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LARYNGEAL TUBERCULOSIS AND SANATORIUM TREATMENT.

THIRTY years ago tuberculosis of the larynx was regarded by the men of the largest experience as practically incurable, and the same view is widely held at the present day. The paper by Sir StClair Thomson, published in this issue of the JOURNAL, shows that this belief is unduly pessimistic. The paper has a special value, inasmuch as it expresses the matured opinion of a careful observer based on a critical analysis of a number of cases which he has been able to study under exceptionally advantageous conditions. As laryngologist to the King Edward VII Sanatorium, Midhurst, he has had the opportunity of examining the larynx of every patient admitted since January, 1911, and when he saw anything to arouse suspicion he has followed up the first inspection by further periodical examinations during the patient's stay in the sanatorium. The total number of cases subjected to this close scrutiny was 795. The result of three years' work has been to convince him that tubercle in the larynx, though one of the most formidable complications of pulmonary tuberculosis, is not inevitably fatal, as it was formerly held to be, and that in a certain proportion of cases—small it is true, but sufficient to give grounds for hope of increase under proper management—the disease is curable.

Sir StClair Thomson has eliminated from his statistics all cases in which there could be any doubt as to the nature of the disease. Many cases are sent to Midhurst which may fairly be regarded as "suspect." In these examination, with the help of all the aids to scientific investigation with which the sanatorium is equipped, fails to reveal any active mischief, though in some there may be evidence of extinct foci. These are not included in Sir StClair Thomson's tables and figures; he has rigorously confined his analysis to "manifest cases of active tuberculosis." He has found in 693 cases which remain after careful sifting that the larynx was affected in 178. In all these the larynx was the seat of definite tuberculous lesions. This gives a percentage of 25.6—a high proportion, as pointed out by the author, considering that he is dealing only with selected and comparatively early cases. Another unexpected result of the analysis of his figures has been to show that the generally received view that the predisposition to laryngeal tuberculosis is much greater in men than in women rests on no solid foundation. He found that whereas in men the larynx was affected in 24 per cent. of cases, in women it was diseased in 28.3 per cent.; the difference is practically a negligible quantity. Such as it is, it may be accounted for by the different conditions in which male and female consumptives live. It must be remembered that the men and women admitted to the Midhurst Sanatorium are drawn from the same class and have not been exposed to the conditions of local irritation by dust, smoke, and so forth under which people employed in factories and workshops have to work. They are carefully selected, and, on the whole, offer the most favourable material for the exercise of medical skill. But when all these things have been taken into account, Sir StClair Thomson's results are very encouraging. In 20.7 per cent. of the cases treated the disease was arrested, and in the 34.83 per cent. described as "improved" he thinks that if the after-histories of the patients could be followed up, it would be found that a good many could be transferred to the category of "arrested." To sum up the results, in more than half the cases of laryngeal tuberculosis which have been treated in the Midhurst Sanatorium during the last three years, the disease was arrested or improved.

This is strong testimony to the beneficial effects of a stay in the sanatorium, where the discipline of strict silence keeps the affected parts at rest and where all the surroundings are scientifically arranged so as to ensure the most favourable conditions for the restoration of health. The influence of rest, combined with abundant nourishment, exercise, pure air, and regularity of life, is strikingly shown by the fact that in no fewer than 22 of the 37 cases in which tuberculous laryngitis was arrested this result was brought about without any direct local treatment. The whole field battery of lozenges, sprays, insufflations, paints, caustics, and intratracheal injections that used to be brought to bear against the disease was dispensed with. In only 15 cases was the arrest effected by local treatment, and for that purpose the galvano-cautery was used. This agent is employed with the object of isolating the local lesion by setting up fibrosis, and thus walling off the diseased from the healthy parts. Local surgical measures were employed in only two cases—in one for the clearing away of heaped-up deposit on a ventricular band, in the other for the removal of pachydermatous granulation tissue resulting from the cautery puncture.

