more), or else Fowler's solution alone. In the majority of my cases with students, I have used small doses of these drugs, and sometimes no medicine except the purgative. They are then instructed to eat before going to bed, having put aside every form of work at least half an hour before bed time. A formal menu cannot be made out for these cases; they should simply be instructed to eat, and if they are hungry they should eat whatever they want. A glass of milk and a biscuit or a piece of toast is sometimes all that can be taken at first; or a mashed potato buttered. In a short time the night appetite will grow, and the appetite will then need no particular directions. If possible the night meal should be taken in another room than the sleeping apartment, and for men in the city, it will be found advantageous to go out to a restaurant. The idea of going out for something to eat, and having to wait a short time for it will excite the appetite.

Before eating, however, a bath should be taken. I much prefer cold or cool baths, which should be given with a sponge or stiff brush, and the body thoroughly rubbed off with a coarse towel afterwards. The bath need not be more than five minutes in duration. The objection to the warm bath is that the patient is liable to take cold after it, and it is not so refreshing as a cool or cold bath. After the bathing and rubbing, or after eating, a moderate amount of exercise should be taken. For this a few minutes with Indian clubs or dumb-bells is sufficient. Further than this, the patient should go to bed at the same hour every night, and arise at the same hour every morning.

I have seen a considerable number of cases of insomnia among night men on morning newspapers. These men usually take the evening meal about 6 o'clock, and then often work until 2 A.M. Within the past two years and a half, I have had more than twenty cases of this class, and I have not given a dose of medicine, other than a purgative, to a single one. These patients cannot conveniently stop to take a bath, and then go out to eat. They are instructed to go from the newspaper office to a restaurant, and eat what they want. Here we usually find that the appetite is good. After eating, anything from half a dozen oysters to a good steak, or as much, in fact, as one would eat for a hearty breakfast, they go home, bathe the face, head, neck and chest, take five minutes' exercise and go to bed. In each one of my cases of this class, the patient has reported that the treatment was a success from the first.

Since the age of 18 I have been more or less troubled by insomnia, and nothing has ever given such decided relief as a course of hearty meals just before going to bed. When the temporary insomnia has been relieved by this, I continue the sponge-baths and exercise before going to bed; but sleeplessness often returns after a sustained degree of mental labor and excitement, and is almost immediately relieved by a generally hearty meal before going to bed. At 19 years of age, while a student of medicine, I was dosed for this condition with every then known hypnotic, without any perceptible effect. Accidentally, I found that after eating late at night

I slept well; and I now make it a rule never to go to bed hungry, and always to eat at night when I am in the midst of an unusual amount of work, or engaged in work of an unusually exciting character.

I have had to deal with only two cases of insomnia in old people. In both these cases they had been advised to take a "night-cap" before going to bed. At first the remedy was efficacious, but in a short time it was found that the quantity of alcohol in the "night-cap" had to be increased, or it had no effect, and finally an excessive quantity of alcohol was demanded. I rapidly diminished the quantity of alcohol as the amount eaten was increased, until, with the aid of a full supper and no alcohol whatever, the sleep was plentiful and much more refreshing than before. I do not know of anything which will more readily impair a digestive apparatus than alcohol on an empty stomach. Further than this, one runs the risk of inducing the alcohol habit by prescribing it in this way; and it must be acknowledged that the drowsiness induced by alcoholic drinks will not pass into a natural and calm sleep; and an artificial sleep is only demanded when a patient is positively ill. A cup of hot beef tea (made from some good extract of beef) taken just at bed time, will often be sufficient to cause a good natural sleep.

There is a popular superstition that grown people should not eat immediately before going to sleep; that it will give them indigestion or "night-mare," or both. I cannot see why adults are so very different in this respect from babies. We know that young children awaken at night and must have something to eat before they will sleep quietly; and some children actually fall asleep with a nursing bottle leaking into the mouth. It may be true that digestion is carried on slowly during sleep, and that the digestive function is less active; but here one need not be in a hurry for the completion of the operation. The average person should be in bed seven or eight hours, which is time enough for the digestion of almost anything edible. In our American city life I think that digestion carried on during sleep probably has the better chance for thoroughness.

65 Randolph St., September 2, 1886.

CASES OF POISONING FROM THE EATING OF DRIED BEEF.

BY R. HARVEY REED, M.D.,
OF MANSFIELD, OHIO.

On July 31 I was called to the family of Mr. James E., living at 92 East Market St., and found all the members of the family then at home, sick with a peculiar line of symptoms, of a similar character. I at once suspected a toxic agent of some kind, and on inquiry found my suspicions well grounded. The family consisted of Mr. E., aged 67, Miss E., aged 21, James E., aged 16, and Mrs. E. (age unknown); the last being away from home at that time was not taken ill. Upon further inquiry I found they had all been in their usual health the day before (July 30), on the afternoon of which day they had bought some chipped beef, and all had eaten freely of it for supper.

