

# Successful Serum for Scarlet Fever

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**S**INCE their bitter disappointment over the failure of Koch's tuberculin as a cure for consumption, in 1891, medical men have been somewhat conservative about the serum treatment as a specific for disease. In the summer of the same year, when antitoxin was placed before a medical congress in London as a specific for diphtheria, it was scoffed at by eminent skeptics. It took three years to get this discovery beyond the experimental stage into the clinics, but no one now disputes its efficacy.

The greatest discovery in the field of medical science since that time has been the scarlet fever serum, or anti-streptococcus, as the doctors call it. True, a Japanese student in Berlin, Dr. Kitano, has dropped in during the interval with his serum for lockjaw, and it has proved as successful in its results as anti-toxin for diphtheria; but it does not compare in importance with the serum cure for diphtheria or for scarlet fever.

The scarlet fever serum, like the serums that precede it, was discovered by Berlin medical scientists. The Marmornek scarlet fever serum was experimented with seven years ago, and found wanting. Some of it was sent to America and experiments made with it by Dr. Louis Fischer of the Willard Parker and Riverside hospitals, New York City, associated with other physicians, for the benefit of the New York board of health. The serum proved as weak and disappointing as Koch's tuberculin. A report was made to the board that the physicians were not justified in either using or recommending the use of the scarlet fever serum, and that the indiscriminate sale of it should be prohibited until clinical experience established its true therapeutic value.

Now there is a different tale to tell. Within the past few weeks a higher development of the scarlet fever serum has been experimented with by Dr. Fischer, and with unqualified success.

The result," said Dr. Fischer in an interview, "takes the scarlet fever serum out of the experimental and puts it into the clinical stage. It proves, in my opinion and in the opinion of many other medical men of my acquaintance, that the serum cure is the therapeutic agent of the future. It is a triumph for the prophylactic tendency of modern medicine—that is, a tendency to prevent disease rather than to cure it.

"In a very short time I firmly believe the value of the scarlet fever serum will be as undisputed as the diphtheria serum is now. I believe that it will be adopted by boards of health throughout the country. I have tried its effect on two cases, one of them which appeared to be hopeless, and the results were all that could be desired.

"Perhaps, at the Fourteenth International Medical congress, which will be held at Madrid next May, some of the Berlin bacteriologists will tell of their progress with the serum, and the world will hear something more of another great discovery in medical science. I am going to the congress, and it is my intention afterward to go to Berlin and see Dr. Hans Aronson, with whose serum I have been recently experimenting.

"In order to make the subject more interesting to the lay reader," continued Dr. Fischer, "suppose I give a brief review of the serum treatment and the principle that underlies it.

"Many years ago Professor Ehrlich of Berlin discovered that abrin and ricin, both deadly poisons, could be injected in small and then in increasingly large doses into animals, until they had acquired a 'tolerance,' to use a medical term, for these poisons. In other words, large doses could be injected without fatal effects. These animals were called immune. Then he reasoned that if the blood of immune animals could neutralize these specific poisons, probably the serum from the blood of animals would contain healing substances. Thus he learned that in some instances small quantities of blood, or serum, when injected into another animal, would prevent it from dying after receiving an otherwise fatal dose of poison. This same principle has been applied in producing immunity from toxin generated by disease germs.

"The tuberculin serum, or Koch's lymph, as it was called, created more of a sensation in the medical world, and in all parts of it, than anything since Harvey's discovery of the circulation of the blood. It was the first of the serum discoveries as applied to human beings. But it was not a sound product; and after a brief experience in the clinics, it was a keen disappointment. But Dr. Koch is still working on it, and he may yet make it as distinct a success as the diphtheria serum has proved, and, as I firmly believe, the scarlet fever serum is destined to prove. One never knows.

"Dr. Hans Aronson, a distinguished bacteriologist of Berlin, is the man who has brought the scarlet fever serum to its present perfection. One of the reasons that we have been so late in getting it in this country is that it was not perfected until recently, and that it is very slow in development. Even now, scientists do not all agree that the real germ has been found, but the majority are of the opinion that the streptococcus is the bona fide scarlet fever germ.

