was blown down proved to be ninety feet in length, and yielded five tons of timber. When carefully measured by Dr. Jessop in 1829, the girth of the tree at the ground was sixty feet, and at a yard above, forty-five feet; the chief remaining limb was fifty feet long and its circumference eight feet, and the height of the tree was forty-five feet. It was then hollow to the top. For many years saplings raised from this tree were sold in pots by the villagers for as much as a guinea apiece. It is now a venerable ruin, but most picturesque in its decay. It stands in a green paddock, carefully protected from injury, with its ancient limbs supported by props. An idea of its size may be gathered from the statement that at least forty persons can stand within its cavity, and that its circumference is greater than that of the Eddystone Lighthouse, which was confessedly designed on the model of an oak.

— Does the cuckoo ever hatch its own eggs? Herr Adolf Müller answers this question in the affirmative, and has given in the *Gartenlaube* a full account of a case which he himself claims to have observed. A translation of this account has appeared in the *Ibis*, and is reproduced in the new number of the *Zoölogist*. The latter periodical prints also a translation of an article in which Herr Adolf Walter disputes the statements of Dr. Müller, who, he thinks, must have made a mistake. The same subject is dealt with in the June number of the *Selborne Magazine* by Mr. C. Roberts, who quotes from "Zoonomia" an interesting passage, in which Dr. Erasmus Darwin expresses his belief that the cuckoo sometimes makes a nest and hatches its own young. In this passage Dr. Darwin gives an extract from a letter of the Rev. Mr. Wilmot of Morley, near Derby, describing an instance brought to Mr. Wilmot's notice in July, 1792, by one of his laborers, and afterwards closely watched by Mr. Wilmot himself. Mr. Wilmot was confident that the bird was a cuckoo.

— There is a note by Dr. Charles Waldstein in the London *Athenæum* of June 8 which will no doubt attract much attention. Dr. Waldstein states that recently, while in Constantinople, he was shown photographs by Hamdy Bey of the sarcophagi discovered some time since at Sidon; and he is of opinion that the discovery is one of the most important made in this century, and, moreover, that excepting the Elgin marbles, and the Hermes of Praxiteles at Olympia, "no works of ancient Greek art have been found of greater artistic interest and merit." One of the sarcophagi contains a portrait of Alexander. Hamdy Bey does not positively assert that this is the tomb of Alexander, but Dr. Waldstein thinks he will be justified in pointing to the possibility of such being the case.

— At the New York meeting of the American Institute of Mining Engineers, February, 1889, Mr. John C. Smock of Albany, N.Y., read a paper on "The Iron-Mining Industry of New York for the Past Decade," from which it appears that the total product of the iron-mines of the State in 1888 was 1,207,000 tons. This sum includes all the returns received from the mining companies and carefully made estimates for three mines unreported. According to the "Ninth Census," New York produced 14 per cent of the iron ore mined in the country. Ten years later, the State produced 1,262,127 tons, or 15.4 per cent, and ranked third in the list of States. In 1886 the production of all the iron-mines in the country, as estimated by James M. Swank, general manager of the American Iron and Steel Association, was 10,000,000 tons. In 1887, according to the same authority, it amounted to 11,300,000 tons. New York mines produced in the former year about 900,000 tons, and 1,100,000 nearly in the latter year, or 10 per cent of the whole. In 1888 the same average proportion was maintained, but the rank changed to fourth, falling behind Michigan, Pennsylvania, and Wisconsin. According to the last report of the American Iron and Steel Association, the total for the United States in 1888 was 12,050,000 gross tons. The fluctuation in the totals for the State during the decade have not been so great as might be inferred from the sharp fluctuations in the prices for pig-iron; and the steadiness in the figures for 1886, 1887, and 1888 is remarkable proof of the enduring capacity of the mines of the State. The variation from year to year is not as great as it is in the magnetic iron-ore districts of New Jersey. The production of the iron-mines in New Jersey in 1880 was 745,000 tons. In 1885 it had fallen to 330,000 tons, and in 1887 had risen to 547,000.

Another notable fact brought out in this comparison is the diminished number of mines producing these totals. At the commencement of the decade there were about 100 mines at work: last year, only 50 were producing ore.

