

The boundaries of our knowledge of cures for snake-bite cannot be said to be enlarged by this industriously edited publication. The "great Mâyûri spell," as the charm is called, is of considerable length and consists in many places of jargon. It is put into the mouth of Buddha, and is delivered by him to the venerable Ananda, who has applied to him for a cure for the mendicant Svâti. This mendicant has been bitten by a cobra and lies in a state of collapse, foaming at the mouth and rolling his eyes. Ananda arrives in great haste and seeks prompt advice, but Buddha's answer extends over pages. Here and there are strings of jargon words (itti mitti, huhu huhu, and so forth), which are luxuriously extended by the Blessed One. Still, quite early in the charm we find the use of a ligature advised, as thus: "Grant him safety, security, defence, salvation, protection, relief and recovery, preservation from danger, counteraction from the poison, destruction of the poison, and apply a ligature to the wound, a ligature to the vein!" In Part VII. of the MS., which repeats the charm, we learn that there are 404 kinds of diseases due "to disordered air or bile or phlegm or the three humours jointly." But we discover little else, and are still plainly in those regions of magic and exorcism from which perhaps the "wisdom of the east" has at no time wholly emerged.

A REVIEW OF THE CONGRESS OF ALIENISTS AND NEUROLOGISTS OF FRENCH-SPEAKING COUNTRIES, 1912.

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FROM April 1st to the 7th this year the Twenty-second Annual Congress of Alienists and Neurologists of France and of French-speaking Countries, consisting of a membership of about 300 adherents, was held in Tunis, and I attended as a delegate of the Medico-Psychological Association of Great Britain and Ireland. More than 30 institutions for the care and treatment of mental cases were associated with the Congress, and numerous delegates representing learned societies as well as foreign countries attended.

Summary of Proceedings.

The President of this year's Congress was Dr. Mabille, medical superintendent of the La Fond Asylum at Rochelle; Dr. Arnaud, physician to the Mental Hospital of Vanves (Seine), was Vice-President; and the General Secretary was Dr. Porot, the very able and energetic physician to the French Hospital in Tunis. The chief papers announced for discussion were by Dr. Régis, professor of clinical psychiatry in the Faculty of Medicine at the University of Bordeaux, who contributed a very full and exhaustive paper on the Care of the Insane in the French Colonies and Dependencies, with a review of their treatment in the adjoining colonies such as those of England and Holland. Professor Régis was assisted in his paper by Dr. Reboul, of Annam. Another paper was by Dr. Chavigny, major of the French Army Medical Service, on the Mental and Nervous Symptoms Associated with Malaria, obviously one of considerable importance in view of the expansion of French colonial government; and a third paper by Dr. Dupré, one of the teachers and a Fellow of the University of Paris, on Mental States arising from and connected with Perversions of the Natural Instincts. Although these were the three main subjects, other papers connected with neurology or psychiatry were presented to the Congress for discussion, among them being one on Goitrous Insanity by Dr. Fraikin and Dr. Grenier de Cardenal, one relating to Insanity and Renal Disease by Dr. Beriel, and one by Dr. Gelma on Delusions of Persecution. Other papers were

by Dr. Petit, Dr. Mignot, Dr. Adam, and Dr. Levassort. A valuable report upon an experimental study relating to the association of ideas in the insane was presented jointly by Dr. Auguste Ley, professor in the University of Brussels, also physician to the Mental Sanatorium at Fort-Jaco, Uccle, near Brussels, and Dr. Paul Menzerath of the same hospital laboratory. Another paper was by Dr. Levassort on Degeneracy in its Relation to Perverted Instincts, and two others bore upon the same subject—viz., one by Dr. Berillon, relating to the influence of suggestion upon normal as contrasted with abnormal instincts, and the other by Dr. Simonin, who related his experience in the French army in regard to mental enfeeblement, a clinical and medico-legal study; and one by Dr. Haury on Hooligans in the Army and their Rational Treatment, which formed a suitable complement to the chief paper of the day by Dr. Dupré.

Among those who attended the Congress were Dr. Semelaigne, of Neuilly-sur-Seine, the permanent secretary of the Congress, well known in England and America for his contributions to psychiatry and also for his most interesting volume of the early history of the insane recording the works of Pinel and Tuke—a volume which every psychiatrist should read and which has just been published by Steinheil, of Paris; Dr. Antheaume, chief physician to the Mental Sanatorium at Rueil, near Paris; Professor Gilbert Ballet, of the Faculty of Medicine in Paris, and one of the physicians to the St. Anne Asylum; Dr. Croustel, of the Lesvellec Asylum, Vannes; Dr. Andrieu, of Agen; Dr. Charuel, of Châlons-sur-Marne; Dr. Hercouët, of St. Mandé; Dr. Manheimer-Gommès, of Arago; Dr. Vallon, assistant physician to the Ste. Anne Asylum, Paris; Dr. Ameline, of Chezal-Benoit, Cher; Dr. Mercier, of Saint-Alban, Lozère; Dr. Jean Abadie, professor of psychiatry at Bordeaux, who reported the proceedings in *La Presse Médicale*, to which I am greatly indebted; Dr. Famenne, of Florenville, Belgium; Dr. Daday, of Privas; Dr. Jacquin, of Ste. Madeleine, Bourg; Dr. Simonin, professor of medicine at the Val-de-Grâce, Paris; Dr. Vigouroux, of Vaucluse; Dr. Beriel, of Lyons; Dr. Lacroque, of Tunis; and Dr. Clerfayt and Dr. Maere, the delegates of the Belgian Government.

Aim and Attractions of the Congress.

The Congress meets once a year in some town in France or one of the countries where French is spoken. Last year the Congress met at Amiens, and a number of the Congressists journeyed to London and, at the invitation of the London County Council, visited the laboratory and the asylum of the Council at Claybury, where they were received by Sir John McDougall and the chairman of the subcommittee of Claybury Asylum, Mr. T. Chapman, being shown over the two departments by Dr. F. W. Mott and myself.