"Coccus means a micro-organism that is round, and streptococcus means germs in spiral form, like a man's watch chain. There are numerous varieties of streptococci. Some grow in pairs and are called

diplococci. Others grow in bunches, like grapes, and are called staphylococci. Then there is the pneumococcus, or the germ from pneumonia, and the meningococcus, the germ from meningitis.

"Dr. Aronson took some streptococci from the tonsil of a severe case of scarlet fever and produced a pure culture of the same. He then generated the toxin therefrom and by laboratory experiment demonstrated to his satisfaction that he could neutralize the deadly toxin by adding to it some of the serum which he produced. Dr. Aronson injected several horses with fatal doses of the streptococcus derived from scarlet fever cases. When they were made immune he withdrew some of the serum and successfully utilized it for healing purposes. Then what was possible in the laboratory was transplanted to the hospital ward.

"But the credit of first disseminating the value of the serum belongs to Prof. Adolph Baginsky, the director of the Kaiser and Kaiserin Frederick Children's hospital of Berlin. It should be understood that serum, when injected into a child or grown person, does not kill the germ of disease. The serum simply neutralizes the toxins generated in the body. The toxins are the cause of death in the human system by producing paralysis or degeneration of the heart muscles, or by preventing the proper action of the kidneys, they cause death by a process which we call toxæmia, which simply means blood poisoning. Thus, the object in injecting scarlet fever serum is not so much to inhibit the growth of disease germs as to prevent blood poisoning and the usual complications arising from poison circulating in the blood.

"Now let me take up my own case, and another in which I was consulted, upon both of which I have recently used the scarlet fever serum with success.

"The first was a 7 months child of healthy parents, brought up on a patent baby food after her first four months of life. Although only 6 years old, she had already recovered from one case of pneumonia and is susceptible to tonsillitis and bronchitis. When she was stricken with scarlet fever early last February I had grave doubts that any treatment whatever could save her life. As is usual in this disease, the kidneys and bowels refused to work altogether. I gave her an injection of Aronson's serum and from that time on these organs worked naturally. The usual aseptic method was carried out to avoid local infection. The child's condition improved gradually and today she is as well as she has ever been.

"The second case, in which I was called in consultation with another physician, was an 8-year-old girl, who had been sick three days, and whose temperature was 104 degrees. Her pulse was weak and rapid. A very intense eruption covered the entire body. Large necrotic patches covered the

throat. I gave an injection of the scarlet fever serum. On the second visit, I noticed the entire disappearance of necrotic patches of the throat and the disappearance of the obstruction of other functions identical with my own case. I am informed that the child has almost recovered.

"I do not hesitate to say," continued Dr. Fischer, "that, given proper food, proper nursing, and proper hygienic surroundings, patients may be cured of scarlet fever with the new serum as surely as they are of diphtheria with anti-toxin. All of us can remember when diphtheria was a disease all parents dreaded. It was regarded as surely fatal. Now, by the use of serum, we see children in the last stages cured in a few days. This is the case at almost every hospital.

"Dr. Baginsky has kept a careful record of his success with the scarlet fever serum. In the first group of cases, nineteen in all, he had only one death. In the second group, five cases, he had no death. In the third group, eighteen cases, he had one death, and in the fourth group, sixteen cases, one death. This makes a total of fifty-eight cases and three deaths, or 4.2 per cent.

"I understand that a number of physicians in this country have sent for some of the Aronson serum and are experimenting with it. In careful and experienced hands, I see no reason why the results should not be as satisfactory here as they have been abroad.

"The specific action of anti-toxin in diphtheria is far greater, comparatively, than the action attained from the use of this scarlet fever serum. It is too soon for me to form definite conclusions upon the after effects of the treatment, based upon an experience of only two cases. But the clinical results were certainly striking. The effect of the serum on the temperature shows that it did inhibit bacterial products.