— A recent issue of the French *Journal Officiel* contains the report of the consultative committee for sea-fisheries in France, on the subject of poisoning through the eating of mussels. The committee, in the first place, recognize that the oysters which cause poisoning are those which have become stale, or have been kept in water rendered foul by decomposed organic matter, and question whether the same may not be the case with regard to mussels. Various explanations of mussel-poisoning were made to the committee. By some it was attributed to a parasite crab (*Pinnotheres pisum*). This explanation, however, was unsatisfactory, for in the United States this *Pinnotheres* is sought after as food. By others the presence of the poison was attributed to the spawn of star-fish, and also to copper absorbed from wrecks. Both these suggestions were, however, disproved. The theory of Orfila, also, that the poisonous action of the mussels in the stomach is the result of imagination, does not find acceptance at the hands of the committee. An authority on the subject has found that the mussels lose their poisonous property if cooked for a period of ten minutes with carbonate of soda. The committee conclude that the poisonous nature of the mussels is due to the presence in them, especially in the liver, of a volatile organic alkaloid (*mytilotoxine de Brieger*), developed under the influence of a particular microbe which is only found in mussels living in stagnant and polluted waters. Finally, they advocate the removal of all restrictions on mussels in artificial beds, and recommend the sale at all times, at fish-markets, of mussels coming from such beds, which are usually situated in favorable localities, — a sale which is at present prohibited in France during May and June.

— There is being exerted at this time an effort for the establishment in the University of Pennsylvania of a department of pedagogics. The university being without the necessary funds for this work, two of this year's graduating class, as we learn from *The Philadelphia Telegraph*, have undertaken the raising of ten thousand dollars, which will provide for a three-years' salary for a pedagogic professor, and found a library; and at the expiration of three years it is believed that the department will be self-sustaining. A short time ago Superintendent MacAlister of the Board of Education addressed a letter to Dr. William Pepper, provost of the university, in which he set forth the manifest urgency and value of such a department. He said, "Until within a few years American students were compelled to go abroad for the purpose of pursuing their studies in this branch, and large numbers still find it advantageous to avail themselves of opportunities which are but scantily provided in this country. The German universities have long maintained chairs of pedagogy. In the year 1876 a chair of education was organized in the University of Edinburgh, and has since been occupied by a distinguished scholar, Professor Laurie, who has exerted great influence over the education of Scotland. Some years ago, lectures on education were given for the first time in the Universities of Oxford and Cambridge, and in both of these schools lectures are now read regularly by men eminent as teachers. The first chair of pedagogy in the United States was organized in 1879, in the University of Michigan, and this was followed by the establishment of professorships in the Universities of Wisconsin, Iowa, Cornell, and other less important schools. The only serious attempt thus far made to furnish opportunity for the study of pedagogy in the older States was the work done by Professor G. Stanley Hall before his retirement from Johns Hopkins; and it is understood that this department will be recognized in the new Clarke University in Massachusetts, of which Dr. Hall has been appointed president. It is only a question of time when all the great schools in the Eastern and Middle States will be moving in this direction." Professor MacAlister remarks, that, if the great function of a university is to teach and supply the world with teachers, it cannot be said to fully perform its office if it does not provide adequate professional preparations for the teacher's work beyond the studies of the academic curriculum. He holds that in a department of pedagogy the instruction should consist of the following courses: history of education, psychology and its relation to education, the science and art of teaching, organization and administration of school systems, school hygiene. He adds, "With the provisions already existing in the university, the organization of such a department could be easily secured, and the financial responsibility incurred would be very slight. A chair of the history and science of education would be sufficient to begin with. The chair of psychology, recently organized, the chair of philosophy, the chair of political economy, the chair of hygiene, could be made available in furnishing the additional courses required. The general course in pedagogy would probably not extend beyond one year, but special courses could be formed for those desirous of more extended study. To give the department academic dignity, and make it really valuable, a degree should be granted. The degree of Ph.D. is suggested, which might be given on examination in the courses in pedagogy, with such additional electives — say, three or four — in language, literature, science, or history as might be prescribed. In this way the department of pedagogy would become affiliated with the general instruction of the university, and would also fall into place among the university courses created during the present academic year."

— No other ancient works of the United States have become so widely known, or have excited so much interest, as those of Ohio. This is due in part to their remarkable character, but in a much greater degree to the "Ancient Monuments of the Mississippi Valley," by Messrs. Squier and Davis, in which these monuments are described and figured. The constantly recurring question, "Who constructed these works?" has brought before the public a number of widely different theories, though the one which has been most generally accepted is that they originated with a people long since extinct or driven from the country, who had attained a culture status much in advance of that reached by the aborigines inhabiting the country at the time of its discovery by Europeans. The opinion advanced in a paper by Cyrus Thomas, on "The Problem of the Ohio Mounds," published by the Bureau of Ethnology, in support of which evidence is presented, is that the ancient works of the State are due to Indians of several different tribes, and that some, at least, of the typical works, were built by the ancestors of the modern Cherokees. The discussion is limited chiefly to the latter proposition, as the limits of the paper do not permit a full presentation of all the data which might be brought forward in support of the theory, and the line of argument is substantially as follows: First, A brief statement of the reasons for believing that the Indians were the authors of all the ancient monuments of the Mississippi valley and Gulf States: consequently the Ohio mounds must have been built by Indians. Second, Evidence that the Cherokees were mound-builders after reaching their historic seats in East Tennessee and western North Carolina. This and the preceding positions are strengthened by the introduction of evidence showing that the Shawnees were the authors of a certain type of stone graves, and of mounds and other works connected therewith. Third, A tracing of the Cherokees, by the mound testimony and by tradition, back to Ohio. Fourth, Reasons for believing that the Cherokees were the Tallegwi of tradition, and the authors of some of the typical works of Ohio.

