Milk has also many times been the medium through which the typhoid poison has been disseminated. Impure water has been used to wash out the milk-cans, if, indeed, it has not served other purposes, and the milk has thus become infected. A striking example of this medium of contagion was the outbreak of typhoid at Marylebone, London. Within a few weeks 123 families were attacked. Mr. Radcliffe traced the cause of this outbreak to milk, which came from a particular farm on which "water used for dairy purposes contained excremental matters from a patient suffering from enteric fever, immediately before and at the time of the outbreak."

Epidemics occurring at Edinburgh, Glasgow, Bristol, and Dublin have also been traced to milk. These facts should stir up all health officials to the vital importance of the most rigid scrutiny of the milk supplied to the people under their charge, and should lead our judges to inflict the severest penalties upon those detected in the adulteration of this most essential food.

That this disease may be contracted by those who nurse the sick is possible, but if this ever occurs it is extremely rare. The discharges from the intestine are believed to contain the infective material; and in the present state of our knowledge to bury these discharges in the ground, or to cast them into the sewer without previous disinfection, must be looked upon as criminal. It is not difficult to understand that the infective material of such undisinfected discharges may cling to the interior of drain pipes and sewers, and through defective plumbing find admission to the dwelling and sleeping rooms of the well. This is doubtless the explanation of the origin of those cases which are ascribed to sewer-gas.

Typhoid fever is eminently a disease of the autumn, and its greater prevalence at this season of the year is attributed by some to the decay of vegetation; others claim to have found its prevalence to depend upon the rise and fall of the ground water. Just how far these conditions affect the prevalence of the fever is a matter of conjecture, and as they are entirely beyond our control we must in our endeavor towards prevention and restriction pay strict attention to cleanliness in all its forms, and especially to the thorough disinfection of the discharges from patients. For this purpose the committee on disinfectants of the American public health association recommend solutions of chloride of lime, of chlorinated soda, or of bichloride of mercury.

In our cities the typhoid patients are largely recruited from the ranks of those of ample means, who during the summer spend their time in the country, and often at the most fashionable watering places. It is notorious that these resorts are, as a rule, unsanitary in their appointments. The crowding of human beings in such places, with the consequent accumulation of human waste, would, it would seem, help to account for the large representation of typhoid fever victims in the ranks of their patrons. A study of typhoid cases with reference to this point would be interesting and doubtless instructive.

MAN AND THE MASTODON.

THE finding of the tusks, teeth, and portions of the skull of a mastodon last November in Northborough, Worcester county, Mass., has led to the important discovery of a human skull, in close connection with the remains of the mastodon. The facts briefly stated are as follows: Mr. Wm. U. Maynard, while having a ditch dug through a peat bog on his farm in Northborough, near the Shrewsbury line, last November, found portions of the skull and teeth of a mastodon lying on the hard pan under eight feet of peat. The specimens were exhibited to the members of the Worcester society of natural history and Worcester society of antiquity, by Dr. F. W. Brigham, to whom they had been given by Mr. Maynard. The teeth were afterwards taken to Cambridge by Mr. Thomas A. Dickinson, an officer of the Natural history society, and were pronounced by Mr. J. A. Allen, of the Museum of comparative zoölogy, to be those of a mastodon about two-thirds grown. An account of the discovery was written soon after by Mr. Franklin P. Rice of Worcester, and printed by the natural history society. A figure of one of the teeth is given.

Early in the present month, arrangements were made with Mr. Maynard by members of the two societies named, acting under the direction of Dr. W. H. Raymenton, president of the natural history society, to make further excavations in the peat bog for the purpose of finding the rest of the bones of the mastodon. While digging eighteen feet to the southwest from the spot where the mastodon skull was found the preceding season, the workmen exposed the top of a human skull, which was at once taken up by Dr. Raymenton, who was superintending the work; and he states that the skull, which he worked out of the enclosing peaty matrix with his fingers, was resting on its basal portion directly on the blue clay and stones. The under jaw was found, teeth downward, about eight inches to the south of the skull, and in immediate contact with the clay. The evidence of several witnesses is conclusive on these points.

