

# WILL VACCINE BE THE GREATEST CURE IN MEDICAL SCIENCE?

**T**HE revelations of present-day medical science seem to point unerringly to the ultimate conquest of all diseases of germ origin by vaccines, sera, and extracts of leucocytes, supplemented by efficient nursing and hygienic measures.

Whenever a medical society meets nowadays its members are likely to hear something new concerning vaccine therapy, and nearly all of the medical and surgical journals published in recent months contain original articles telling of the development of this product of modern medicine.

A few months ago THE TIMES published an exhaustive account of the beginning of the immunization of the United States Army from typhoid fever by the serum treatment, while in its columns have appeared several accounts of cures effected in pneumonia by the employment of a culture made from killed germs which are isolated in the course of that disease.

Notable contributions to the knowledge of the new therapy recently have been made by physicians in this city and State. The most comprehensive, perhaps, is a paper which was read by Dr. J. G. Dwyer, clinical assistant in the ear, nose, and throat departments of the Manhattan Eye, Ear, and Throat Hospital, before the Otolological Section of the New York Academy of Medicine, which is reprinted in THE MEDICAL RECORD. His subject was "The Use of Vaccines, Serums, and the Hiss Extract of Leucocytes in the Treatment of Eye, Ear, Nose, and Throat Infections."

Another important paper is that which was read by Dr. E. Mather Sill, attending physician at the Good Samaritan Dispensary in diseases of children, before the City Hospital Alumni Society, on "Vaccines in the Treatment of Various Bacterial Infections in Infants and Young Children." This also is reprinted in THE MEDICAL RECORD.

Still other recent contributions of note are a paper on "The Tuberculin Treatment of Pulmonary Tuberculosis in Office and Dispensary Practice," by Dr. James Alexander Miller, assistant professor of clinical medicine at the College of Physicians and Surgeons, read at the Congress of American Physicians and Surgeons at Washington, D. C.; a paper on "Vaccine Therapy in Tuberculosis in Institutional Practice," by Dr. Herbert Maxon King, physician in chief at the Loomis Sanatorium, Liberty, N. Y., also read at the Washington Congress, and an article on "Vaccine Therapy in Serious Infections of Aural and Nasal Origin," by Dr. Charles Greer and Dr. R. B. Wynkoop of this city. These three appear in THE NEW YORK MEDICAL JOURNAL.

While it is impossible to go deeply into the scientific theory underlying vaccine and serum therapy in an article of this scope, a few words from Dr. Dwyer's paper indicate it in general terms. He says:

