

THE TAR HEEL.

Vol. 12,

UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL, N. C., THURSDAY, JANUARY 28, 1904.

No. 15.

OFFICIAL ORGAN OF THE UNIVERSITY OF NORTH CAROLINA ATHLETIC ASSOCIATION.

LECTURE BY PROFESSOR COBB.

Professor Collier Cobb Delivers An Interesting and Entertaining Lecture.

Prof. Collier Cobb gave a most interesting and instructive lecture in Gerrard Hall Thursday evening on "The Fossil Fields of Wyoming." This is a subject on which Professor Cobb speaks at first hand, since he was an officer of the Union Pacific expedition to the fossil fields of Wyoming and has spent much time in that region, besides making a careful study in the laboratory of some of the fossil forms discovered there.

The first half of the lecture was devoted to a discussion of the many ways in which the record of plant and animal life is preserved in the rocks. The remains of a large fish from Wyoming, showing every bone and even the eye, preserved in a calcareous shale; the tooth of a mastodon from Fort Barnwell, N. C., and shells and bones from the marl beds of our coastal plain, were shown to the audience as types of the actual organism itself preserved. The foot-prints of reptiles in sandstones from the Connecticut valley and of unknown animals in the shales of Cummock, N. C., and impressions of leaves on the shales and sandstones of several different localities showed how even the mould of a creature may be just as good as the creature itself, so far as a record of his existence goes. The two valves of a clam shell may have the space between them filled with clay, and then on removal of the shell by solution we have a cast of the interior of the shells, as illustrated in some forms from Wilmington, and these casts are also recognized as fossils. Again, we may have a replacement of the original material of wood or bone with lime or iron or silica, as in this wood from near Chapel Hill, or this vertebra from Wyoming, in which case this petrification has preserved for us a fossil. Thus you see, we may have the original thing, the cast, or the petrification, as four forms of fossils.

The muds and sands and gravels worn from the land by the weather are borne by the streams to the oceans and seas and lakes, and as these sediments are deposited in layers over the sea-floors and lake-basins, they entomb and preserve the remains of creatures in one or more of the ways just described. The geologist tells from the character of the fossils whether the strata were deposited in bogs or lakes or inland seas or in, the open ocean. Fresh-water formations are usually very limited in area, and the absence of many fossil forms usually met with in marine strata afford a useful negative indication of the fresh-water origin of a formation. For example, there are no sea-urchins, no crabs, no chambered shells, such as the nautilus, nor microscopic foraminifera in lake or river deposits.

In freshwater deposits, too, the number of individual shells is often as great as in a marine stratum, if not greater; but there is a smaller variety of species and genera. It is in the lowest strata, the oldest rocks that we find the simplest forms; and these come up to the present time almost unchanged. More and more complicated types are successively introduced, and the forms found in the newest rocks extend back for a relatively short time.

Some years ago a cowboy named Reed, riding over the Wyoming plains, had his horse stumble on a bit of bone which awoke a new train of thought in his mind and brought a new interest into his life. He knew the name of but one scientist in the world and he sent to Prof. O. C. Marsh, of Yale, the fragments that he gathered in the Como Bluff near Aurora. The cowboy became a collector for Yale University and the Yale professor extended his brilliant discoveries of unique importance in the field of organic evolution. Were all other evidence lost or wanting, the law of evolution would still have a firm foundation in incontrovertible fact through the discoveries of Professor Marsh.

In 1899 there was renewed activity in the region. Prof. Knight, of the University of Wyoming, Prof. Osborne, of the American Museum of Natural History, our friend Dr. Holland, of the Carnegie Museum, and Mr. Riggs, of the field Columbian Museum, got to work with a will in that region. The Union Pacific Railroad then invited a hundred geologists from all parts of the world to spend the summer of 1899 in the field, and our lecturer was so fortunate as to be one of that number.

The lecturer then gave an account of the expedition and of its personnel, illustrating it with stereopticon by numerous photographs. Flanking the plains of Wyoming and Colorado are lines of dark red sandstone bluffs which everywhere form striking landmarks. Just above them runs a second series of bluffs of white sandstones and hard clays. These latter constitute the Jurassic formation, famous for its deposits of the remains of extinct reptiles. The whole thickness of this formation is nearly a thousand feet, and it is divided into a lower or marine series of strata. The marine strata yield only the swimming ichthyosaur, a fish-lizard, while in the fresh water Jura there are to be found throughout nearly the whole depth the remains of the immense dinosaurs, or land lizards.