The aim of the Congress is the study and discussion of some questions connected with psychiatry, neurology, and forensic medicine relating to the insane, and the French language is obligatory at the discussions. The duration of the Congress is a minimum of four days, which, so far as possible, must be consecutive, and there are two meetings each day, one in the morning at 9 o'clock and the other in the afternoon. It is customary to make some visits to asylums for the insane in the immediate neighbourhood of the town or city fixed for the Congress, and this helps members to keep in touch with each other and to kindle a spirit of emulation in the evolution of administration, and of course there are the usual excursions to places of interest. Apart from the attractions of the Congress the prospect of again meeting those of my French fellow-workers who had visited Claybury, of seeing their institutions for the special care and treatment of the insane, and especially the one in a new colony, of discussing points of diagnosis, nomenclature, and treatment, was an allurements which implied entertainment as well as instruction; add to this the anticipated pleasure of travelling through France from north to south, particularly of making a transit from Europe into Africa across a sunny and rippleless Mediterranean of azure blue—which, alas! was not realised—together with the charms of seeing new people and of experiencing the fringe of the desert, and above all of witnessing the outburst of bud and bloom, the "vernal impulse" after the dreary chill of a London winter,—all these made the prospect of a visit to Tunis an exciting as well as an exhilarating holiday.

Members of the Congress steamed from Marseilles on Friday afternoon, March 29th. We were received on board the *Eugene Pareire*, of the Compagnie Générale Transatlantique, by the President of the Congress, Dr. Mabillet, also by Professor E. Régis and others, and we settled down to what we hoped was to be a 36 hours' pleasurable crossing of the blue Mediterranean. Such was far from being the case, however, and the party—rather bedraggled—arrived in Tunis early on Sunday morning, March 31st—Palm Sunday—being greeted by Arabs, Moors, and a mixed assemblage of swarthy but respectful searchers for your “bag and baggage.”

Opening Meeting.

The Congress opened at 10 o'clock in the Palace of the French Societies—in brilliantly beautiful weather, the sun and sky being seen as they are never seen in England. The opening ceremony was of a friendly though formal character. The central figure was M. Alapetite, the Resident-General, who is the Minister of France in Tunis, and near to him on the platform were Dr. Porot, the general secretary of the Congress, physician to the French Hospital in Tunis and the originator of the New Mental Hospital; the Inspector-General, M. Granier, an able administrator of “public assistance” and representing the French Minister of the Interior; Dr. Grall, the medical inspector who represented M. Lebrun, the French Minister for the Colonies; Dr. G. de Couvalette, the Principal Director of the Naval Medical Service, who represented the French Admiralty Department; Professor Simonin, Principal Professor at the Military Hospital of Val-de-Grâce, the delegate representing the French Minister of War; and Surgeon-Major Cazenove, of the Army Medical Service, who also represented the French Minister for War. There were present on the platform in addition M. Blanc, the administrator and general secretary of the Tunisian Government; MM. Curtelin and Chabert, Vice-Presidents of the Municipality of Tunis; M. Roy, Minister Plenipotentiary; M. Reverdin, the Public Prosecutor of the French Republic in Tunis; also various members and officers of the Congress, including delegates from Russia (Dr. Bagenoff), Belgium, Switzerland, Holland, Italy, as well as of Great Britain and Ireland (the writer).

Address by the Resident-General.

The Resident-General, M. Alapetite, welcomed the members of the Congress in the name of His Highness the Bey of Tunis (who is nominally drawn into these salutations, but in regard to which he appears to betray no interest), and delivered a very able address. He was glad that members had the opportunity of seeing the capital of the French Protectorate, which, although centuries behind civilisation, had yet developed so much within the 30 years of French Government that it was considered a suitable place to receive this Congress. Tunis paid 50,000,000 francs in taxation, which upon the ratio of the population is exactly one-half of what France pays; by which it might be argued that the mean income of the Tunisian was also one-half that of the Frenchman, but this was far from being the case, the population of Tunis being mainly very poor, and consequently public or Poor-law assistance was a most difficult task. When the Protectorate of Tunis was first established assistance to sick and needy Europeans had virtually no existence. It was only organised by degrees, and then largely by private persons and private benevolence. Later it was possible to assist private enterprise by a small State subvention and the commencement was made towards helping the two extremes of life—viz., young children and old persons who were most in need. In this connexion he thanked, and deeply so, those devoted French people who, of their own free will and in their own time, had constituted the French Public Welfare Society. A heavy burden upon the administration of Tunis was the building and supporting of a civil hospital, to which is now attached a wing or pavilion for mental cases, but here in Tunis they had public spirit and were ready to undertake the necessary expense. The arrangements for the French insane hitherto had been to transport them to their own country, and as the European French population was really less than that of two or three cantons they had not up to the present been able to afford a mental hospital. Even in France there were several departments without one, and when established the cost was shared by the State, the department, as well as the local community or parishes. The places for early observation and treatment of these sad and appealing cases were, in Tunis, usually defective

and always insufficient, and it was to provide a suitable home for their early treatment under the most advanced medical and hygienic conditions that the Tunisian Government had built their new wing to the General Infirmary, and which he hoped would be a credit to its “public assistance” towards the poor. He stated that for those who were very poor, whether natives or foreigners, there were, even before the French Protectorate in 1880, some kind of place into which the poor insane could be received, either at the request of their families or through the intervention of the State, and such places still existed, but needed much improvement. Medical aid for the necessitous poor must be an organisation of considerable time before it became effective, and as to hospitals, it was necessary to convince the natives that the treatment of their families in them was kindly and real. The confidence of such a *clientèle* must first be won, but in this regard the work of the few French doctors in Tunis was having a markedly beneficial and moral effect. Especially important must this confidence be before the new mental hospital could be fully appreciated. This little hospital for mental cases, the Resident stated, would be open to all races and to all nationalities, and they in Tunis were prepared for the cost of this heavy burden, because it was an advanced and a great step in the progress of civilisation. The Government would gain by being saved the necessity of deporting their insane to France; the families and friends of the insane could visit their afflicted relatives; and the art of medicine would be benefited by the additional experience gained from the study of mental and nervous diseases.

Social Functions: Visit to Crèche and Dispensary.