Miss E., a rather delicate young lady, was taken violently ill about 8:30 o'clock on the same evening, first vomiting the contents of the stomach, after which the emesis still continued throughout the night, the patient throwing up a greenish, frothy mucoid substance, which came up in great quantities. She had marked thirst, with constriction of the fauces and great prostration. Shortly after the vomiting commenced the bowels began discharging, and would move every time she vomited; the discharges consisting of a brownish liquid substance. This was associated with more or less griping.

A homœopath had been consulted in the evening, but considered it a case of cholera morbus and treated it accordingly. The patient not improving as desired, sent for me the next morning, at which time I elicited the above history, and found the patient with a fiery red tongue, a bitter taste in the mouth, vertigo, twitching of the muscles, cold extremities, no fever, and with a pulse of 120, and very much prostrated. With others of the same family suffering in a similar manner, and the associated history, I was led to the legitimate conclusion that it was the result of eating poisonous beef.

James E., Jr., had eaten of the beef on the evening of July 30, but being a very strong, healthy young lad, was not taken sick until after breakfast the next morning, at which time he ate still more freely of the same dried beef. In about an hour and a half he was taken with severe vomiting, which continued for several hours, but was not followed with any considerable diarrhoeal discharge, although the bowels were moved quite freely. He complained of a bitter taste in the mouth, with a deathly sickness and weakness, and vomited a peculiar mucoid substance, after discharging the food contained in the stomach; his pulse was 88, and not associated with fever.

James E., Sr., ate but little of the beef for supper, but said he had had a bad taste in his mouth all night. He was not taken sick until after breakfast, at which time he ate of the beef more freely, and in about an hour and a half was taken violently sick; first with purging, which was soon followed by violent vomiting, first of the contents of the stomach, and then of a greenish frothy mucoid substance which was very tenacious, and would string out from his mouth to the floor like white of egg; the tongue was fiery red and covered with slime. He said he had a peculiar sickening sweetish taste in the mouth, and was very dizzy. He had aphonia, twitching of the muscles, some trouble with the vision, but not marked, at times complete loss of consciousness, and at one time was for several seconds in a spasm. He had great difficulty in urinating, the urine being scanty and high colored; pulse 80 and weak, no fever; extremities cold, and the surface of the body covered with a cold sweat, with general exhaustion and depression. Specimens of the urine were secured from all the patients suspected of beef poisoning, and carefully examined, chemically and microscopically, showing the following results:

Miss E.: Color, light straw; reaction neutral; sp. gr. 1022. A trace of sugar was found, but no albumin. Earthy phosphates not materially increased.

James E., Jr.: Color, very light brown; reaction acid; sp. gr. 1020. No albumin and no sugar, and but few earthy phosphates or deposits of any kind.

James E., Sr.: Color, a dirty yellow; reaction acid; sp. gr. 1028. No albumin and no sugar, but large quantities of earthy phosphates, and the chlorides.

The general outline of treatment consisted in the use of opium and bismuth, together with lime-water and milk, with stimulants and diuretics, followed with tonics and pepsin; while locally were applied heat and stimulating lotions, together with brisk rubbing.

The young man soon recovered, and in a few days felt as well as ever. The young lady was several days in making a recovery, and did not get over the effects for almost a fortnight. Mr. E., Sr., did not entirely recover from the effects of the poison for more than two weeks. They were all troubled more or less with indigestion and constipation for some time after they had recovered from the primary effects of the poisonous ptomaines.

Specimens of the meat were procured, and through the kindness of Dr. J. U. Barnhill, of Columbus, O., sent to Prof. David O'Brine, of the Ohio State University, for a chemical analysis, who subsequently reported finding the ptomaines. His full report is herewith given:

"No. 341. Chemical Laboratory of the Ohio State University. Quantitative analysis of — beef from Dr. Reed, Mansfield, Ohio. Determination of — ptomaines or cadaveric alkaloids. Method of analysis—described by Selmi.

"Found ptomaines and confirmed by tests= $\text{H}_2\text{SO}_4\text{—I}_2\text{O}_5\text{Cu (C}_2\text{H}_5\text{O}_2)_2\text{H}_3\text{PO}_4$.

"The substance was nicely shown under the microscope. The method of analysis is described in 'Blyth on Poisons,' pp. 461-468."

Dr. Barnhill also sent some of the meat to Dr. Leech, of Columbus, for microscopical examination, besides making a careful microscopical examination of the meat himself, which revealed in both instances degeneration of the muscular fibres, with myriads of micrococci.

On August 5, 1886, I was called to visit Mrs. John M. and son Claude, the former aged 42 and the latter 17. They had bought and eaten a lot of dried beef, and in the course of an hour or more were taken violently sick.

Mrs. M. was taken with vomiting and purging; the matters vomited were, after the contents of the stomach were discharged, of a viscid, ropy character. She complained of a nauseous, sweetish taste in the mouth, twitching of the muscles, was badly nauseated, had cold extremities, with vertigo; the tongue was very red, with pulse 120, but no fever.

Claude M. was taken ill very shortly after eating the dried beef, with vomiting and purging, and vomited large quantities of a ropy mucoid substance; had a bad taste in his mouth, cold extremities, tongue red, pulse 100, but no fever.

