during the life of the parasite, there are substances produced which prevent its further development. This is a corroboration of the opinion which we have expressed on the cause of non-recidivation in certain virulent diseases.

A CASE OF RATTLESNAKE BITE.

By Dr. M. L. Dick.

I was called on the 29th of June, 1880, to see a boy, six years old, who had been bitten by a rattlesnake. He was bitten about 3 P.M., but the family did not know it for two hours. He had been out in the harvest field, and started from there to return to the house as soon as he was bitten. He was found by the family lying in the orchard, between the field and the house, vomiting and very greatly prostrated. He had thrown up some wheat, and the family supposed he had overloaded the stomach by eating the grain, and they did not know differently till he revived consciousness enough to tell them what had happened. This was about 5 o'clock.

I arrived about 6 o'clock. Found the boy had vomited a number of times, and was suffering greatly from the bite, which was in one limb. The limb was swelling very rapidly, was very dark and green in places. I prepared a mixture of one ounce each third preparation of lobelia, and tinctures lobelia, scutellaria, and valerian. Nearly a teaspoonful of this was given in warm water every five minutes. Prepared a very strong infusion of black cohosh, and, as soon as this was ready, used it to give the above mixture in. We wrapped the limb in a poultice of equal parts lobelia seeds and capsicum in elm powder, wet with third preparation of lobelia, and kept wet with this. Bottles of hot water were placed along the sides. So soon as I had secured free vomiting several times, obtained a free perspiration, and got him fully under the influence of the medicine, I lengthened the time of the dose to half an hour apart.

A very free perspiration was maintained steadily by these means, the medicine being gradually diminished till the doses were one hour apart. In less than an hour from the time the poultice was applied the pain began to abate, and was much relieved before I left for the night.

On the morning of the 30th I found my patient feeling much better. The swelling extended up into the iliac region, the limb was twice the natural size, and the thigh was dark; but he suffered no pain unless the limb was molested, but complained that it felt as sore as a boil when touched. Had him sponged off, removed the bottles of warm water, continued the rest of the treatment.

July 1. Patient much improved. Swelling diminishing, limb not so sore. Prescribed equal parts of fluid extracts scutellaria and cimicifuga and tincture lobelia; two-thirds of a teaspoonful every two hours. Poultice continued as before; with directions that a strong decoction of verbasum should be applied to the limb, and cloths kept saturated with this, when the dark color had mostly disappeared. My direction in this was misunderstood, and they applied the verbasum soon after I left, which I would not have done. But the result was admirable. They said the verbasum gave most surprising relief to the bad feelings, and, when I came to visit my patient again, he met me at the gate smiling and happy.—*Cincinnati Medical Gazette.*

TOBACCO SMOKING BY CHILDREN.

If we are willing to accept the opinions which sanitarians in other nations have formed, we have a very decided one ready to our hand in Switzerland. That intelligent republic enacted a law, last year, prohibiting the sale of tobacco to minors under fifteen years of age, and making it an offense against the law for such to smoke. Hence a boy of twelve or fourteen who parades the streets of Geneva or Bern with a cigar in his mouth is liable to be arrested and committed to the police station; and as they have a disagreeable habit in that republic of enforcing the laws they enact, such would be pretty certain to be the juvenile smoker's fate.

We recommend to our fellow-countrymen their manner of dealing with the habit, which, whether harmless or not to most adults, is unquestionably of great injury to young boys.—*Med. and Surg. Reporter.*

TREATMENT OF THE INSANE AT GHEEL.

At a recent meeting of the New York Neurological Society, the paper of the evening was read by Dr. W. J. Morton, the title being,

THE TOWN OF GHEEL, BELGIUM, AND ITS INSANE.

The town of Gheel, according to tradition, became a resort for the insane so early as the seventh century. The patients first came in order to worship at the shrine of St. Dymphna, which had acquired high reputation for its cures. As the fame of the town grew, the insane flocked to it in greater numbers, and the inhabitants gradually adopted the custom of taking into their houses and homes the afflicted persons who came to pray for cure at the sacred shrine. Definite knowledge of Gheel, as a home for the insane, dates from the twelfth century. Since that time its reputation has never waned, and in the past century has steadily increased.