On the second day the organisers and officers of the Congress, together with the delegates (including myself), were received by the Resident-General, M. Alapetite, and his wife, with whom they subsequently lunched in the *Maison de France* (The Residency). Following this a garden party was given by the hostess, who was “At Home” to members of the Congress and their wives. The hospitality, kindness, and delicate touch of refined grace which the hostess displayed towards her guests were especially noted, and on the next day, when she received all members of the Congress at a crèche which she herself had established, and later in the day at the special dispensary which she had inaugurated and was supporting and which bears her name, it was seen by all of us how much benefit the civilisation of France was conferring upon her colony, also how much of this was done through the “charity of wisdom” as well as through the “charity of sympathy” which the Resident-General's wife had initiated and continued. One of the most striking sights of Tunis in my opinion was the interest shown by Mme. Alapetite in works of philanthropy and charity. In nurses' costume she organised and supported the staff of devoted women who looked after the French poor as well as after their infants in the dispensary and crèche. I felt this civilising effect of French women in their own colony to be the most striking, stimulating, and heart-stirring feature of medical assistance outside my own country and I was most gratified with the experience.

Opening of Wing for Mental and Nervous Diseases.

The opening in the General Hospital of a new wing for mental and nervous diseases in Tunis was an occasion of much mutual congratulation. Dr. Porot, the congressional secretary, performed the ceremony and made graceful references to the help he had received from the Resident-General and from M. Blanc, the secretary of the Government of Tunis. There are complete sitting and observation rooms for day and night, well-ventilated and large single and associated rooms, baths, lavatories, case-taking rooms, and gardens. It is proposed to treat the acute cases, of which there were several on the day of opening, in this new block, and when recovered they are to be transferred to the General Hospital and thence discharged. This plan of dealing with insanity emphasises the view that mental disease is primarily physical disease, and such treatment tends to break down the prejudice against mental disease in a way that no other method can do. It certainly deserves recognition in our country.

Care of the Insane in the Colonies.

The paper by Professor E. Régis, so well known to all English-speaking alienists and psychiatrists, was upon the

Care of the Insane in the Colonies, referring particularly to French colonies, but extending his observations to the work done in English colonies, including Egypt, India, Australia, and the Cape. This paper, covering over 200 pages of type, was given to the Congress by Professor Régis in about an hour and a half. It is an invaluable and laborious compilation of the treatment of the insane in many lands, and the part relating to France was collected from naval, military, colonial and civil medical men throughout the French colonies. So much appreciated was this report that the Colonial Minister has given it State aid in order to make it more widely known. The work is in three parts: the first is a historical survey with a general summary of what has been done up to the present in the possessions of other countries; the second records what has been done in the French colonies; and the last part is devoted to recommendations. As to the last part, first Professor Régis urges (a) the establishment of "mental" annexes to general hospitals for special mental or delirious cases, such as those suffering from early forms of insanity or brain lesions accompanied with mental changes, as the study of such cases will induce an interest in psychiatry which is essential from the medico-legal standpoint, and also will assist the duties of the colonial military and naval surgeons. Insanity is curable in inverse relation to its duration, and the education of the young practitioner is bound to form a great part of the prevention of insanity. Professor Régis quotes his own University of Bordeaux as thus encouraging the early diagnosis and treatment of insanity, and the interest kindled among its students in the study of mental diseases has helped to formulate public opinion, and has even brought influence to bear upon lunacy administration. (b) He calls attention to the variable and defective legislation on the subject in the different French colonies. In some, such as Tunis, there are no laws relating to the insane, in others, only a modification of the French law of 1848, and he advocates the same legislation for the colonies as exists in France, or to leave each colony to enact statutes suitable to its local needs. (c) The erection of special receiving houses as a first line, and places in touch with these for the transfer of the more chronic on colony lines as the second line, but provided with means for varied occupations, and these establishments to have for the subordinate medical staff native doctors, but the chief to be an experienced psychiatrist. Following upon these recommendations, he gives the necessary indications for all the French colonies. He urges his views because those who serve in the colonies are entitled to have places to go to when they break down from any of the acute psychoses, and he urges that those Europeans whose cases have become chronic should be returned to their native land. He further urges that the expansion of colonial methods should provide at least some care for colonial troops and others who may suffer from insanity; such arrangements would be only humane and should be foreseen and prepared for. In this part of his paper he makes a strong crusade against alcohol, which he states in some colonies of France to be a worse enemy than sleeping sickness or malaria. Such a crusade can best be carried out by the education of the native population, and also by aiming at lessening the prejudice against insanity and by encouraging its early treatment. Lastly, he advocates a special examination (including one on the mental side as to family histories and predisposition) of all those who go into the colonies, whether as civil servants or in a military capacity. Such an examination would probably save much expense and many heartburnings as a preventive measure. The historical record of the French colonies in regard to the care of the insane shows that the older colonies, such as Guadeloupe and Martinique, had some modified treatment for their insane since the early part of the nineteenth century, but the more recent colonies have no treatment of any kind, others possibly have some indifferent and unsuitable accommodation in the chief town of their colony. The forms of insanity among a new people are mostly of the toxic and infectious kind, essentially curable if only taken in time. The incidence of insanity among Europeans in the French colonies averages about 1.7 per cent., and the number of French soldiers brought back into France every year is about 50. Whilst England possesses 74 asylums in its colonies, Australia 26, and the Dutch Indies (Java) three, Algeria has none, yet it is estimated there are at least 4000 insane persons there; 1230 of these are already in the asylums of central France. Tunis

has now a special mental hospital of its own for Europeans, but an asylum for 200-300 is really wanted in addition for the use of the native population, who, when insane, are now transported in a deplorable state to the Asylum of St. Peter in Marseilles, a few suitable cases only being housed in a modified infirmary for the aged and the vagrants. In Morocco it is estimated that there are 15,000 lunatics with no provision at all for their care. In West Africa (Senegal) all the Europeans and some natives are sent to St. Peter's Asylum in Marseilles, others may be detained in the civil hospitals. In French Equatorial Africa they are similarly dealt with. In Madagascar there is at present satisfactory accommodation for 100 patients, but more is needed. In French Indo-China for 18 millions of people there is no accommodation at all for the insane, but Europeans may be sent on to the asylum in Marseilles. It is interesting to note that general paralysis is rare in Tunis, and melancholia common, especially among the Jews, but I propose to make this matter the subject of some remarks in a later paper.

The discussion on Professor Régis's paper was full and interesting, and various communications relating to the care of the insane in the different French colonies were made.

