THE AMERICAN CHEMICAL SOCIETY.

The October meeting of the American Chemical Society was held Friday evening, the 7th inst., with Dr. A. R. Leeds in the chair. The following new members were declared elected: H. C. Heipe, Wm. L. Leman, Dr. H. Von Bauer, Lewis Habel, Dr. Lauber, Dr. P. Radenhauser, and Mr. A. L. Colby. The first paper announced was by Prof. Leeds "On the Comparative Purity of City Water." In consideration of the recent litigation in regard to the pollution of the water of the Passaic river, Prof. Leeds was appointed to investigate the purity of the water from a chemical standpoint. The water supply of the cities of Newark, Jersey City and Hoboken is taken from the above mentioned river. Before it reaches Newark, the sewerage of Paterson, a city of 50,000 inhabitants, is emptied into it: besides this, along the river, the stream receives the refuse from a number of factories.

A short distance beyond Paterson, at a paper mill where carbolized paper was manufactured, the entire refuse was dumped into the river. In consequence of the dissolving of the carbolic acid, its presence was soon detected at Jersey City and Hoboken, and it became so objectionable that the water could not be used for drinking purposes. Legal measures were at once adopted, and the nuisance stopped. Simultaneous collection of specimens of the drinking water of the leading cities of the United States were collected, and a comparative examination of the organic matter (estimated according to the permanganate method) undertaken. Without any other special reference to the data given by Prof. Leeds, his results were as follows:—

The purity of drinking water:—

1, Brooklyn; 2, Rochester; 3, Philadelphia; 4, Baltimore; 5, New York; 6, Washington; 7, Newark, Jersey City and Hoboken; 8, Cincinnati; 9, Boston; 10, Oswego; 11, Wilmington, Del.

In answer to questions which arose during the discussion of the paper, it was stated that during the past summer an excessive amount of chlorine was found in the analysis of the Passaic river, a fact contrary to all previous experience, and one which was considered as due to the extreme drought of the past summer so diminishing the amount of fresh water that the sea water had extended quite a ways back up the river. A similar circumstance was stated in regard to the Hudson river this year, the salt water being detected higher than usual. In regard to the statements recently made by Prof. Huxley in reference to the spread of disease by germs in the water, a very significant fact was mentioned by Prof. Leeds, in commenting on the rags used in the paper mills, who stated that they were imported from the plague stricken regions of Smyrna, and yet not one case of analogous disease had been observed from those who used the water, in which these rags were cleansed, for drinking purposes. The desirable property of precipitating out organic material from water by the use of the basic chloride of iron was remarked by Dr. E. R. Squibb. This fact has been used to advantage by one of the large hotels at Coney Island.

"Upon some new Salts of Thymole Sulpho Acid, and some new facts concerning the same," was the title of the second paper. It was by Mr. James H. Stebbins, Jr., and was essentially a resumé of some recent salts prepared by him and description of their important characteristics.

The third paper was by Dr. W. Hempel, who gave in the German language a descriptive "Exhibition of some new Gas Apparatus." Not only were they exhibited, but Dr. Hempel, in the presence of the Society, made analysis of the illuminating gas (which he considers superior to that used in Europe) and of the air. To those who are especially interested in this branch his recently published book will give the requisite information, and for the average reader a general description is almost impossible without cuts.

M. B.

MOUNDBUILDER SKELETONS.*

I.

By W. C. Holbrook, Coleta, Ill.

The skeletons found in the mounds of Rock River Valley, although always partially decomposed, present the following anatomical peculiarities:—

The *cranium* is small, low and broad. The superciliary ridges are very large and cause the forehead to appear even lower than it really is.

The malar process and the zygoma small and low.

Traces of a *frontal suture* are sometimes found in adult skulls. In the skull of a child about six years old, the suture was well developed. It appears that the two lateral portions of the frontal bone did not then unite as early in life as they now do, and that the traces of this suture remained through life in some persons. In one adult skull I found ten bones, viz.: two occipital, two parietal, two frontal, two temporal, sphenoid and ethnoid. The occipital was divided into two lateral portions by an *occipital suture*.

The *frontal suture* was also well developed. The *sagittal suture*, therefore, extended from the glabella over the vertex to the *foramen magnum*.

The *sagittal suture* is usually quite short. In one skull it measured only 4 67-100 inches, and the frontal and the occipital bones in this specimen were normal.

The supraorbital foramen is usually large and about one-eighth of an inch above the orbit. I never saw a supraorbital notch in a moundbuilder skull. *Ossa triquetra* are very uncommon and are confined to the lambdoid suture. This suture, together with traces of an occipital suture sometimes form one or two large triangular *ossa triquetra* in the superior angle of the occipital bone.

The posterior half of the synamus suture is often completely grown up and the adjacent part of the temporal and parietal bones completely united.

The grooves for the *arterie menigea media* are very deep, while the foresæ that correspond to the brain are shallow and indistinct. The frontal sinus large and triangular in shape. The lower joint was large, massive and broad. The teeth are usual remarkably sound. I have never found but two or three "decayed teeth" in all of my explorations. Toothache was not, therefore, one of the troubles that beset the moundbuilders.

The humerus presents one marked peculiarity. About midway between the external and the internal condyloid ridges, and in the center of the fossa for the coronoid process of the ulwa, there is sometimes a well developed foramen.

In some mounds that contained fifteen or twenty persons this foramen was found in more than fifty per cent. of the humeri. I sometimes found it in both the right and the left arms. When only present in one arm, traces of an obliterate or grown up foramen were sometimes found in the opposite arm. Traces of this foramen are quite frequent, and in all moundbuilder humeri, the flat portion of bone between the condyloid ridges are very thin. This foramen is usually small and circular. Sometimes, however, it is large and triangular in shape, the base of the triangle parallel with the trochlea and the sides parallel with the condyloid ridges. A nutritious foramen sometimes enters the lower end of the shaft of the humerus at the superior angle of this triangular foramen. I believe that the moundbuilders were slowly outgrowing this Simian characteristic, for the humeri containing the triangular foramens are found in the oldest mounds, and are associated with the lowest foreheads and the smallest crania. In both the right and the left humerus of the skeleton whose skull contained ten bones, I found this foramen well developed. In the more modern mounds this foramen is less frequently found, and when present, is small and circular. The

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