While congratulating Sir StClair Thomson on his results, we venture to hope that at a later period he will tell us what has been the subsequent fate of the patients, not merely in respect of the prolongation of life, but of working efficiency. We should also be glad of further information as to the galvano-cautery treatment. The points on which details are desirable are the mode of application and the indications for the treatment, the general condition of the patient which warrants its use, and the average length of the treatment. Some of these points were raised in the discussion at the Medical Society, which is published in this week's issue of the JOURNAL (p. 818). Sir StClair Thomson's paper, the distinctive features of which are the stress laid on the futility of the older tinkering methods and insistence on the vital importance of sanatorium treatment, was well received by the society before which it was read. We think it may be said that he has established a new standard for the estimation of the fatality of laryngeal tuberculosis by showing that when treated under proper conditions it is curable in a proportion of cases which would rightly have seemed incredible in the presanatorium era.

It will be noted that Sir StClair Thomson has not seen any marked beneficial results from tuberculin treatment. On this point there is still very wide divergence of opinion, and the profession will therefore look forward with "animated expectancy" to the report on the subject by Dr. Noel D. Bardswell, Medical Superintendent of Midhurst Sanatorium.

which is to be published this week.[1] This report is issued with the sanction of the Council and its value is increased by a prefatory note contributed by Professor Karl Pearson. We take this opportunity of calling attention to some of the previous scientific work which has come from officers of the sanatorium and which must be counted as by no means the least valuable of the fruits of that institution. Among these the first place must be given to Dr. Bardswell's paper on the treatment of pulmonary tuberculosis, in which he gives full and critically digested details of the after-histories of the patients who have passed through his hands at Midhurst during the period of five years completed in July, 1911. In the reports of many other institutions the ultimate results are often either omitted or but vaguely mentioned, and this has created a feeling of distrust as to sanatorium statistics. Dr. Bardswell tells the story of his cases in a judicial spirit that inspires confidence. Another excellent piece of work we owe to Midhurst is the essay of Dr. J. A. D. Radcliffe, pathologist to the sanatorium, on mixed and secondary infections in pulmonary tuberculosis, for which the Weber-Parkes prize was awarded to him in 1912.

Enough has, we think, been said to convince the most sceptical that the Midhurst Sanatorium has fully justified its existence. At the opening of the sanatorium, the late King Edward said: "It is our earnest hope that the sanatorium which is now opened, and its research laboratories, equipped with every resource of modern science, may assist to advance the physiological knowledge of pulmonary diseases, and that this institution may, by treating the disease in its early stages, be the means of prolonging the lives of those whose career of honourable usefulness has been interrupted by this terrible malady." Both these objects have been amply fulfilled. The success of the sanatorium which bears the name of the sovereign who uttered these weighty words must be gratifying to Sir Edward Cassel, whose munificence made its foundation possible, and to the committee of management, to whose unstinted efforts so much of that success is due.

THE STATISTICAL METHOD IN THERAPEUTICS.

ELSEWHERE in this issue we publish a criticism by Professor Hermann Sahli of Dr. Batty Shaw's statistical contribution to the study of tuberculin inoculations, and Mr. R. Hamilton Russell, in his address to the Section of Surgery of the Australasian Medical Congress, published in the JOURNAL of April 4th, expressed an opinion of the statistical method as applied to medical problems which agrees in the main with that of Professor Sahli. We do not propose to discuss the merits of the particular controversy between Dr. Batty Shaw and Professor Sahli, but it may be of interest briefly to refer to some general principles of scientific method which seem to be involved.

The impression to be derived from a hasty perusal of the writings of modern statisticians is not likely to be favourable to the claims put forward on behalf of their science for a place among the instruments of medical research. One finds lengthy articles, which drop on the smallest provocation, not like Mr. Silas Wegg into poetry, but into formulae of an amazing complexity, and are interspersed with violently polemical matter. Professor A. explains, in many pages and with the help of hundreds of equations, that Professor B.'s views on, let us say, the general theory of multiple correlation, are certainly incorrect and probably dishonest. In his turn, Professor B., also securely entrenched amid equations and coefficients, hints that the value of Professor A.'s contributions to the theory of statistics is an infinitesimally small quantity of the second (or higher) order. The medical reader who has plodded through many hundred pages of this kind may be pardoned if he asks himself, *Cur quis non prandeat hoc est?* But the controversial excesses of the seventeenth and early eighteenth century philologists cannot obscure the essential value of much they achieved, and we hope that the same may be said of twentieth century statisticians.