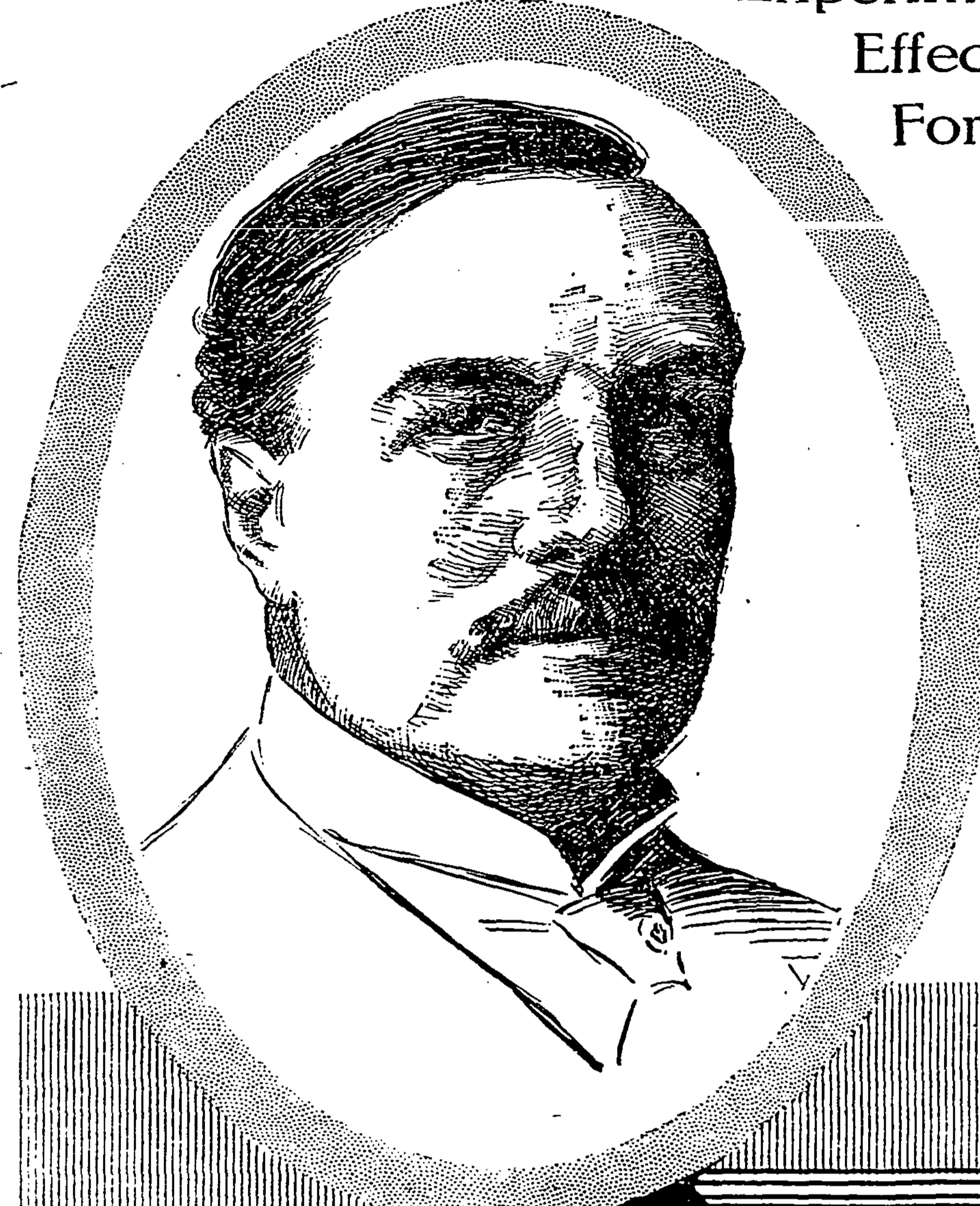
"The old ways of treating infections were tonic and supportive, obviously unsatisfactory, as they did not try to get at the cause of the disease. Now, by a study of nature's own methods of defense, as seen in infections artificially produced in animals, we endeavor to imitate her and to make use of the same weapons. This is the keystone of vaccine and serum therapy; it is around this pivot that everything revolves."

Leaving the scientific aspect of progressive medicine to the laboratory workers, the layman is more attracted to the reports of results. What results has the scientific doctor attained? What can be cured with his new laboratory products? In this connection here are extracts from Dr. Dwyer's report:

"Some 200 or so cases were examined as to their suitability for vaccine treatment. Of this number some 105 were selected, the balance being rejected for various reasons. Tabulating the cases on the basis of the offending organism, the list is as follows: Tubercle bacillus, 20; Staphylococcus, 47; streptococcus, 7; pneumococcus, 1; bacillus pyocyaneus, 7; bacillus carthagensis, 3; bacillus of Friedlander, 3; bacillus of Frisch (Rhinoscleroma), 2; mixed infection, 3; bacterium unknown, 9. The list of diseases is not limited to those of the nose and throat, but includes also some interesting general diseases and several cases of eye infections.

"The tubercle bacillus cases comprised the following: Chronic tuberculosis of the lungs, 3; of the intestines, 1; of the bladder, 1; cervical glands, 6; larynx, 4;

## Experimentation Proves That it Is Effective in Many Diseases Formerly Not Included Within its Scope.



Dr. Frank Billings.

outcome of the treatment, as, on account of the variety of the bacteria, generally making up the flora in the tonsil, the causal one might not be isolated. In the three cases in question, however, the staphylococcus was found in such numbers that it was undoubtedly the causal one. These were cases of chronic tonsillitis, with several acute attacks occurring each year. The treatment here was eminently successful, the chronic or subacute condition cleared up, and during the last Winter the patients were entirely free from the acute attacks, this being the first Winter in years that they escaped.