Dr. A. Marie brought a report of the new asylum in Cairo, and also recorded what was being done in our own colonies and other dependencies as well as those of Holland. Dr. Grall referred to Professor Régis's wide influence and persistent efforts to improve the lot of the insane, both at home and in the colonies, by his keen teaching and strong advocacy and his widely read contributions to mental literature. Dr. G. Martin sent an account of the psychiatric teaching in vogue at the medical school for military and naval medical men at Marseilles. M. Blanc referred to the effects of alcohol in Tunis, which were to some extent controlled among the native population by their Mahomedan religion. He alluded in detail to what was now being attempted for the insane in Tunis. Dr. Vital Robert presented an account of the new scheme for the treatment of the insane initiated under him in Madagascar, and he quoted statistics relating to insanity and the increase of crime in the island due to alcohol since the French occupation. Dr. Simonin referred to the anxiety and troubles caused in the recent Russo-Japanese War by cases of mental disease which occurred, both among the troops and the staff, and he suggested the possible assistance which may be afforded by help from psychiatrists during the progress of a war. M. Cazenove described the treatment of the insane by native nurses in Africa as gentle, forbearing, and kind, owing partly, no doubt, to the religious and sacred feeling which the presence of insanity excites in the native mind. He referred to the injurious influence of alcohol throughout the French colonies. He pointed to the many dangers, mental, physical, and moral, from this cause and referred in his remarks to the form and frequency of insanity among the natives, also to its origin and its relation to religious beliefs.

Various resolutions bearing upon the subject of the insane in the various colonies were put to the Congress and unanimously carried. A special resolution relating to the great public peril incurred through the increased use of alcohol in the colonies was also passed, praying that legislation should be enacted "to control its use and sale, as it was one of the great agents of crime and insanity and a deadly poison to the native races."

Hooligans in the Army and their Rational Treatment.

This interesting paper, which only a conscription country can fully realise, was read by Surgeon-Major Haury. He pointed out that there were many of these in the French army, because they had not received sufficiently severe sentences to be sent into the battalions of Africa. It was recognised that their presence with sane and normal youth was objectionable, and a Bill should be passed to separate them. These persons are very dissimilar medically, varying from the accidental to the habitual criminal on the one hand, to those who are weak-minded cranks on the other. Many of them form recruits for asylums for the insane, and include cases of primary dementia, pervers, paranoiacs, and moral imbeciles. What would be the treatment if these were rejected by the army, and would such be possible? Such a scheme would be twice blessed. Dr. Haury suggested that the army would benefit by their absence, that society would benefit by their withdrawal, and they themselves would receive rational

treatment. In a conscription country this must be a very serious problem, as every person has to serve his time or advance reasonable excuse for not doing so. No excuse would be offered by the weak-minded, the degenerate, and the feeble, but they would, and do, create infinite trouble. The paper suggested a general examination, culminating in the psychiatric study of all offenders. Neither the sentence received nor the crime committed would serve as a satisfactory criterion of the mental state. There must first be a sorting of these offenders, who were all characterised by different mental deficiencies, and he indicated the treatment for the lighter forms; the more severe he suggested should be sent to Marseilles into one large general institution, where their continued detention could be adequately supervised. Evidently the question of the amount of mental unsoundness consistent with useful service is a serious one in a country where all the manhood is compelled to serve in the army.

Mental States arising from and connected with Perversions of the Natural Instincts.

The paper on Perverted Instincts by Dr. Dupré will be found especially useful to those who are studying criminology and degeneracy. "Instinctive perversion" is a term frequently used in the language of psychiatry. One meets with it in all clinical observations, medico-legal reports, and in medical certificates of detention, also in describing abnormal children who may be, and usually are, mentally defective, and especially if these possess vicious tendencies, when they are then described as cases of moral insanity or moral imbecility. A definition was necessary and an analytical study of mental states was also necessary. Further, if possible, an enumeration of those who come under the definition, cases such as those of mental degeneracy, of abnormal character and conduct, whether in infancy, youth, or adult age. The history of the condition as described by French alienists was given by Dr. Dupré, and an attempt was made to trace these perversions to the developmental period of life in order to account for those singularities and abnormalities that fall short of definite insanity, or such as may characterise those offenders who commit acts contrary to the advantage of self or against the social welfare, and who appear in police-courts as incorrigibles, rogues, and vagabonds. It was pointed out that many of these cases betray physical and mental stigmata of degeneracy, and a new point was made when it was stated that they show more or less specific signs of *l'hérédo-alcoolisme*, as in this country we are not quite clear what, if anything, this term may signify, but, it was added, they also show signs of hereditary tuberculosis, and if this means a tendency to tuberculosis there is much to be said for the statement; and it was further stated that many of them show signs of hereditary syphilis. Certainly there are signs of hereditary syphilis to be seen in many of these cases, as is evidenced in the photographs of the "black listers" circulated by our own police and seen in the teeth, lips, nose, eyes, and the shape of the head. The suggested classification (which is not original but was advanced by Herbert Spencer years ago and adopted by Mercier) certainly helped to reduce order out of chaos. There had long existed a need for classifying obsessions, impulses, emotional storms and explosions, weakmindedness, fixed ideas, moral obliquities, degenerative vices, and instability; and the division of perverted instincts according to the nature of the instinct, whether directly self-preservative and relating to the life of the individual, or indirectly self-preservative as in the reproductive instinct, or in relation to man's social environment or the power he has to adapt himself to life in a community, was the basis of Dr. Dupré's paper. Deviations from the directly self-preservative instincts were first considered, the search for food, for instance, and in this regard voraciousness, gluttony, and its opposite, the refusal of food and the fear of food, were all mentioned; next the satisfaction of thirst as a natural instinct, with deviations therefrom, such as occurred in drunkenness and dipsomania, were instanced; strange cravings of the appetite were referred to also, the habit of accumulating, of saving and of spending, the instinct of greed, cupidity, thefts, and swindling were all explained as perversions when extreme; he particularly instanced the reversal of the instinct of self-preservation—viz., suicide. The feelings