"Another interesting observation, in both cases, was the almost melting away of the necrotic membranes after the fourth day. The temperature came down gradually. The glands of the neck in both cases, were swollen and subsided with the disappearance of throat manifestations. Dr. Baginsky maintains that, all in all, there are no disagreeable effects from this new serum. The fever, even in severe forms, declined steadily and without interruption from complications.

"It is too early yet," concluded Dr. Fischer, "to form an opinion on the value of the new Flexner serum for dysentery and cholera infantum, experiments on which are going on at the Rockefeller Institute in Baltimore, and also in Philadelphia. Let us all hope that successful results may come from it. Professor Flexner is not a man to make unwarranted statements. If he can work out his discovery, it will be the means of saving thousands of children from death."

## Episodes and Incidents in the Lives of Noted People

**N**OT many are aware that Sonstor Quay of Pennsylvania won a reputation for bravery in the civil war. He was a volunteer aid at the charge upon Marye's Heights. The line showed signs of breaking and Quay called out: "D—n it, boys, what are you dodging for? If I can sit on my horse and the bullets go over my head they certainly can't hit you." His presence of mind stopped the panic.

When Secretary Wyndham met the representatives of the Irish landlords and tenants and laid before them his land purchase scheme William O'Brien pushed his chair back from the table and exclaimed: "For the first time in my life I say, 'God save the king!'" Lord Clanricarde, the most unpopular and most unmerciful of Irish landlords, capped this utterance with the words: "For the first time in my life I say, 'God save Ireland!'"

Not long ago a newspaper man called on Secretary Hay to question him regarding a diplomatic incident of rather a delicate international character. The newspaper man was afraid he might make some injudicious inquiry and said: "Mr. Secretary, I am afraid my questions are not proper from a diplomatic standpoint." "My dear sir," answered Secretary Hay, "I don't think any question you may ask will be improper. The propriety depends on whether or not I answer it."

Viscount Tadasu Hayashi, Japanese ambassador at London, was recently initiated into Freemasonry at the Empire lodge. The ceremony was a unique and interesting performance, inasmuch as he is not only the first foreign ambassador to be initiated in an English lodge, but he is believed to be the first of his countrymen, who are mostly Shintoists or Buddhists, to be instructed in the arts and mysteries of the craft. Although there are two lodges in Yokohama, one in Tokio and one in Yeddo, they are all under the grand lodge of England, and all the members are British.

The only ex-officer of the confederate army who clings to his uniform is General George F. Alford of Dallas, Tex. He has never discarded his colors since he donned them to go into the army in the early '60s. Pedestrians turn to look at him, peering at his badges, scanning his gold belt and try-

ing to decipher the letters on his old army hat. General Alford has been a judge, a banker, a legislator and a congressman.

When Prince Henry of Prussia visited the United States about a year ago persons were surprised to see how quickly he picked up American idioms. To those associated with him it was not uncommon to hear such phrases as "made him feel like 30 cents," "out o' sight!" and "go 'way back and sit down," with other current slang of twelve months ago, come trippingly from the royal lips. Therefore no one here is surprised to learn that in speaking of a statement he deems particularly direct and appropriate Baron von Sternburg frequently says: "It's bully—right off the bat."

President Ramsey of the Wabash railroad was not much perturbed over the strike which threatened his system a few weeks ago. "I suppose," he said philosophically, "the men will quit, the clerks will be given a vacation, I'll discharge their duties and then attempt to fire an engine." "Will the sympathy of the public be with the men or the road?" asked an interviewer. "I believe with the road," said President Ramsey. "We'll issue passes to all who apply. When these people find that the road is tied up they will condemn the strikers. By the time operations are resumed the time limit on the passes will have expired."

One of the late Tom Reed's friends and colleagues was telling a story the other day illustrative of the distinguished speaker's opposition to the Spanish war and interference in Cuba. "About the time war was declared Reed came out of his hotel one morning boiling mad. To a friend he declared: 'I would not give a drop of American blood for all the 'dagoes' and negroes in the island of Cuba. I would not give the life of one American to save 3,000,000 of them. No, sir, I would not, except—perhaps—here a smile spread over his big face and he relapsed into a "down-east" drawl—"yes, I believe I might sacrifice Senator ——" and he named a senator whom he held responsible for much of the feeling that resulted in the war with Spain.

