

THE EDITOR'S COMMENTS.

A DREAD DISEASE NO MORE.

The discovery of a cure for the dreaded disease diphtheria is among the recent triumphs of medical science. The remedy was found by a student in Dr. Koch's famous laboratory and is to be thoroughly tested in New York. If the board of health can secure an appropriation of \$30,000, then the terror of that disease will have departed, says the *World*.

A brief account of the new treatment will be of interest to the general public. Ten years ago it was discovered that diphtheria is caused by a poison, to which doctors have given the name of toxine. Death is due to the poisoning of the blood when it absorbs this foreign substance produced by the bacilli in the throat. It has been found further, that both animals and human beings can acquire a certain degree of immunity from the poison, on the same principle, we presume, that the system can be made to tolerate other poisons, nicotine, arsenic, etc.

According to Dr. Cyrus Edson, if large animals, such as horses, cows, goats, are repeatedly inoculated with minute but increasing quantities of the toxine derived from cultures of the diphtheria bacilli, they become gradually tolerant of its poisonous action, and will withstand the introduction of larger and larger quantities through the immunity which is acquired from the smaller doses.

The immunity thus produced is the result of the development in the blood of some substance (anti-toxine) which has the power of neutralizing the poison (toxine) produced in diphtheria and in animals which have been highly immunized—that is, rendered capable of withstanding very large doses of the toxine through repeated inoculations—the blood at last, even in small quantities, acquires the power of neutralizing very large and even fatal quantities of the toxine. When animals have thus been immunized, blood is withdrawn from the circulation in quantities varying with the size of the animal, and the serum derived from the blood so drawn is employed in injections underneath the skin for the treatment of cases of diphtheria. The anti-toxine thus introduced in the blood serum neutralizes the toxine absorbed into the circulation of the sick person from the throat, and thus renders the sick person artificially impervious to the action of the toxine.

Unfortunately, however, for the rapid and general use of this substance for the treatment of diphtheria, its production requires the constant surveillance of skilled and trained men. A comparatively long period, often four to six months, is necessary to render animals impervious to the disease, so that their blood can be employed for the treatment.

When thus rendered impervious these animals can furnish, as a rule, sufficient blood to treat only a comparatively small number of cases. The production of the substance must, therefore, necessarily be costly, and it can only be produced in sufficient

quantities and be placed at the disposal of poor people by municipal or state sanitary authorities.

It is estimated that it will cost \$30,000 to establish and maintain a diphtheria stable of sixty animals. After from four to six months' treatment they will be "ripe." Blood can then be withdrawn from them, ready to be injected into patients suffering from diphtheria.

According to observations made the conclusions arrived at are that any person exposed to the disease can by this new method be rendered immune if treated before the symptoms have developed, and that the mortality in cases treated within the first thirty-six or even forty-eight hours of the disease may be reduced practically to nil. After that time, however, the injections become less effective.

The health department of New York has received a considerable quantity of anti-toxine from Dr. Koch, and it is claimed that in every case where applied it has proved successful.

"CRUEL SUNSHINE."

A most extraordinary mail from the state of Massachusetts, and probably from all of New England, marks the close of the summer. The season in Utah will be remembered as one of the most delightful and bounteous in her history. The earlier and the later rains have failed not; there has been heat and sunshine enough to produce teeming crops in field and orchard, and yet not so much as to seriously oppress the inhabitant. No one has needed to go north or into the mountain tops seeking summer comfort, for with the exhilarating Lake easy of access in the warmer days, and the cool nights of even the hottest spell, recuperation and rest have been furnished cheaply and abundantly to all. Edmund Russell, the Delsartean divinity, is said to have declared that Salt Laker who went elsewhere for a summer resort would wander dissatisfied in paradise—or words to that effect; and surely the experience of every resident, as well as of every sojourner with us during the season just ended, will justify all the praise of our climate that the most enthusiastic knows how to frame.

But contrast is sometimes necessary to cause a full appreciation of one's own condition. With that object, the following, which is the concluding paragraph of an editorial in the *Springfield Republican*, is respectfully submitted; the article of which it is a part is no less brilliant as a bit of literary work than unique as a complaint against what mortals are inclined to regard as the greatest of all climatic boons:

The story of this summer is one of impoverished fields, deteriorated crops, dried up springs and brooks and wells, pastures that cannot fill the cows' bags with milk, mowings that scarcely furnish the barns with provender for the winter. We have had no rain in this region to amount to anything since the first of May—and all over the country in our temper-

ate North American zone there have been few spots where anything better can be said. There have been scarcely any electric storms—the crash and roll of the thunder would be a delightful sound to us, so rare has been anything of the sort. There is no danger that the year 1894 will be soon forgotten. It stands by itself as the cruelest year of sunshine that a whole long generation has known.

BICYCLISTS IN ENGLAND.

The Britishers felt very much elated over the victories that came to their champions in the recent athletic sports on the Isle; and in the August bicycle contests they had great confidence that they would sweep all before them. In this, however, they failed, the Englishman being ranked as fifth on the list. *Reynolds's* reluctantly admits that in bicycling the American "stands head and shoulders above all others," and has the following to say of the performance of A. A. Zimmerman, the American "champion of champions," as the paper terms him, at the August races.

Arriving on the ground on Monday, after his journey from Paris, an hour before the races commenced, he rode a quarter of a mile time trial in 28 2-5 sec., faster than any other of the many speedy professionals who competed against him. G. A. Banker, another American flyer, was second in 29 2-5 sec.; H. Wheeler (America), third in 29 4-5 sec.; and T. James (Wales), fourth in 30 sec. A. W. Harris (England), was fifth in 30 1-5 sec. During the two following days Zimmerman carried all before him. He is truly the finest racer of the day, and his appearance on the famous Herne Hill track (in September) is looked forward to with the greatest interest.

AGRICULTURAL COLLEGE REPORT.

The report of the president of the Agricultural College of Utah to the United States commissioner of education, for the year ending June 30, 1894, is full of information and interest to all friends of that popular institution. Most of the points mentioned have been noted in the *News* columns from time to time, but any of them will bear repetition in a condensed review such as this report seems to invite.

The attendance for the year was 264, and the first graduating class, numbering fifteen, marked the fourth year of the college's existence. The corps of teachers was increased, and reached twenty-one; and during the year the school occupied buildings just completed at the time the report was made for 1893; the new laundry and culinary rooms of the domestic arts department; the rooms of the dairy department; the shops for higher mechanism; the forge shop; wood shop; drawing rooms and laboratories, of the new building were found excellently adapted to their work. Ten bulletins have been issued, numbered from 24 to 33 inclusive; the subject matter of each has already received no ice in this paper at the time of issue. The annual report of the Experiment station, 271 pages, gives results of trials upon a wide range of subjects and the average results of ex-