connected with the personality, such as inordinate vanity and shyness, and those connected with reproduction were also fully described with their varieties observed in weak-minded and unstable persons. It was pointed out that the study of criminology was full of such abnormal instances. The reversal of the natural instinct of motherhood was noted in post-puerperal cases, and the feeling which led fathers and mothers to desert their families was also explained on this basis. Perversions of social relationship were noted in those who refused to take their share of the social burden and in those who worked against altruism and disinterestedness, those who refused to pay rates and taxes—"conscientious objectors"—agitators, revolutionists, and anarchists all being classed in this category of perverted instincts. These were antagonistic to benevolence, to compassion, to mutual aid, to devotion, and to public work. These three groups of perverted instincts—viz., (1) personal and self-conservative, (2) sexual and genetic, and (3) altruistic or collective and associative—included most of the pervers, moral imbeciles, and a large group of clinical cases met with on the borderland as well as among the actually insane, also the inebriates and the delinquents, as many of these bore the stigmata of degeneracy. Wastrels, "ne'er-do-wells," unemployed and unemployables, vagabonds, vagrants, incapables, and undisciplined vicious persons were all included among pervers, and for these Dr. Dupré entertained but little hope of amelioration by special treatment, and would have them all interned in establishments intermediate between the asylum and the prison, both for their own and for the public safety. In his opinion it was an illusion to expect permanent improvement in these cases, and he was no optimist as to their successful permanent cure. He considered such a view to be a delusion of philanthropists, optimists, and of the religious teacher as well as of the metaphysical theorist.

Views on Results of Education of Pervers.

The discussion upon this paper showed some diversity of opinion.

M. Anglade considered there were great interests raised by this paper, especially to the magistrate in his ministerial capacity, as he frequently had to consider responsibility in regard to weak-minded young persons who suffered from congenital "insufficiency" as well as in regard to those who suffered from "perversions." He himself would wish to have heard more as to the responsibility in senile involution as it was by no means easy to fix and delimit the amount of perversion which should be considered sufficient to justify the plea of irresponsibility in these cases. He disbelieved in the education of young pervers as carried out in our penitentiaries, but he was by no means such a pessimist as Dr. Dupré, still having faith in good surroundings and the force of good example. Of all measures, he believed work in the open air on the land to be among the most effective agencies in the treatment of these pervers. Professor Régis, of Bordeaux, also believed in the possible amelioration of pervers, more particularly those who were sufficiently developed mentally to respond to educational efforts. He quoted the successful results of the St. Louis colony near Bordeaux in the Gironde, which receives and educates children of this class. He urged the necessity for establishing reformatories similar to those in America and about to be established in England, but he felt there should be an alienist attached to these houses as well as an educational master. M. Vigouroux was also very encouraging about the training of the moral imbecile, who always suffers from certain intellectual irregularities as well. He spoke of the dangers to the weak-minded connected with the period of puberty, but urged that with good discipline and good example it was possible so to ameliorate the pervers that he could return to normal life and lead a useful citizenship. He quoted the good results obtained among intelligent cases of moral pervers and imbeciles sent between the ages of 16 and 18 to the school of Théophile Roussel of Montesson. M. Claparet felt keenly that happy results were obtained by gentleness and patience when special educational efforts were made, and he ventured to think if such results were not obtained it was because there were not persons capable of supplying the suitable training. M. Paetet spoke of the value of ordinary education for pervers of all kinds, particularly if above a certain age. Society he felt must defend itself against this class. In

institutions, especially in asylums, they organise rebellion and create disorder, from the result of which they themselves manage to escape. He felt the only treatment was for the magistrate to order these cases into establishments of a nature between the asylum and the prison, and such houses should be especially created. Dr. Ley was hopeful of the results of education, and recorded the work in English reformatory training, which is really not for the mentally defective or the pervert, such conditions being a disqualification, but this was not apparently known to the speaker. Dr. Voison quoted his experience at the Salpêtrière, where there existed a training establishment or a reformatory for girls of every grade of psychic abnormality. In ten years, out of 200 girls, only five had to be sent to asylums for the insane, the others, after elementary educational instruction and constant industrial occupation suitable to their needs, having gone out into ordinary life, and subsequent reports of them had been satisfactory. Dr. Ballet confessed he was in entire agreement with the reader of the paper, and described himself as a pessimist in regard to the moral amelioration of the pervert. He knew that many of these persons offended against society in an incomplete, half-hearted kind of way, and they could best be described as half mad. The question was, Ought they to be punished? They certainly ought to be put in places where they would be unable to injure society. For the idea of inflicting punishment should be substituted the proper one in the first instance of defending society, and before these persons could be punished it should be ascertained first if they were responsible. Criminals, he believed, whether occasional or habitual, were all by instinct "perverts," and their correct treatment would be to organise a regular method of medico-psychological examination before inflicting punishment upon them. It is not certain whether our ideas ought not to be changed, certainly widened, upon the subject of punishment. M. Vallon advocated the more complete study of criminality, and urged that medical men should be placed at the head of institutions into which these cases were to be received. M. Pactet reminded the meeting that he had proposed at the Lisbon Congress a medico-psychological service in the institutions where these perverts were detained, but his proposal, although adopted by the Congress, had met with the strongest resistance from Government sources.

Mental and Nervous Complications of Malaria (Paludism).

Major Chavigny, of the French Army Medical Service, presented a paper on this subject. He reviewed cases reported in the medical literature of malaria which had given these symptoms, and he was surprised at their great number, but upon closer investigation he had been led to conclude that these symptoms were often accidental and not dependent upon malaria. As to the true nervous symptoms dependent upon malaria, he classified them into peripheral and central. The latter included aphasia, transitory hemiplegia, and local paresis, all of which passed off when quinine was administered. He himself had noticed peripheral neuralgias—most often of the trigeminal nerve, the sciatic, the occipital, and the intercostal, and such cases of neuritis and polyneuritis had been described by other authors, notably by Catrin, Metin and Jourdan, Dopter and Sacquépée, and the symptoms had been confused with alcoholic peripheral neuritis. Remlinger had described myelitis consequent upon malaria, and others had observed transitory medullary paralysis and myelopathies where malaria could be the only etiological factor. As to the mental complications, it was most difficult to assert definitely their true causation, for malaria, alcohol, and constitutional predisposition to insanity were often combined, and there was a tendency on the part of some authorities to blame alcohol for all the psychoses which supervene in cases of malaria when this was taken in any degree or form. Epilepsy was a form of nerve disorder often associated with malaria in the French colonies, and acute hallucinatory mental confusion was also frequently met with, worse at night, and associated with terrifying dreams. In subacute cases of malaria delirium was often seen at the onset of other symptoms of malaria. In some chronic cases of malaria one might meet mental symptoms, but they often appeared to be unconnected with the malaria, although in others they passed off under the quinine treatment. The highest opinion to-day did not recognise a

true form of malarial psychosis, yet malaria might be the exciting cause acting on a predisposed subject, and it might also be that the predisposition to break down acted upon a subject lowered in vitality and thus prepared for the psychosis by malaria; both these theories had their advocates.