Gheel is a commune in Belgium, numbering about 12,000 inhabitants, who are a mixture of Germans and Gauls. It has no special industry, but the population is principally occupied in agriculture, domestic lace-making, and caring for the insane. They are frugal and industrious, and the general spirit of the town is peaceful and calm, without being exactly behind the age. Most of the population is centered in a town about which hamlets are scattered the distance of about a mile. Among the 12,000 inhabitants there are about 2,000 domiciles, of which nearly 1,000 receive insane patients. All classes of the insane are received at Gheel, except such as required continual restraint, and those who are suicidal, homicidal, or incendiary. The insane population numbers now about 1,600, and is steadily increasing. At the beginning of the century it was 400; in 1868 it was 1,035; in 1876, 1,353.

Of this insane population seven-eighths are Belgians, and the rest Hollanders, Germans, French, and English. About 200 are paying patients; the rest are paupers.

The Gheel insane had no regular medical service until the year 1851, when the Gheel system was thoroughly reorganized, and placed under government control.

THE ADMINISTRATION

of all the affairs of the insane now rests in the hands of a "superior commission," composed of: 1, the governor of the province, or his delegates; 2, of the attorney general; 3, of the judge of the canton; 4, of a physician appointed by the government; 5, of the burgomaster of the commune;

and 6, of five members nominated annually by the minister of justice. This commission has a salaried secretary, who has very important duties. He makes the reports, conducts the correspondence, has charge of moneys and the books, and is steward of the central infirmary. Any outside towns or asylums having twenty-five or more patients at Gheel may be represented by a delegate. The medical inspector also has a consulting voice. The real working part of the commission is made up of the five appointed members mentioned last. These meet once a week, receive reports, disburse money, distribute the patients, and see that the laws and regulations regarding the care of the insane are carried out.

NOURRICIERS AND HOSTS.

Those families which are willing to receive patients must be duly registered and must have shown evidences of good moral character and ability to provide proper accommodations and food for their insane charges. The families that receive paying patients are called hosts; those that receive paupers are called "nourriciers," or nurses. No family takes more than two patients. Great care is taken to see that these patients are put in surroundings as much like those they were previously accustomed to as possible. A great many precautions are taken to see that the patient is not overworked, and is well cared for in every way. Thus there are four "section guards," who patrol the special district assigned them, and make daily reports to the medical inspector.

THE MEDICAL SERVICE

is under the charge of a medical inspector, Dr. Peeters, aided by three physicians, who have charge of the three separate sections into which the town is divided. Each section physician visits the curable patients at least once a week, and the incurables once a month, their visits being registered in a book. He makes a monthly report to the medical inspector, who in turn reports to the superior commission. The medical inspector makes visits whenever asked, and must, in any event, visit every patient at least three times a year.

THE INFIRMARY

resembles in its main features the ordinary closed asylum. Its purpose is to afford the usual hospital treatment to patients attacked with incidental diseases; to care for the very infirm, and to make a brief charge of cases that suddenly develop a condition of excitement which requires for short periods continuous and special watchfulness and restraint. The patient's stay in the building is expected to be temporary. The business management is under the direction of a steward, the secretary of the commission. The medical duties are entirely distinct from the executive, and are performed by the medical inspector. There were, at the time of Dr. Morton's visit, thirty-seven patients in the building out of an insane population of 1,603. No mechanical restraint was employed.

THE INSANE IN THEIR HOMES.

The liberty which patients apparently have in their homes is really hedged in by carefully considered restrictions, and by systematic care and watchful restrictions. Not only is each patient cared for by his own particular village guardian, but the whole community co-operatively act as voluntary guardians. In a place where nothing is concealed, abuses are not likely to thrive. Public opinion and open dealing are the patient's safeguards. And to this traditional relation between villager and patient must be added the surveillance of regularly appointed officers. The speaker believed that the assertions of Dr. A. M. Shew, in his pamphlet on Gheel, that there was an absence of medical care and an almost unlimited opportunity for the abuse of patients, were entirely incorrect. Abuse was in reality impossible, and the medical care was very skillfully directed. The insane are classified into the "dirty," the "half-dirty," and the "clean." For the first class is paid about nineteen cents a day; for the second, eighteen cents; and for the third, sixteen cents.