General Herman Haupt, a classmate of General Meade at West Point, is 86 years old and lively as a kitten. He has been building artillerymen at Washington on

what he calls "balanced rations." Here is his daily menu for the artillerymen: Breakfast, four or five milk biscuits, one apple; lunch, Graham bread and cheese, two or three milk proteid biscuits; tea, two or three milk proteid biscuits; supper, one vegetable (spinach, for example), four or five milk proteid biscuits; just before going to bed, two or three glasses of water and one apple. The cost of this ration is \$1.89 a week. The general is a strict disciple of his own teachings and now at 86 is as sound as a whistle, with his mind as clear as when he led his class nearly seventy years ago.

The clerks of the patent office at Washington, D. C., began several years ago to keep a systematic account of the patents issued to Thomas A. Edison. They have his various inventions tabulated and indexed, so that they can put their hands on each different idea he has protected by patent from the beginning of his marvelous career of invention. When a pending claim is allowed, as it no doubt will be this month, Mr. Edison will have received 791 patents in all. He is not adding to the list as many ideas nowadays as he did some years ago. Up to 1895 he had taken out 711 patents. Since then he had added to the list from three to twenty-three patents each year. Last year he took out nineteen. This year, so far, he has received six. In ordinary fees for patents Mr. Edison has spent over \$51,000.

During their visit in St. Louis to attend the dedication of the world's fair President Roosevelt and ex-President Cleveland will sleep and eat at the same house. President D. R. Francis of the world's fair company has made arrangements to entertain both the president and the ex-president at his handsome home at Newstead and Maryland avenues. Members of the cabinet will be entertained at the homes of William H. Thompson, treasurer of the fair, and ex-Governor E. O. Stanford, one of the directors. Senator Depew will be the guest of Corwin H. Spencer, vice president of the exposition.

Probably it was at this time (1877), writes Ida M. Tarbell in McClure's, that there took place the little scene between Mr. Vanderbilt and Mr. Rockefeller and his colleagues of which the former told the

Hepburn commission in 1879. The Standard people were after more rebates. They affirmed other roads were giving larger rebates than Mr. Vanderbilt and that their contract with him obliged him to give as much as anybody else did.

"Gentlemen," he told them, "you cannot walk into this office and say we are bound by any contract to do business with you at any price that any other road does that is in competition with us; it is only on a fair competitive basis, a fair competition for business at a price that I consider will pay the company to do it."

Soon after this interview, so rumor says, Mr. Vanderbilt sold the Standard stock he had acquired as a result of the deals made through the South Improvement company. "I think they are smarter fellows than I am, a good deal," he told the commission, somewhat ruefully; "and if you come in contact with them I guess you will come to the same conclusion."

Mayor Low of New York is suffering from a surplus of banquets. His digestion has gone on strike against the rich and highly spiced foods served at elaborate functions and Mr. Low is now dieting strictly. He had arranged to attend a dinner given by the Friendly Sons of St. Patrick, but has sent a letter of regret, in which he says: "I have been indulging in so many miles of dinners during the last few months that I have had to cancel all of my outstanding dinner engagements for this month. Even St. Patrick, I fear, could not hold me harmless if I were to violate the dictates of prudence in this regard."

Before leaving Washington for Cleveland to take part in the mayoralty campaign there Senator Hanna called on the president and was escorted to the cabinet room. Secretary Root also came and was shown into the same place. Judge Halls of New York and "General" Dick of Ohio were in the ante-room at the time. They heard a crash as of something falling to the floor, and Judge Halls exclaimed: "What's that?" Mr. Dick replied easily: "That is the first failure of Roosevelt and Root in their attempt to put old man Hanna on the vice presidential shelf, which you and the president know so much about. They had just hoisted him up on the shelf, but he has wriggled off."