In the discussion Dr. Dumolard, of Algiers, related the nervous complications which had occurred in ten cases out of a total of 200 observations. Five cases were those of cerebral coma, of which two had died, one was a case of hæmorrhagic meningitis followed by death, another of hemiplegia (with the parasites in the brain), one of cerebro-spinal meningitis with lymphocytosis, two others had meningeal symptoms, one of the Landry's paralysis type cured by quinine. M. Grall called attention to the bibliography of the subject in which these nervous symptoms were referred to as far back as 1840 by Dr. Sigund, of French Guiana and Antigua. Professor Régis agreed that alcohol had no monopoly as the sole cause of acute and terrifying hallucinations; all intoxicants and all infections produced them, and malaria in its turn could also produce them, but he had often noticed that cases of malarial delirium have alcohol as a predisposing factor. It is not the drinking that is to blame, but more often the nervous predisposition to breakdown and the failure of their eliminating organs. The result of malaria in his experience was an extreme physical and mental weakening. He had seen serious dyspnoic symptoms as well as disturbances of consciousness, such as failure of memory, in these cases. The failure and decay in these cases could only be explained by the presence of malaria. Dr. Vigouroux, of Vaucluse, showed some histological preparations and related the clinical history of several cases. In one patient after 20 years of good health he was seized with intermittent fits of mental confusion lasting several days, but followed by complete recovery lasting two to three weeks. He died comatose in another fit, and at the post-mortem examination the liver was found to be cirrhotic and the spleen malarious. In 14 out of 60 cases of general paralysis under his care there was an association of malaria and alcohol, as verified in the post-mortem examination. Dr. Simonin referred to memory troubles in two cases which were due to malaria, but were attributed to alcohol; in another polyneuritis was attributed to alcohol, whereas the true cause was malaria. Dr. Anglade added his testimony that alcoholism might be attributed as the cause of mental symptoms, whereas the real etiology was paludism.

Professor Régis communicated an interesting paper by a naval surgeon, Dr. Hesnard, on the Diagnostic Difference between Malarial and Alcoholic Delirium.

Asylum of St. Peter at Marseilles.

On my way to Tunis I visited the asylum into which some of those European Tunisians who became insane were received—viz., the Asylum of St. Peter at Marseilles, the only public asylum of this the second city of France. The front, facing a main road, is the administrative block, and there is here a plot of well laid out garden with trees and flower beds, which were the only flowers I saw there. I was courteously received by the deputy superintendent, Dr. Cornu, who went round several of the male wards with me, and who seemed much appreciated by his patients. I was not taken over any female wards. It was the dinner hour for patients and staff, both dining in the wards and at the same time, the only difference being that the staff had a separate table; wine—a quarter of a litre—was provided for both. It is a very old asylum, built in 1844, but added to in more modern times. It is stated to have grounds covering 90 acres, and it provides accommodation for the poor in one part and for paying patients in separate blocks. There is an agricultural colony for 60 patients and one for 20 epileptic patients who are not insane. The patients exercised in cramped, small courts, interspersed as it were between the different blocks, many of which are connected by covered ways. The day rooms were very bare; I saw no newspaper or book, no birds, flowers, pictures, or means of amusement and distraction on the walls or elsewhere, and I saw no piano except in the private patients' block. I saw some dormitories with flagged floors which had rows of wooden box-beds with beds of straw, and the windows were unglazed but provided with shutters which were kept locked with chain and padlock from the inside. The asylum accommodates about

1200 patients, many of them being repatriated from the colonies. I understood there were four doctors and a lay director at the head. The place was said to be visited by the Procureur de la République, the Prefect of Police, and the Commission of "Surveillance." Patients were admitted on the order of the Prefect of Police accompanied by a medical certificate, and such detention will last for two weeks; if the detention is to be prolonged beyond two weeks, then two certificates are necessary. The acute block seemed to provide an ample number of single rooms, which were lofty, roomy, and airy. I saw several varieties of low-typed idiots and others who were separated from the rest of the patients, but no effort seemed to be made to train them. The whole place was very prison-like except the private patients' quarters, and no scientific work of any kind seemed to be carried out. I saw an Englishman in detention there and felt for his expatriation in his illness, but he had been living in Marseilles several years and seemed unlikely to leave this place of his entombment.

Excursions: Visit to Carthage.

The excursions of the Congress included some to Sfax and Gabès, also some into the desert and to Kairouan, others into Algiers through Constantin, visiting Biskra, the "Queen of the Desert," but I had no time for any of these. I made a visit, however, to the Arab quarter of Tunis, and greatly admired the dignified, if not aristocratic, calm of the native Arab. The central bazaars of the native quarter, the Mussulman customs, their devotion, their relation to their Jewish neighbours, and their apparently complete disregard of sanitation (as we know it), which must exact an enormous penalty in regard to infantile mortality, were all a new view of life. The different kinds of dark races in the town were an interesting ethnological study; the separation and isolation of their women, their customs and appearance, were a refreshingly new experience.

An excursion to Carthage, formerly the rival of Rome and mistress of Spain, Sicily, and Sardinia, now only a denuded hill, was nevertheless full of archæological interest. At the time of the first Punic war Carthage was a city of 23 miles in circumference, with a population of 700,000. The remains of this mighty city are to be found to day in every museum in Europe, and much of the city of Tunis itself has been built from its ruins. Its site even now is singularly beautiful, on the sloping shores of a magnificent and well-watered bay, sheltered from the north and west. Before the Roman wars the city of Carthage was pagan and given to the sacrifice of human victims, and this was evident in the extensive and valuable museum, the Musée Lavigerie, which Père de la Lettre, one of the White Fathers, showed to us. There were literally hundreds of small sarcophagi into which human sacrifices had been placed, and there were many symbols of votive tablets with the disc of Bâal—the upright hand, the crescent of Astarte, palm trees, rams, and human sacrifices offered to Bâal to be seen in this valuable museum.