Dr. Raymenton and Mr. Dickinson immediately informed me by letter of the discovery; but, owing

to my absence from home, I was unable to visit the place until Oct. 17, four days after the skull had been found. During this visit, I made a careful study of the peat formation and the underlying blue clay, which I take to be the bowlder clay covering the bottom of the basin or old pond, which is some four or five acres in area. Over this blue clay, containing both rounded and split stones, the deposit of peat has taken place. The two skulls, mastodon and human, were unquestionably at the bottom of this peat, both resting on the blue clay; but, owing to the inclination of the basin toward the northeast from the spot where the human skull was found, there were two feet less of peat over the skull than there were over the mastodon. The stratification of the peat was quite marked, and the lower portion immediately covering the two skulls is very fine, and evidently a deposit made entirely under water. Above this the peat is slightly coarser, which character increases to the surface. While a few small pieces of wood were found at the bottom of the peat, several large logs, and what seems to be the remains of a partially burnt stump, were found in the layer about two feet above the human skull. To this depth heavy objects could have readily sunk through the coarse or more open formation above, but I question the possibility of so light an object as a human skull sinking through the lower two feet to the hard pan at any time subsequent to the formation of that stratum. That both skulls were transported, seems to be proved by the fact that no other bones of the two skeletons were found in the immediate vicinity; and that they were transported by water before the peat deposit began, seems probable. The broken portions of the human skull have the appearance of having been worn by water action, and the dissociation of the jaw and cranium would also indicate that method of removal from the rest of the skeleton. Had it been a settling of a heavy body through the peat, we could hardly expect that the skull and jaw alone would have settled to hard pan, and the rest of the bones of the skeleton to have been nowhere near them; and the same remark would apply to the skull of the mastodon.

The skull has been placed in my hands for careful study and comparison, and I hope soon to be able to give definite information in regard to it. Unfortunately, the skull is not a typical one, and the averaging and careful balancing of its characters will have to be made before its race affinities can be determined. In regard to its color, I may add that it is as deep, if not deeper brown, than the bones of the mastodon. Its comparatively perfect preservation when compared with the mastodon skull is, however, remarkable; but this could be easily accounted for by the longer exposure of the mastodon bones on the surface of a gravel deposit before being washed into the basin.

F. W. Putnam.

THE INTERNATIONAL GEOLOGICAL CONGRESS AT BERLIN.

The third and most important session of the International geological congress, which was instituted by an American committee of the American association at its Buffalo meeting in 1876, has just been held.

The first session at Paris in 1878 was really a *pour parler* which broke ground. The next session at Bologna in 1881 accomplished something, but was especially useful in preparing for the work of the session just closed by deciding to produce a geological map of Europe on a scale of 1: 1,500,000 and intrusting its execution to one committee, while another was appointed to devise some scheme for unifying the nomenclature, and, where possible, of fixing the limits of various congeries of beds, which had heretofore been differently understood by different geologists. The obstacles which faced these committees will be at once understood from this bare statement, and will modify any hasty impression that in fact very little has been accomplished.

The two committees, or a majority of members of each, met at Foix and at Zurich during the four years which intervened between the congresses of Bologna and Berlin, and the action of the congress which has just ended was almost exclusively confined to the propositions made in the printed reports of these committees.

Those who arrived in Berlin some days before the opening of the congress found at the superb Bergakademie on the Invaliden strasse the bureau organized to examine the credentials of delegates, and provide each with the necessary card and receipt for the ten marks he paid, besides a medal in silver, bearing the inscription on one side, 'Geologorum conventus, mente et malleo,' with the conventional mallet and chisel crossed, and surrounded by a wreath of oak. On the other side, within a similar wreath, were the words, 'Berlin, 1885.' The medal was suspended by a white satin ribbon, and worn on the lapel of the coat for identification on excursions, etc.

A programme of the order of events may be thus condensed: Monday, September 28, at 10 A.M., meeting of the council at the Reichstagsgebäude; 5 P.M., social re-union of the members of the congress in the ante-chamber of the palace. Tuesday, September 29, 9 A.M., opening of the congress; 2 P.M., visit to the Bergakademie to see