

and Washington, the last ones I attended until recently, it was very easy to find out who were present from day to day, and generally possible to identify each member. The contrast in this respect was very great in New York last winter. It was very difficult, if not impossible, to learn who were in attendance, and equally to identify the members—quite a disappointment to me and I feel sure also to others. When I saw how things were at this meeting I asked a seemingly energetic member standing by me: "Wherefore this trouble? Why not post an alphabetical list in a conspicuous accessible place on the wall so we can tell, all of us, at a glance who are here." He seemed quite pleased with the idea and asked me why I did not patent it. I took this reply seriously until I learned that my companion was the learned permanent secretary of our association and then I saw he was poking fun at me, for how absurd to think there could be improvement on what such a man arranged! Perish the thought!

Our identification by buttons was very unsuccessful, apart from the absence of a list of names; the figures were far too small for most eyes. In fact the inability to make out the figure on a button placed me in the above absurd position of criticizing the management to our learned secretary himself. Moreover, the buttons were not quite fairly distributed. I came early and was assigned a low number, below fifty, I think, but I could not get that button throughout the whole meeting though I applied for it every day. I saw plenty of higher figures, way up into the hundreds. Members arriving much later were served much more promptly. Why not have the numbers on ribbons with large conspicuous figures, say scarlet ground and one inch black figures. These we could see. Then if in addition a daily list of members present were distributed, I for one should find happiness right at this part of the meeting, but I fear on account of the expense—what are our dues for—and because I see in the notices sent out that no daily program will be issued, I shall have to seek happiness elsewhere.

CLARENCE L. SPEYERS

RUTGERS COLLEGE,
NEW BRUNSWICK, N. J.

SPECIAL ARTICLES

ON THE DISCOVERY OF REPTILIAN REMAINS IN THE PENNSYLVANIAN NEAR PITTSBURG, PENNSYLVANIA

IN the vicinity of Pittsburg, the Ames Limestone rests upon a bed of almost structureless red and green clay which forms the upper part of the Pittsburg Red Shale. The thickness of this bed varies, but usually ranges from eighteen to about forty feet. At a locality about one mile west of Pitcairn and fifteen miles east of Pittsburg, the writer was fortunate enough to obtain a number of bones which appear to represent the remains of animals of at least two groups, namely: theromorph reptiles, and amphibians.

In this preliminary notice it is intended merely to describe these bones in a general way, and to show the stratigraphic position of the bed in which they were found. The bones have been examined and provisionally identified by Professor E. C. Case and Dr. W. D. Matthew, to whom my thanks are due. A detailed description of these fossils will be given by Professor Case in the forthcoming number of the *Annals of the Carnegie Museum*.

The "Crinoidal" (Ames) Limestone of western Pennsylvania is the youngest of the fossiliferous limestones of marine origin in that region, and is located at about the middle of the Conemaugh Series (Lower Barren Measures). In the vicinity of Pittsburg it lies 315 feet below the Pittsburg coal. At Pitcairn, the section extends but a short distance above the Pittsburg coal, but in the more complete sections farther south, the Monongahela Series, about 380 feet in thickness, overlies the Conemaugh. Above the Monongahela Series is the Dunkard Series, usually referred to the Permian. The horizon of the vertebrate fossils is at least 725 feet below the base of the Permian (Dunkard Series), and about an equal distance above the top of the Mississippian.

At Pitcairn the red clay beneath the Ames Limestone is 37 feet in thickness. Three feet above the base is a layer of somewhat nodular limestone, full of small worm-tubes (*Spirorbis carbonarius* Dawson). The teeth of the diactid reptile described below were weathered

out, and found lying on this layer of limestone where it projects from a rather steep bank at the roadside. All of the other bones were found imbedded in the clay about a foot above the layer of limestone, and about ten feet from the spot where the teeth were lying. All the bones were at the same level, and were recovered from an area about three feet in length and one foot in width.

The bones are in a good state of preservation and though somewhat brittle, are easily freed from the rather soft clay matrix. Many of the bones are fragmentary, apparently having been broken before they were imbedded. Very few of them are distorted, though the clay which contains them is full of slickensides. No other fossils have yet been found in this bed. About twenty-five entire or fragmentary bones have been found. The most complete are an ilium, some ribs, and the pleuro-centra, hypocentra, and neural arches of vertebræ of the rachitinous type. All these appear to belong to amphibians, probably much like *Eryops*, from the Permian of Texas.

The reptilian remains consist of several chevrons, and a fragment of a jaw containing four small transversely elliptical, long-rooted teeth. These are evidently from a reptile belonging to the family Diadectidæ.

Age of the Beds containing the Vertebrates.—The Ames Limestone is not a local stratum, but can be "traced from Central West Virginia in Lewis County northward into Pennsylvania and continuously through Greene, Westmoreland, Allegheny, and Beaver Counties into Ohio, whence it can be followed without a break across that state to where it reenters West Virginia near Huntington in Cabell County, to disappear finally under water level at the Kentucky line in Wayne County, eight miles above the mouth of the Big Sandy River" (West Virginia Geological Survey, Vol. II., p. 259). The red clay and shale below the limestone seem to be coextensive with it. There is therefore no doubt of the position of the bed containing these fossils.

All of these vertebrates have evident affinities with Permian species, no reptiles having been found in strata known to be older than the Permian. Similar fossils have been found

in beds on the border line between the Permian and the Carboniferous on Prince Edward's Island, and in Illinois, Kansas, New Mexico and Arizona. The formations containing the reptiles in those localities have been referred to the Permo-Carboniferous (*i. e.*, the base of the Permian).

The Conemaugh series of southwestern Pennsylvania has always been considered as Upper or true Carboniferous. Recently Dr. I. C. White has suggested that the Monongahela Series and that part of the Conemaugh Series above the base of the Buffalo Sandstone, should be removed from the Carboniferous and placed in the Permo-Carboniferous. He cites in favor of this action a change in the fauna and flora, and the introduction into the section of "red-beds" above the base of the Buffalo Sandstone (West Virginia Geological Survey, Vol. II., 1903).

The discovery of reptiles in the Pittsburg Red Shale, at a horizon about 150 feet above the base of the beds ascribed by Dr. White to the Permo-Carboniferous, presents an argument in favor of this suggestion. It should be noted, however, that the remains so far found indicate smaller and more simple animals than those found in the Permian of Texas, and thus suggest their somewhat greater antiquity.

The evidence obtained from the invertebrate fossils of the Conemaugh Series, so far as they have been studied, is not of great value in the correlation of these beds, for the fauna consists mostly of long-lived species.

No distinctly Permian fossil plants have yet been found below the Dunkard Series, and the preponderance of the evidence at the present time seems to be in favor of regarding the Conemaugh Series as Pennsylvanian.

PERCY E. RAYMOND

CARNEGIE MUSEUM,
November 19, 1907

THE TUSKS AND SIZE OF THE NORTHERN MAMMOTH

THE last report of the Smithsonian Institution is accompanied, as has become customary, by an "appendix" consisting of a selected number of scientific papers of very general in-