— The *Glasgow Herald* states that last year, while some workmen were engaged in drainage operations at Lochavullin for the purpose of forming a public park, they discovered what was believed to be an old "crannog," or lake-dwelling; and several experts who visited it were of opinion that it was a very good specimen of an ancient lake-dwelling. Arrangements were made by the town council for its being properly investigated and preserved as far as possible, but the weather has rendered operations impracticable till within the last few days. Workmen are now engaged in excavating round the place; and recently it was visited by Mr. Cochran-Patrick, under-secretary for Scotland, and other gentlemen interested. Among the articles turned up by the workmen during the examination were a stone bullet, such as would have been used in the slings of the period to which the dwelling is supposed to have belonged, and portions of the wattle used in the construction of the dwelling. Professor Hedley of St. Andrews took some photographs of the place.

— The last international medical congress, which met in Washington in 1887, unanimously selected Berlin as the next place of meeting in 1890. Professors Virchow, Von Bergmann, and Waldeyer, to whom was confided the preliminary direction of the next congress, have already taken active steps to make it a success. All the medical faculties and other medical bodies in Germany have been invited to nominate delegates to confer together on the subject this year, at the time of the Heidelberg meeting of the German Scientific Association in September. It is proposed that the congress of 1890 should commence its proceedings on Aug. 6, 1890.

— Dr. Oliver P. Jenkins, professor of biology in DePauw University, accompanied by Oscar Vaught and G. C. Price, two of his students, sailed June 29 from San Francisco for the Hawaiian Islands, on a scientific fishing expedition. They go under the authority and with an appropriation of the university for that purpose. They will return the middle of September. They hope to find a valuable field.

— Krüss and Schmidt's statement that both nickel and cobalt contain a small percentage of a hitherto unknown element, gnomium, amounting in the case of one specimen of nickel to as much as 2 per cent (*Ber. der deut. chem. Gesellsch.*, xxii. 11; *Nature*, xxxix. p. 325), has not been permitted to pass unchallenged, and quite recently two papers have appeared which tend to show that the supposed new element is non-existent. At the time when they were led to recognize the presence of this common impurity, says *Nature*, Krüss and Schmidt were engaged in repeating Winkler's old determination of the atomic weights of nickel and cobalt, in which the ratio Au : Ni or Au : Co was arrived at from the amount of gold precipitated by these metals from neutral solutions of gold chloride. Winkler, in the mean time, has repeated this work with carefully purified materials (*Ber. der deut. chem. Gesellsch.*, xxii. 890), and has not only failed to obtain any evidence of the existence of gnomium, but, moreover, calls in question the purity of the metallic specimens employed by Krüss and Schmidt. A communication from Dr. Fleitmann to the *Chemiker Zeitung* (xiii. 757) lends considerable support to this view. Adopting the method patented by Krüss and Schmidt for separating this common impurity from nickel and cobalt by extracting the hydroxides of these metals with sodium hydroxide, Fleitmann has examined a number of specimens of commercially pure nickel and cobalt, and, so far from obtaining 2 per cent of gnomium oxide, has failed to isolate from 50 grams of material a weighable amount of any impurity which would serve to justify the view that a hitherto unknown element was associated with these metals. Fleitmann points out that when the hydroxides of commercially pure nickel and cobalt are treated with large quantities of sodium hydroxide, impurities go into solution which vary in composition and amount with the source and degree of purity of the metals. These impurities consist of small quantities of the oxides of lead, zinc, arsenic, manganese, molybdenum, silicium, aluminium, cerium, chromium, etc., together with an amount of nickel or cobalt oxide not exceeding $\frac{1}{20}$ of one per cent of the hydroxide extracted, and, when separated from the alkaline solution by the addition of an acid and subsequent precipitation with ammonium carbonate, give rise to a highly complex mixture of oxides and acids which can only be separated and identified with considerable difficulty. It is not improbable, therefore, that Krüss and Schmidt have been dealing with some of the constituents of this mixture, and that, on further examination, gnomium oxide will prove to be a mixture of the oxides of elements already known.