"Only one infection with the pneumococcus was under treatment, a case of serpinginous ulcer of the cornea. In the scrapings from the cornea this organism was isolated in pure culture. This ulcer had been repeatedly curetted and cauterized to no avail and then a vaccine was made. Immediately following the use of the vaccine, the process started to subside and soon became quiescent and the treatment in this case certainly cut short the course of the disease and saved the



Dr. J. G. Dwyer.

iris, 1; cornea, 1; also 2 cases of phlyctenular conjunctivitis and keratitis and 1 case of episclelitis. The results, on the whole, of tuberculin therapy have been very satisfactory. The kinds of tuberculin used were the bacillus emulsion and the new tuberculin of Koch, known as tuberculin T. R. Of the three lung cases two were discharged as cured and the third is continuing treatment in another city, still showing marked improvement.

"The cases of tuberculous cervical adenitis have certainly been most satisfactory, and the results obtained here have amply repaid me for the long time spent in the treatment and the perseverance and constant care which it necessitated. Six cases were treated and all were cured. One patient, in particular, had undergone four operations, and when she came for tuberculin treatment had another mass of enlarged glands and was markedly disfigured by the thickened, unsightly scars at the sites of the previous operations. Under a course of tuberculin the enlargements disappeared, so that the glands were no longer palpable, and what was quite surprising and the more agreeable, the scar tissue seemed to undergo a certain amount of absorption. This was about two years ago, and no recurrence has taken place, and the patient is in good condition.

"The four cases of laryngitis were instructive. The first was primary in the larynx, that is, primary in that no other lesion could be made out. This case was fairly well advanced, but responded to the treatment and was cured. The second case had a demonstrable lung lesion in addition to the local lesion. Marked improvement took place, but the lack of proper facilities at home led me to recommend her removal to a tuberculosis sanitarium, where her improvement has gone on steadily. The other cases had, in addition to the local and lung involvement with tuberculosis, a secondary infection with streptococcus. Neither showed any improvement. Later, judging from the published reports of others who have treated such cases with alternate injections of tuberculin and strepto-



Anti-typhoid Vaccination at Governor's Island.

coccus vaccine, the results have been more satisfactory.

"The next series of cases comprises the staphylococcus infections. Here 47 cases were treated and, with one exception, all were cured. The list was made up as follows: General furunculosis, (boils), 9; acne, 2; carbuncle, 1; eczema of the auricle, 1; otitis externa diffusa, 3; otitis externa circumscripta, 21; otitis media suppurativa subacuta, 5; chronic tonsillitis, 3; peritonsillar abscess, 1; abscess of the septum, 1.

"The list may not appear very impressive at first glance, but these cases were all chosen because of their known chronicity and comprised that class which ordinarily does not yield to the other well-known methods of treatment, infection after infection occurring. One case of acne was of fourteen years' duration, and every kind of treatment had been tried, time and time again, without relief. This patient has now been entirely free for over two years.

"With regard to the tonsillitis cases, some doubts were entertained as to the



Dr. Herbert Maxon King.

balance of the cornea, and in all probability, the eye itself." "The details of a sufficient number of cases have been given to afford a fair idea of the value of vaccine therapy in this particular class of infections. Dr. Dwyer expresses his satisfaction thus: "On the whole, I think the results are very satisfactory. It might here be said

into disrepute. On the other hand, these agents should be given a fair trial and should no longer be neglected, as they have been in the past by the specialist."

The following are extracts from Dr. Sill's paper on vaccines in the diseases of children:

"My experience extends over a period of six months, in which time I have treated forty-nine cases by means of vaccines. Of all these cases I have kept careful notes, and no case was pronounced cured until all signs of any pus or a discharge had entirely disappeared for some time, with no recurrence. Of these forty-nine cases thirty-nine were subacute or chronic otitis media, the ears having discharged from a few days to two years, local treatment having had only slight effect. There was one case of erysipelas in a child one year of age, and one in an infant eight days old, two cases of multiple abscesses of the scalp, two cases of suppurating glands of the neck, two cases of pneumonia in babies, and one case of acne of eight years' standing.

