

patients, who had not received treatment for several years, was studied throughout a period of seven months, during which time no specific medication was administered. The tests employed were for Wassermann of blood and spinal fluids, cell count, colloidal gold, and globulin. The reactions remained practically unchanged throughout the period, *viz.*, eight cases positive and one (said to be an arrested case after treatment) uniformly negative.

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#### 4. Treatment of Insanity.

- (1) *The Treatment of General Paralysis by Inoculation of Malaria.* (*Journ. Nerv. and Ment. Dis.*, May, 1922.) Wagner-Jauregg.
- (2) *Treatment of Paresis by Inoculation with Malaria.* (*Ibid.*) Delgado, H. F.

The treatment of general paralysis by inoculation with malaria is based on the discovery that the occurrence of infectious diseases in the course of the psychoses not infrequently led to their cure. As long ago as 1887 Wagner-Jauregg conceived the idea that the production of one of the symptoms of infectious diseases, *viz.*, fever, might possibly be found to bring about similar cures. With this object in view he tried a series of experiments in cases of paresis, first using injections of tuberculin and later Besredka's typhus vaccine. The results were encouraging in a certain proportion of the cases treated, but disappointing in others. It became obvious to the author whilst following up these experiments that the remissions were more complete and more lasting when, in the course of the treatment, an actual infectious disease had set in, *e.g.*, pneumonia, erysipelas, abscess, etc. Taking into consideration this fact Wagner-Jauregg, in 1917, inoculated some general paretics from a soldier suffering from tertian malaria. From these patients others were inoculated; in all nine cases were thus treated. The result was favourable in six of the cases. Three of them were still actively and efficiently at work at the time the author's paper was produced, *i.e.*, four years after the inoculations took place. This experience led to the treatment of other general paretics in 1919, and since that time the author has used this method continuously.

The technique employed consists in inoculating the blood of the individuals to be treated with recognised malarial germs. Attacks of malaria appeared 6-36 days after the inoculation. It would seem there are individuals who are immune to this inoculated form of malaria. The patient is permitted to pass through 8-12 attacks of fever, according to the amount of tolerance displayed, before the malaria is checked with quinine. It was found that inoculated malaria is much more sensitive to quinine than natural malaria. The blood should come from a malarial patient not yet treated with quinine. After treatment with quinine neosalvarsan is used in increasing doses. It is of great importance that the patient should undergo the treatment at as early a stage in the disease as possible. Wagner-Jauregg states that, in his experience, the treatment of general paralysis by malaria gives by far the most favourable results of all the methods

of treatment. He affirms that complete remission occurred in more than 50 out of 200 cases selected for this treatment. They were not only capable of taking up their occupations, but for the most part were actually at work at their former calling.

Dr. Delgado, of Lima, Peru, summarises five cases that he has treated by the method described above: four were general paretics, and one was a case of psychosis of uncertain diagnosis. It is, unfortunately, not possible to attach much significance to the recoveries, as barely twelve months had elapsed between the time of commencing the treatment and the date of publishing the article. As a result of the treatment two of the cases of general paralysis were able to return to work; the third was much benefited, but, having relapsed, was again undergoing the treatment. The fourth case was one in which the general paralysis had made rapid progress, and, on admission to the asylum, the general physical condition was very poor. The treatment by inoculation with malaria was begun with the consent of the family, who were informed of the patient's desperate condition. Improvement of the mental state followed the malarial attacks; notwithstanding this the patient died. It should be noted that this case was complicated by the presence of an infected sore, which the originator of the treatment considers to be a contra-indication to its employment. The fifth patient was not parietic. He accidentally contracted malaria, and it was he who furnished the necessary blood for the inoculation of the other cases reported. This patient began to remit remarkably after the first malarial attacks without any other treatment. The cure was completed after seven attacks.

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*Training Aids for Mental Patients.* Slagle, Eleanor C.  
*The Teacher Problem in Occupational Therapy.* Hutchings, R. H.  
*The Financial Aspect of Occupational Therapy.* Garvin, W. C.  
*Development of Occupational Therapy in Gowanda State Hospital,*  
 Potter, C. A.  
*Organisation of Occupational Therapy in a State Hospital.* Pollock,  
 H. M.  
 (*State Hosp. Quart.*, February, 1922.)

The first paper lays emphasis on the importance of directed activity for mental readjustment and social rehabilitation. In the more demented dementia præcox case we begin with habit-training. Occupation serves to overcome some habits, to modify others and construct new ones, to the end that habit reactions will be favourable to the restoration and maintenance of mental health. The necessity of these patients acquiring the habit of attention must be borne in mind. From habit-training the patient is advanced to the kindergarten group. In this class the same means are adopted as are used in the education of the child—the employment of colour, music, simple exercises, games, story-telling and simple occupations. In passing from kindergarten, the occupations are graded from the simple to the complex, passing from the known to the unknown; the tasks must be of increasing interest and require an increasing degree of concentration. The occupational centre or “curative workshop”