About four-fifths of this money goes to the villager; the rest is for medicines and medical attendance. These rates are lower than at any other establishment in Belgium.

The speaker described an inspection which he made of a large number of houses, with especial view to seeing the quarters provided for the patients. These he in every case found to be clean, well ventilated, and supplied with a good bed. The statement of Dr. Shew, that the patients were in many cases stowed away in garrets, lofts, and out-of-the-way nooks and corners, was not corroborated by the speaker's observations. A little book is kept by the nurse or host, in which is a record of the patient's history and of the visits paid by the doctor.

Dr. Morton related several cases taken from the records of Dr. Peeters, showing the good effects of the Gheel system upon insane patients brought to the colony.

The number of escapes range from seven to twelve annually. The villager in charge is responsible for his patients, and has to pay for the expense of capture. Patients who escape are quickly captured and returned.

Acts of violence are comparatively rare. Only three instances are known. One of these was a homicide committed in 1840. The other two were acts of personal violence, not resulting seriously. Three suicides have occurred since 1875. Offences against morality are almost unknown.

THE HAMLETS.

In the suburbs of the central town, in every direction, there are groups of farmers' houses. Here a good many of the insane are also domiciled. These houses are not as well kept as those in town, but they make comfortable and healthy homes. The peasants themselves are fine specimens of physical health. Dr. Morton did not agree with Dr. Shew that the houses were damp, and the peasants overworked and under-fed. Everything showed care and kindness on the part of the peasant attendants. To look after their charges seemed to be a settled part of their daily lives.

It is difficult to get a fair estimate of the per cent. of cures at Gheel, for the proportion of incurables is very large. Thus, of 313 patients admitted in 1879, seventy-three were received from other asylums, and all but two were absolute incurables. Reckoning, however, upon the admissions from 1853 to 1870, the per cent. of cures was 24. On the other hand, the proportion, based upon the probably acute cases admitted, was from 79 to 89 per cent.

THE "GHEEL IDEA."

The main characteristics of the Gheel system are its comparative freedom, occupation, and the family life. Gheel is probably an ideal which can never be repeated by any other nation, for the simple reason that there is but one village of Gheel removed from the whole world's traffic and

turmoil, where the inhabitants, by reason of centuries of inheritance, have learned a patience sublime in its simplicity, a tact in management born of affectionate regard for their charges, and an absence of timidity impossible to realize until witnessed.

But though the "Gheel idea," the family system, may not be repeatable, the essence of the idea, *i. e.*, a large and reasonable liberty, healthful and sufficient employment, and accustomed and congenial surroundings, is repeatable, though not certainly in any of our great asylum buildings. Gheel teaches us the possibilities that lie in the treatment of the insane, and how woefully wide our advanced civilization is from the mark it might attain in this direction.

SELECTION AND PREPARATION OF FOOD.*

By Miss RUTH SMITH.

Mr. President, and Ladies and Gentlemen:

The selection and preparation of food is the subject before you for discussion this evening, and if you ask, as you well may, why I am the one to open the discussion, I reply that it is in obedience to the expressed wish of your late worthy President, Mr. Cheever.

The human body is composed of the following fourteen elements: Oxygen, hydrogen, carbon, nitrogen, phosphorus, calcium, fluorine, sulphur, chlorine, sodium, iron, potassium, magnesium, and silicon. To supply the constant waste in these elements, which must be done daily, or ill results are sure to follow, a loving Father furnishes us, not only with an almost endless variety of food, with air, and with water, but also with brains to devise and hands to execute ways of preparing it, and our part is to accept these good gifts with thankful hearts and learn to use and not abuse them.