"Of the thirty-nine otitis media cases twenty-eight were cured, ten improved while under treatment, and one did not improve. Both cases of suppurating glands of the neck and both cases of multiple abscesses of the scalp were cured. In one case of pneumonia the vaccine apparently brought about a rapid cure, as the crisis came on the third day of the disease, and in the other case there was marked improvement of the symptoms. The erysipelas cases were cured. The case of acne was cured after a period of six months, having received an injection of 800,000,000 staphylococcus aureus each week. Thirty injections were given this case in all.

"Another interesting case was that of a child a year and a half old, whose ear had been discharging for two weeks. This child was suffering from a severe attack of whooping cough. Culture growth from the discharging ear showed diphtheria bacilli and the staphylococcus albus to be present. Five thousand units of antitoxin were given, and 400,000,000 staphylococci at six different times were required to bring about a cure. The major-

ity of cases required only two or three injections, and lasted from a few days to two weeks after vaccine treatment was begun.

"My experience leads me to believe we have a valuable and powerful aid to the treatment of various local infections in the use of vaccines, and that our armamentarium in these cases will be materially increased by their use, since of the hundreds of injections I have given no untoward condition has resulted."

Here is a partial summary of Dr. King's paper on the use of vaccine in tuberculosis:

"At the Loomis sanitarium two classes of patients are advised to take up the tuberculin treatment: (1) Incipient cases which have been under observation long enough to justify the belief that they are not progressive and are without fever or other evidences of a marked general toxemia, and (2) that class of more advanced cases presenting evidences of arrested activity, but who still have cough and a bacillary sputum. The one demonstrable and constant result of the suitable use of tuberculin is tuberculin immunity. He feels that it gives the patient additional protection against his disease both in the form of present resistance and against future tendency to relapse. That general improvement and increased resistance follows its use in suitable cases is more and more felt by those who employ this agent therapeutically.

"Individualization in treatment is quite as important as in other fields of therapeutics. They enjoyed comparative rest on the day of the injection, and strict rest for thirty-six hours afterward. There can be little doubt that general reactions are undesirable. Tuberculin is contraindicated in laryngeal lesions where old fibroid infiltration has appreciably narrowed the glottis.

"They have observed no untoward effects from such treatment and have never found that subsequent temperatures are any higher following an injection. In the majority of cases a relation can be traced between the treatment and the remission of symptoms, chiefly in lowered temperature. Their experience has been too limited to permit of very positive statements, but the plan seems reasonable and results seem to justify effort in this direction."

Dr. Edward W. Bigelow reports in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION that he treated three new-born infants suffering with hemorrhage with serum. All recovered.

At the recent meeting of the Association of American Physicians in Washington, Dr. Mark W. Richardson of Boston said that it was his personal opinion that the status of vaccines in typhoid fever was somewhat as follows:

"1. They were of the greatest value in prophylaxis, and should be made use of by all who, as physicians, nurses, ward tenders, or laymen, were likely to be exposed to the disease. Their use by the general public could not be expected in the near future. For this result time and education would be required. 2. Typhoid vaccines, properly used, would, he felt sure, prevent a large proportion of relapses. 3. The success of vaccines in the treatment of the original disease would depend upon the character of the case. Conservatively used, they would do no harm and they might be of much assistance. 4. Early diagnosis and early treatment would be undoubtedly of great importance."

At the same meeting, according to the report in THE NEW YORK MEDICAL JOURNAL, Dr. William H. Park of New York said that bacterial vaccines were of value in many localized bacterial infections. Their value in general infections, such as typhoid fever and pneumonia, was not yet established.

The Paris correspondent of THE MEDICAL RECORD writes that a new method of treating pyelonephritis, a disease of the kidneys, has been presented by two physicians, Dr. Tuffier and Mauté. They employ vaccine-therapy, using a vaccine made from microbes taken from the same person. Three injections cured an acute case.

According to ARCHIVES OF PEDIATRICS, Dr. R. M. Smith says that streptococcus vaccine has some influence in controlling epidemics of scarlet fever. Its use, with proper care, is attended by no harmful results.

From the foregoing, it is readily seen that the employment of vaccine therapy and serum therapy is extending with astonishing rapidity.