— At the ladies' conversazione of the London Royal Society, June 19, there were exhibited by Mr. Percy E. Newberry, by kind permission of the director of the Royal Gardens, Kew, a series of ancient funeral wreaths and plant-remains, discovered last year by Mr. W. M. Flinders Petrie, in the cemetery of Hawara, Egypt. As described in *Nature*, these consisted of wreaths of Egyptian and Greek manufacture, which were all made in the first century B.C., and were found in wooden coffins, either resting on the heads or surrounding the bodies of the mummies. Among them the following are of special interest: — (1) A very perfect wreath composed of the flower-heads of a species of immortelle (*Gnaphalium luteoalbum*, L.), called by the ancients "helichrysos," and much used by them in making garlands. Helichrysos wreaths are mentioned by Pliny (*Hist. Nat.*, xxi. 96) as having been used in Egypt in Ptolemaic times, also by Theophrastus, Athenæus, Cratinus, etc. (2) Portion of a curious garland made of cones of papyrus pith, lychnis and rose flowers, rose petals, and scarlet berries of the woody nightshade. These latter are mentioned by Pliny as having been employed in garland-making by the Egyptians. (3) Portion of a wreath of Greek manufacture made of flowers of the *Polyanthus narcissus* (*N. Tazetta*, L.). Wreaths made of this flower, the "clustered narcissus" of the ancients, are often mentioned by early Greek poets. (4) Portion of a wreath made of the flowers of a species of rose (*Rosa sancta*, Richards). (5) A perfect wreath composed of rose-petals threaded by a needle on to strips of twine. "Recently," writes Pliny in his history of garlands, "the rose chaplet has been adopted, and luxury has now arisen to such a pitch that rose garlands are held in no esteem at all if they do not consist entirely of petals sewn together with the needle" (*Hist. Nat.*, xxi. 8). There are also exhibited (6) a portion of a wreath composed of twigs of sweet marjoram (*Origanum majorana*, L.), lychnis flowers, coils of papyrus pith, and pieces of copper tinsel; (7) a portion of a wreath composed of chrysanthemum flowers and leaves, purple cornflowers, and petals of the flower of a species of *Hibiscus;* (8) a portion of a wreath made of flowers of *Matthiola librator*, L., flowers of the polyanthus, narcissus, and *Hibiscus* petals; (9) portions of two necklaces made of flowers of the date palm threaded on strips of twine; and (10) a fragment of a necklace made of fruits of the date palm. Among the plant-remains are peach-stones, dates, and date-stones, walnut-shells, currants, pomegranates, plums, figs, chick peas, common garden beans and peas, lentils, wheat, barley, and oats. These are probably the remains of the ancient funeral feasts which were held in the Hawara cemetery by the relatives of the deceased people who were buried there. The whole collection (of which the series exhibited is only the third part) is fully described by Mr. Percy E. Newberry in Mr. Flinders Petrie's "Hawara, Biahmu, and Arsinoe."

— *Nature* announces the death of Signor G. Cacciatore, director of the Palermo Observatory. He died on June 16, in his seventy-sixth year.

— In response to demand, a new edition of Professor A. Gray's small work on "Absolute Measurements in Electricity and Magnetism" will be issued immediately by Messrs. Macmillan & Co. The whole work has been very carefully revised, and several alterations and additions made, which it is hoped will bring it into accordance with the present state of practical electricity, and render it still more useful to students and electrical engineers. The preparation of the second volume of the same author's larger treatise on the same subject is being pushed on at the same time as quickly as possible.

— Years ago, when Mr. Charles Wickes was engaged in the preparation of his work on "Spires and Towers of Mediæval English Churches," he had the good fortune and good sense to consult certain members of the architectural profession, who earnestly besought him to print, before the completion and issue of the more elaborate colored drawings, an uncolored edition of his work for the special use of architects. This work Messrs. Ticknor & Co. have reprinted, and are about to issue, not in its original form of three volumes, but the entire work in a single volume. A certain portion of these plates have already been republished in the imperial edition of the *American Architect;* but even subscribers to that edition will probably be glad to find a place for the work in its enlarged and completed form, as the plates which have been printed in the imperial edition of the *American Architect* are scattered through the issues of that journal during a period of nearly two years, and therefore are not readily accessible. Moreover, the present edition contains in full the valuable notes and criticisms of the original, making forty pages of text and notes, not less valuable than the plates. The work is now in press, and will be ready for sale in the course of a few weeks.