Food may be divided into three classes. That class which supplies the lungs with fuel, and thus furnishes heat to the system and supplies fat, may be called carbonates, carbon being the principal element; that class which supplies the waste of muscles may be called nitrates, nitrogen being the principal element; and that which supplies the bones, the brains, and the nerves, and gives vital power both bodily and mental, may be called phosphates, because phosphorus is the principal element. Of these three classes, four times as much carbonaceous food is required as there is of nitrogenous, and of the phosphates not more than two per cent. of the carbonates, and animal and vegetable foods are equally adapted to supply these necessary elements.

In animal food the carbonates are furnished in fat, and the nitrates in albumen, fibrine, and caseine. In vegetable food the carbonates are furnished in sugar, starch, and a little fat, and the nitrates in gluten, albumen, and caseine. The phosphates, in both animal and vegetable food, are found inseparably connected with the nitrates, none being found in any of the carbonates.

Wheat contains the fourteen elements which constitute the human system; and the proportion of muscle-making, heat-producing, and brain and nerve-producing elements are in about the average proportions required in moderate weather, with moderate exercise of bodily and mental faculties, these elements being required in different amounts, according to the employments of the individual and to the temperature of the atmosphere. The man who is chopping wood in an atmosphere at zero, and he who uses only his brain in a room at 70°, consume very different elements in very different proportions, and therefore require very different elements of food.

These fourteen elements are contained in the whole grain, or in unbolted flour, and while bread made from this flour, mixed only with pure cold water, is undoubtedly the more wholesome, we need not necessarily confine ourselves to it as an article of food. In making superfine flour the food for muscles and brains is lost, but this loss can be supplied by eating with bread made from it lean meat, fish, cheese, or any other food containing similar elements.

The flour which contains the most gluten or muscle-making food is not only the most nourishing, but the most economical. Gluten absorbs water, which causes the paste to swell, and in this way housekeepers can judge of the strength of the flour; and when we consider that flour with the most gluten is not only twenty-five per cent. more economical than that with the least amount of it, but that it is also sweeter and more digestible in the same proportion, it becomes a matter of great importance to be able to judge of its richness in gluten. But let your bread be raised with yeast not with soda. Mrs. Richards, who is connected with the school of chemistry for women in Boston, says in her lecture upon "Chemistry in the Household," words to this effect: "Saleratus is in itself an active poison. This poison is neutralized by acids, but if the wives and mothers of our land were aware that in all cases where not entirely neutralized, it acts as a destroyer upon the inner coats of the stomach, causing dyspepsia and its train of horrors, they would banish it as much as possible from their kitchens. Cream of tartar and bicarbonate of soda should be purchased of the druggist instead of the grocer; the soda should be sifted before measuring, to remove the lumps, and the proportions of two spoons of acid to one of soda should be very accurate, evening off each spoonful as carefully as possible."

It is not as safe to use sour milk to neutralize the soda, for there are so many degrees of sourness it is almost impossible to determine the exact amount of soda required, and any excess causes disease.

Next to wheat, rye is the best of the cereals. It contains more heat producing, but less of the muscle and brain producing elements than wheat, and the same is true of Indian corn. Rhode Island "Johnny cake" made without soda or eggs, with meat, fish, or eggs as an accompaniment, furnishes a breakfast good enough, not only for a king, but for any member of the Farmers' Club of Franklin; while rye and Indian together make the wholesome and delicious brown bread of our fathers' time; a very different article from the baker's brown bread of the present day.

Buckwheat is inferior to wheat in its nutritive elements; contains more heaters, and not half the muscle and brain feeders. Eaten alone, therefore, it is not much better than superfine flour, and requires beefsteak or fish to give the necessary food.

Barley is rich in phosphates, but it cannot be made into light bread. In the form of cakes and porridge it is a good brain food, and pearl barley is good in sickness when vitality is low.

Oatmeal is rich in food for muscles and brains; and in one pint of oatmeal gruel there is as much of muscle-making material as in five gills of unbolted meal gruel, or in three quarts of fine flour gruel.

Rice contains little nutriment. It helps out a meal with

* Essay read before the Franklin Farmers' Club, Jan. 15, 1881.