The lecturer then described the methods of prospecting for fossils, "hunting dead lizards underground," as he termed it, and the means of preserving and transporting fossils from the field to the laboratory. He showed photographs of the bones and restored skeletons

of some of the dinosaurs. "In comparison to a mammoth many of these animals were in size as a horse to a dog; and this expedition unearthed the largest one known to science, a Brontosaurus, whose incomplete femur measured 69 1-2 inches. The entire animal must have weighed in life about sixty tons; he had a neck thirty feet in length. His ribs are about nine feet in length and a tail perhaps sixty feet in length. His ribs are about nine feet in length, and the cavity of his body with the lungs and entrails out would make a hall thirty-four feet in length, sixteen feet in width, and arched over probably twelve feet in height. Such a space, if properly arranged, would seat at least forty people. A set of fours in cavalry could easily have risen abreast between his front legs, provided he had not objected. Every time he put his foot down it covered more than a square yard of ground and must have shaken the earth." This is Mr. Reed's own description of the animal.

The largest of these saurians were herbivorous and found forage in the vast tracts of succulent reeds and cycads so abundant then in that region. The cycads are the forerunners of our modern palm, for Wyoming had then a sub-tropical climate.

Numerous other fossil forms were described and pictured; but your reporter found it impossible to follow the lecturer through his words and illustrations, becoming too greatly interested to take notes in a darkened hall brilliant with great pictures.

Knocker's Column.

TO THE EDITOR:

Please allow me a short space in your Knocker's Column. It is rumored around the Campus that the Advisory Committee has been warned not to offer our next fall's foot ball coach more than \$650 and his expenses while here. If this is true and it comes pretty nearly straight, it means that the record of the '04 team will not be that of our past season's team. For we positively cannot get a good man for so small a salary. Good coaches have put us in the very fore front of Southern athletics; bad ones will put us in a class with minor colleges and prep schools. This is a pitiable sum to offer when a sister institution with no more men and no more money pays \$1700 per year for their coach; many prep schools offer salaries to their coach which equal the one we are about to offer. Why don't we put out our money and get a first class man? It is simply because *one man* says, "No." It is time for the students to exercise their rights in the matter of athletics; for the students form the athletics of any college. Let us all raise our voices for what we think is right and cease to bow to the imperial commands of any one man. A STUDENT.

SAUL OF TARSUS.

The Wendling Lecture on Tuesday Night a Brilliant Production of a Masterful Orator.

The lecture of Mr. George R. Wendling on Tuesday evening was one long to be remembered by all who heard him. His lecture of last spring on "The Man of Galilee" was still fresh in the minds of his audience. His masterful presentation of that subject brought out a crowd Tuesday night that filled every seat in Gerrard Hall. This time his theme was "Saul of Tarsus." For an hour he held his large audience in unbroken attention to a well-nigh marvelous delineation of the greatest character in human history. His eloquence, his vividness of description, his knowledge of the Bible, and his earnestness of speech place Mr. Wendling at the head of lyceum lecturers. Surely his equal has not been to Chapel Hill for some time.

"Saul of Tarsus" is one of Mr. Wendling's most famous lectures. In it we see not the divinely guided apostle of a great religion, but the man of genius, the orator, the martyr, the hero. We behold a man of profound intellect, suffering numberless persecutions, but through them all holding fast to an unshakable faith.

The substance of the lecture was as follows:

I shall speak to you tonight of the man we call Saint Paul. But we will look not at the divine nature of Paul the Apostle, but rather at the man, Saul of Tarsus. We shall measure him not by divine standards, but by human measures. We shall consider him only on the human side, and see what position he holds as a genius, as a thinker, and as a man of achievement. How does he stand as an orator, a martyr and a hero?

To understand these things we must first know the social condition of the times in which Paul lived. We will stand on the summit of Cheops and survey the centuries that had preceded him. Great civilization had lived and died. Persia, Egypt, Troy, Greece and Carthage had each been the mistress of the world and passed away. The great Roman Caesars now stretched over the world and ruled all. In the midst of this political history we find another force. As the Gulf Stream tempers the continents of North America and Europe and renders them fit for high civilization, so was there a stream running through them and to a great extent making them what they were. This stream was the Jewish race. This people had been through bondage, had enjoyed a strong national existence and had suffered captivity. Now they had lost their nationality, but held out merely as a religious body, disdaining to mix with other races about them.

While the world stood breathless after the fall of Caesar, waiting for

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