The treatment in these cases was the same as in the others, with the exception of using small doses of calomel instead of bismuth, on the principal of it being an antiseptic.

I considered both of these cases the result of eating poisonous dried beef; although not quite so severe as the cases of the Ewing family. The young man soon recovered and in a day or so was all right; but Mrs. M. was several days regaining her health, and in fact is still (at the writing of this report) troubled more or less with gastro-intestinal irritation.

I regret very much my inability to procure specimens of this meat.

Remarks.—That the ptomaines or cadaveric alkaloids were the cause of the illness in the above cases is without a question in the case of the Ewing family, and scarcely without a doubt in the last two cases. That there is a poisonous alkaloid which is liable to form in meat, under certain circumstances, has been established without a doubt; but the question of chief importance to the public in general is, when, and under what circumstances, these poisonous ptomaines may and do form, and how to prevent their formation.

When it is remembered that these poisonous alkaloids were first discovered by Selmi in exhumed corpses, the key to the mystery is at our command; chemistry has unlocked the door that led to their once mysterious approach, and has shown their presence to be synchronous with the decomposition of meat of any kind. This being the fact, all tainted meat, from whatever source, should be strenuously avoided; the "shop soured" meat that has spent days on the counter, or in the ice chest, should be shunned, even when cooked and canned, or when made into bologna sausage, or pudding meat, or salted or dried; for it must be remembered that no amount of cooking or curing will remove these poisonous ptomaines from meat in which they have once formed. They are not like the trichina spiralis, or the cysticercus, which can easily be destroyed by thorough cooking.

The commercial process of canning meat in our large cities or packing houses, is another source of these ptomaines; the rapid and slipshod methods resorted to by the most of these houses, by which meat is turned out upon the market in a few days as cured (but which, in reality, has not been cured sufficiently to prevent its decomposition, and as a result the formation of these poisonous alkaloids), should not only be shunned, but these "near cut" and imperfect methods of curing condemned; and no process of curing and packing meat should be permitted that does not insure the most perfect preserving of the same; and no meat should be put through any preservative process of any kind that is not perfectly healthy, "sweet meat" to begin with, that is not absolutely free from any taint or decomposition.

The detestable habit of working up beeves that have been killed by railway accidents, and have not been bled or dressed for days after being killed, and the wholesale slaughter of "bony old cows" and "unborn calves" and placing them on the market for food, is a disgrace to any country.

MEASUREMENTS FROM SKULLS OF THE SEVENTH CENTURY.

BY C. F. DIGHT, M.D.,

PROFESSOR OF ANATOMY AND PHYSIOLOGY IN THE AMERICAN MEDICAL COLLEGE IN BEIRUT, SYRIA.

During a recent visit to Jerusalem, Palestine, I had an opportunity to examine and take the measurements of a large and rare collection of human skulls, which are stored away in the old monastery of Mar Saba, a distance of three hours' horseback ride down the Kedron Valley, midway between Jerusalem and the Dead Sea. The results of this examination are such as are believed to be of interest, and for this reason I am led to publish them.

These skulls are said to be those of the early Christian monks, who in the fifth and sixth centuries lived in great numbers along this Kedron Valley, as far down as the Dead Sea, and also in and about Jerusalem, who in 614 were massacred by the Persians, when they invaded Syria and Palestine under their leader Chosroes. They are, therefore, Caucasian skulls, and probably those of the ancient Greeks and Romans, which were gathered up and stored here to the number (they say) of 10,000. Such being the size and antiquity of this collection, it can hardly fail of being a valuable one. The great traveler and writer, H. B. Tristram, once on looking at it said: "It is certainly a collection the Anthropological Society might envy, and out of which they might select as many types as it suited their fancy to create."

The measurements which I will give are the only ones, so far as I have been able to ascertain, that have ever been taken of any of these skulls. Omitting as far as possible anatomical terms, the five measurements which I took are as follows:

1. The *horizontal circumference*; learned by measuring with a tape the distance from the middle of the lower part of the forehead around the largest part of the occiput to the starting-point.
2. The *naso-occipital length*, or the distance from just above the root of the nose, back over the top of the head to the external occipital protuberance.
3. The *height*, or the vertical distance from the opening of the ear to the level of the centre of the top of the head.
4. The *width*, or the greatest distance through the head from side to side above the level of the cheek bones.
5. The *cranial capacity*, learned by closing the little openings at the base of the skull, then filling its interior with mustard seeds, which are then poured out and measured in a graduated vessel.

Of the ninety-one skulls which I measured, the largest one gave a horizontal circumference of 22.45 inches (570 millimetres), which is $\frac{3}{4}$ of an inch above the average for all races. This same skull gave a cranial capacity of 113.6 cubic inches, which is 28.6 cubic inches greater than the average for all races, and 18.1 greater than the average for the Caucasian race (whose cranial capacity exceeds all other races), and but 4.4 cubic inches less than the capacity of Cuvier's skull—the largest on record. Its width was also the greatest, being 6.38 inches (162 mm.).