Following the Roman occupation and after the third Punic War Carthage saw the uprooting of paganism, and it became the first Christian seat of religious teaching in North Africa, and Christian inscriptions such as "In peace," "Faithful in peace," "Innocent in peace," are seen among the collections in this museum founded by Cardinal Lavigerie. In what was said to be the Citadel is now the Byrsa, where the Tunisian merchants spend their summer in tidy villas and larger mansions. At the end of the spur on this site is said to have been the Temple of Æsculapius, where the patriotic wife of Asdrubal went to her death by fire, also the Palace of Dido, where from her funeral pyre she saw Æneas sail! Close to this site is the great memorial cathedral of St. Louis, built by Charles X. in 1830, and where Cardinal Lavigerie lies buried.

Excursions were also made to other places of interest in the neighbourhood, and Tunisian hospitality was most cordial. One, a visit to the "Red Cross," a dispensary where we were received by the ladies' committee of the "Red Cross" Society, was most interesting. The excursion to the Museum of Bardo, when we were especially under the guidance of M. Merlin, was most informing and as educative as it was pleasant. This museum contains the most noted and largest mosaic pavement in the world, and its collection of statuary, lamps, urns, inscriptions, pottery, bronzes, and mosaic pictures, is truly wonderful, and it contains the best

single collection of Carthaginian remains. One of our excursions to the Sadiki Hospital for Arabs was under the guidance of Dr. Porot, who gave the history of the Arab palace before its use as a hospital, its present use having been effected through his skill and interest. The garden with its bougainvillea, quince trees, oleanders, daturas, and meandering streamlet, also with its oriental trees and flowers, was beautifully refreshing.

Leaving Tunis and travelling northward under the Spanish aqueduct behind the Bardo—the former palace of the Bey of Tunis—through olive groves, I passed along the road to Bizerta, where, among the harbingers of spring, a pair of swallows waited in an open restaurant for the fair wind to cross the Mediterranean. The road from Tunis lay across broad expanses of alluvial plains, covered here and there with small petunias and speedwell, also with scarlet poppies (*coquelicots*) and yellow doronions—the colours of the Royal Spanish house and the only cheerful reminder of the past dominion of Spain. The small cultivated plots, marked out by opuntia hedges and sheltered by aleppo pines (*pinus halepensis*), acacias, and shaggy eucalyptus trees, showed the care and thrift of some of the scattered inhabitants. It was on this journey that I came across the Bedouin Arabs with their camels and tents, but the journey permitted no closer acquaintance than a passing glimpse of them.

St. Anne Asylum, Paris.

Before the end of the journey I took the opportunity of visiting the St. Anne Asylum in Paris, the acute receiving house of the city, through which pass about 4000 cases a year, the patients being afterwards distributed to the various large asylums around Paris. I was unfortunately unable to see the venerable and highly respected Dr. Magnan, whose acquaintance I made over 30 years ago, when he contributed to the *Journal of Mental Science* a short account of a visit to asylums in Paris. Dr. Magnan is in his eightieth year, but active, energetic, and devoted as ever he has been to the cause of the poor insane. In 1908 he celebrated his jubilee of service at St. Anne, but as my visit was made the Saturday before Easter Day, and he was as usual spending the week-end out of town, we did not meet. Readers of THE LANCET probably all know the fortress-like institution of St. Anne, built in 1867, and many have attended its clinics. It is quite within the city of Paris, has high stone walls round it, and its blocks are high stone buildings, from one to four storeys, and with tiled red roofs. There is a central administrative department in which Dr. Magnan lives, faced by a block of four storeys, where other medical officers live, and a lay governor's house in its separate garden. I was particularly interested in seeing the line of treatment, and made a visit to the most recent cases with one of the medical officers. I arrived about eight in the morning, and was at least an hour too early even for the French doctor's medical round! The large number of cases of primary dementia of all ages struck me greatly, but there were not many cases of general paralysis. The treatment adopted was mainly the bed treatment, no morphia and no sulphonal were used, only bromide and chloral as hypnotics. I saw no restraint, but an acute patient had five or six others holding her down on a mattress on the floor in one of the acute wards at my visit. The bedrooms or dormitories were all of polished wood floor, and there were very few patients out of bed in the infirmaries or wards for recent cases. There was an excellent medical reference library, but I was not shown the laboratories. All police cases are brought into St. Anne Asylum first, and when the diagnosis is fully ascertained they are sent to various separate institutions. The plain appearance of the wards and the institution-like character of the place were in marked contrast to our more homely surroundings in England, as is the case in all asylums where the administrative director is not a doctor. The chief officials of the asylum are appointed by the Minister of the Interior and the lay officials and attendants by the Prefecture of Police.

I am indebted to *La Presse Médicale* (through M. Jean Abadie) and to *La Tunisienne* for reports of the Congress and for the names quoted in this paper. Dr. G. de Couvalette's great archæological knowledge and scholarship were most helpful to all of us in the excursions to Carthage and to the Musée Alouai (Bardo). During my stay in Tunis and on the journey thither from Marseilles, as well as in the

arrangements for travelling, I have to acknowledge the extreme kindness of Dr. Porot, the able secretary of the Congress, as also the courtesy and much-appreciated friendliness of Dr. Régis and Dr. Semeleigne, to all of whom I am deeply grateful.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 95 largest English towns, with an aggregate population estimated at 17,639,881 persons at the middle of this year, 8403 births and 3723 deaths were registered during the week ended Sept. 14th. The annual rate of mortality in these towns, which had been 11·4, 11·2, and 11·5 per 1000 in the preceding three weeks, declined to 11·0 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual death-rate in these 95 towns averaged 11·3, against 11·4 per 1000 in London during the same period. The annual death-rates in the several towns last week ranged from 3·1 in Ilford, 4·9 in Eastbourne, 5·2 in Acton, 5·3 in East Ham, and 5·4 in Edmonton, to 15·7 in Blackpool, 16·0 in Birkenhead, 16·1 in Barrow-in-Furness, 16·8 in Gateshead, and 19·5 in South Shields.

