

### **Why One of Pasteur's Patients Died.**

The interest taken by the public in the cases of the Newark children who were bitten less than a week ago by a rabid dog has a pathetic no less than a scientific basis. The happy inspiration of Dr. O'Gorman, the attending physician, to communicate by cable with the sole living authority on the subject of hydrophobia, Professor Pasteur, of Paris, has been followed already by practical results of a most gratifying character. When the famous Frenchman cabled back his readiness to treat the little fellows and urged immediate steps to send them across the water the suggestion of expense immediately arose. Almost immediately, too, it was disposed of. A clothing merchant proffered outfits free of cost for the entire batch of little patients; an eminent surgeon undertook to accompany them and watch their symptoms during the voyage and the public without solicitation, in sums ranging from ten cents to a hundred dollars, contributed to the fund, which is already swelled to the desired dimensions. They have already sailed, and will reach their destination within three weeks of the time of inoculation by the virus, assuming, of course, that the dog was mad. An absurd superstition, one of many that seem to imply the impossibility of ever placing the human mind upon a wholly rational basis, caused the destruction of the dog before his real condition could be ascertained. There is, therefore, some doubt as to whether the children really are in danger of hydrophobia. However, as Professor Pasteur himself expressed the logic of the case to a correspondent of the *Herald*, to treat them by his preventive method could do them no possible harm, while, provided they really were poisoned by the rabid virus it would, if applied in time, without doubt save their lives.

At this interesting juncture news is cabled that one of the distinguished Frenchman's patients, a girl, has died of hydrophobia. Professor Pasteur explains the circumstance by showing that she was inoculated according to his process too late, namely, thirty-six days after the bite was inflicted. This is intelligible and in direct accord with his theory, which is as simple as anything can be. Assuming two postulates, which are beyond discussion at the present day, he proceeds in the line of his discovery. One of these is that hydrophobia in human beings is a distinct virus conveyed in the saliva of the dog to the human being; the other is that the human system becomes "tolerant" of poison by continual use of it. The former needs no demonstration, nor, indeed, does the latter to those who have given any attention to the subject of medicine. We have only, however, to cite the familiar experience of the tobacco smoker. The nausea, giddiness and misery consequent upon the first smoke betray the power of nicotine upon a virgin system. By slow degrees and constant repetition these effects disappear. What in the first instance was a virulent poison soon ceases to affect the system at all. Ten whiffs of a cigar caused nausea the first time. The confirmed smoker consumes ten cigars without any other effect upon him than a sense of placid enjoyment. So with the use of alcohol, of opium, of quinine, of drugs of all kinds. The system adapts itself to the new conditions and becomes "tolerant" of the new order. Professor Pasteur gradually makes the system of his patient tolerant of the hydrophobia poison. Having ascertained that the virus can be weakened to an almost infinite degree he administers it by inoculation first in an almost imperceptible dose, which is gradually increased until the system is so thoroughly accustomed to the poison that in his own words the patient may be bitten by a rabid dog with impunity, within a year.

But it stands to reason that in thus fortifying the body against the effect of the poison it must be done in time, and to be in time must be before the effect of a bite has been felt. That is to say, after the hydrophobia poison has begun to work upon a system unprepared by the introduction of the virus by the slow processes here described, this treatment is ineffectual. In the case of the unfortunate French girl it was proved by the fatal issue that thirty-six days was too long an interval. The disease had already become active; the feebler virus was inoperative in the presence of the more powerful. What is here set forth is not new. Hydrophobia differs from most germ diseases in the extraordinary variability of the period of incubation. It may appear within a few days of the biting;

it has been known to lie dormant for a year. There are stories of its latency over a period of many years, but they are not authenticated sufficiently for scientific purposes. The theory is that the virus may be laid up in a cell until some accident releases it. It may be that the intensity and quantity of the virus control the period, and constitutional idiosyncrasy without any question must enter into the final determination. Obviously then, while experiment has shown that at any time before hydrophobia sets in Pasteur's method may be efficient, the sooner the system is fortified by gradual toleration the greater the chance of protection. If the Newark children arrive within three weeks of being exposed to hydrophobia, as they probably will, they have an excellent chance of passing the crisis and escaping the horrors of the disease.