The 3723 deaths from all causes were 172 fewer than the number in the previous week, and included 327 which were referred to the principal epidemic diseases, against 403 and 399 in the two previous weeks. Of these 327 deaths, 143 resulted from infantile diarrhoeal diseases, 74 from measles, 42 from whooping-cough, 38 from diphtheria, 18 from scarlet fever, and 12 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 1·0 per 1000, against 1·2 in each of the preceding three weeks. The deaths of infants under 2 years of age attributed to diarrhoea and enteritis, which had been 183, 203, and 183 in the preceding three weeks, further declined to 143 last week, and included 52 in London and its suburban districts, 14 in Liverpool, 7 in Manchester, 7 in Hull, 6 in Portsmouth, and 5 in Sheffield. The deaths referred to measles, which had steadily fallen from 156 to 83 in the preceding eight weeks, further fell to 74 last week, and caused the highest annual death-rates of 1·8 in Gateshead and in Newport (Mon.), and 2·4 in Middlesbrough. The fatal cases of whooping-cough, which had been 44, 61, and 52 in the preceding three weeks, declined to 42 last week, which was the lowest number of deaths from this cause recorded in any week of the current year; 14 deaths were registered in London, and 2 each in Birmingham, Grimsby, Nottingham, Sheffield, South Shields, and Gateshead. The deaths attributed to diphtheria, which had been 26, 23, and 36 in the three preceding weeks, rose to 38 last week, and included 10 in London and 2 each in Portsmouth, Stoke-on-Trent, Birmingham, Liverpool, and Preston. The deaths referred to scarlet fever, which had been 23, 18, and 25 in the preceding three weeks, fell to 18 last week; 3 deaths were recorded in Birmingham, and 2 each in London, West Ham, and Liverpool. The fatal cases of enteric fever, which had been 12, 8, and 20 in the preceding three weeks, fell to 12 last week, and included 3 in London and 2 in Hull.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had been 1512, 1525, and 1564 at the end of the preceding three weeks, had further risen to 1662 on Saturday last; 281 new cases of this disease were admitted to these institutions during the week, against 167, 213, and 228 in the preceding three weeks. These ospitals also contained on Saturday last 920 cases of diphtheria, 463 of measles, 306 of whooping-cough, 46 of enteric fever, and 1 of small-pox. The 984 deaths from all causes in London were 32 below the number recorded in the previous week, and no fewer than 339 below that recorded in the corresponding week of last year; these 934 deaths were equal to an annual death-rate of 11·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 125, 91, and 105 in the preceding three weeks, were 103 last week, and were 6 in excess of the number in the corresponding week of last year.

Of the 3723 deaths from all causes in the 95 towns last week, 158 resulted from different forms of violence, and 341 were the subject of coroners' inquests. The causes of 32,

or 0·9 per cent., of the deaths registered were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Newcastle-on-Tyne, Nottingham, Stoke-on-Trent, Salford, and in 67 other smaller towns. The 32 uncertified causes of death last week included 4 in Liverpool, 4 in South Shields, 3 in Birmingham, and 2 in Preston, in Sheffield, and in Gateshead.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons in the middle of this year, 1133 births and 518 deaths were registered during the week ended Sept. 14th. The annual rate of mortality in these towns, which had been 13·1 and 12·7 per 1000 in the two previous weeks, further declined to 12·4 per 1000 in the week under notice. During the first eleven weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 13·2 per 1000, against 11·3 per 1000 in the 95 large English towns during the same period. Among the several Scotch towns the annual death-rates last week ranged from 6·1 in Falkirk, 7·5 in Motherwell, and 7·7 in Clydebank, to 15·1 in Greenock, 15·5 in Kirkcaldy, and 24·6 in Perth.

The 518 deaths from all causes were 12 fewer than the number in the previous week, and included 41 which were referred to the principal epidemic diseases, against 59 and 51 in the preceding two weeks. Of these 41 deaths, 19 resulted from infantile diarrhoeal diseases, 9 from whooping-cough, 8 from diphtheria, 2 from measles, 2 from enteric fever, and 1 from scarlet fever, but not one from small-pox. The 41 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·0 per 1000, which coincided with the rate from these diseases in the 95 large English towns. The deaths of infants under 2 years of age attributed to diarrhoea and enteritis, which had been 19, 29, and 30 in the preceding three weeks, declined to 19 last week, and included 9 in Glasgow, 3 in Aberdeen, and 3 in Partick. The deaths referred to whooping-cough, which had fallen from 22 to 9 in the preceding four weeks, were again 9 last week; 2 deaths occurred in Glasgow, 2 in Dundee, and 2 in Perth. The fatal cases of diphtheria, which had been 5, 7, and 9 in the preceding three weeks, were 8 last week, of which number 5 were registered in Glasgow. The 2 deaths attributed to measles occurred in Partick and Coatbridge respectively; the 2 deaths referred to enteric fever in Greenock and Ayr respectively; and the fatal case of scarlet fever in Kirkcaldy.

The deaths referred to diseases of the respiratory system in the 18 Scotch towns, which had been 55, 68, and 59 in the preceding three weeks, were 61 last week; 17 deaths were attributed to different forms of violence, against 19 and 24 in the two previous weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an aggregate population estimated at 1,154,150 persons at the middle of this year, 579 births and 315 deaths were registered during the week ended Sept. 14th. The annual rate of mortality in these towns, which had been 14·9 and 13·0 per 1000 in the two previous weeks, rose to 14·2 per 1000 in the week under notice. During the first 11 weeks of the current quarter the mean annual death-rate in these Irish towns averaged 14·5 per 1000; in the 95 large English towns the corresponding death-rate did not exceed 11·3 per 1000, while in the 18 Scotch towns it was equal to 13·2 per 1000. The annual death-rate in the several Irish towns last week was equal to 14·7 in Dublin (against 11·4 in London), 12·6 in Belfast, 15·0 in Cork, 17·9 in Londonderry, 10·8 in Limerick, and 20·9 in Waterford, while in the remaining 16 towns the mean rate was equal to 15·3 per 1000.

The 315 deaths from all causes in the 22 Irish towns were 27 in excess of the number in the previous week, and included 24 which were referred to the principal epidemic diseases, against numbers declining from 43 to 32 in the preceding three weeks; of these 24 deaths, 11 resulted from diarrhoeal diseases, 6 from whooping-cough, 2 from enteric fever, 2 from scarlet fever, 2 from diphtheria, and 1 from measles, but not one from small-pox. These 24