How is a judgement on the value of a therapeutic measure attained? We conceive that, in the first place, the method proposed must be rational, that is to say, the possibility of its producing an effect does not involve a denial of ascertained facts. If it be said that osteo-arthritis can be cured by wearing metal rings on the fingers, or that dosing a patient suffering from chronic interstitial nephritis with coloured water will effect a restitution of the damaged tissues, no rebuttal of the claims is required other than a recital of ascertained pathological facts respecting the two diseases. Should a series of cases appear to show success following the use of the rings or the coloured water, we are entitled to assert peremptorily that such statistics are fundamentally erroneous, precisely as the man in the street is entitled to reject any proof that the ratio of the circumference of a circle to its diameter is commensurable, although he may be unable to detect a flaw in the reasoning.

But such cases as these are only frequent in connexion with quack remedies; trained observers rarely advocate methods which involve such contradictions. The problem is usually of the following type: Given that a certain procedure, not intrinsically absurd, is adopted, how can we test its value? We think that any attempt to answer the question really involves the use of some statistical method. Thus we may crudely divide our material into treated or untreated series and simply compare the results; this is the method of "coarse statistics" which Professor Sahli condemns. Then we might either subclassify the data and still compare the categories directly or, by the use of particular artifices, we might endeavour to allow for disturbing influences while preserving the original bulk. A familiar example is that of age and sex corrected mortality or fatality rates, less well-known methods are founded on the theory of multiple correlation. Lastly, we might endeavour mentally to resume all these processes, preserving no written record of them, it being, perhaps, held that some crucial distinctions are of a nature capable of impressing a trained observer, but incapable of transmission by speech or writing. Each of these processes involves the conception of multiple causality either as leading up to certain results or impeding their attainment, and each involves the notion of a series of cases or phenomena.

This idea of a series is involved even when a judgement is ostensibly founded upon a single treated case, since a comparison is implied with some other case or series of cases not so treated which are upon record, or have made an impression on the consciousness of the observer. But these characters are no less than a definition of statistics—"quantitative data affected to a marked extent by a multiplicity of

[1] Preliminary Report on the Treatment of Pulmonary Tuberculosis with Tuberculin. By Noel D. Bardswell, M.D., Medical Superintendent. With a Prefatory Note by Professor Karl Pearson, F.R.S. London: H. K. Lewis, 136, Gower Street, W.C. 1914. (5s.)

causes." It therefore follows that the supposed opposition between statistical and other forms of proof really depends upon a misapprehension of terms, and it is interesting to inquire how it has arisen.

The primary cause was, we think, a failure to perceive that the absence of a written record does not disentitle a process of inference to be classified as statistical. In fact we are every day reaching strictly statistical judgements without recorded data. We cycle through Chelmsford and Colchester, and assert that the latter is the more populous city without having made or recorded a census of the inhabitants and without reading the official reports. But we have performed a statistical operation, for we have mentally compared the extent of the streets, the amounts of traffic in them, and a host of other circumstances each of which is a variable affecting but not uniquely determining a conclusion as to the number of inhabitants. This instance shows why the preservation of a written record, although not essential to the method, is practically desirable; we all know how widely the estimates formed in the way described may differ one from another and from the real truth. These are the grounds upon which it may legitimately be held that the onus of proof rests upon an observer to demonstrate, not merely assert, that the materials upon which his conclusions rests are in the first place appropriate, and in the second incapable of being recorded. How far this burden of proof has been discharged in particular instances we need not here discuss.

A secondary cause of dispute is more subtle, and is rooted in an incomplete enumeration of errors. Thus, suppose we are confronted with the following examples: Small-pox is raging in a town, and two observers, A. and B., each select at random samples of inhabitants who are, we may assume for simplicity's sake, of the same age, sex, and class; A. takes 1,000 and B. takes 50, the attack-rates are computed for vaccinated and unvaccinated persons in each sample, and differences emerge, one sample giving results more favourable to vaccination than the other. The values of these two samples are likely to be quite differently appraised by a theoretical statistician and by a clinician. The former may, on the basis of "probable error" computations, conclude that there is no significant difference between the two; the latter, from a knowledge of the disease and of A.'s and B.'s respective diagnostic powers and methods, may infer that A.'s sample is valueless and that all arguments must be exclusively based upon that of B. Very probably the result will be an angry polemic. The statistician will speak in scathing terms of the clinician's failure to grasp the principles of quantitative reasoning, and the clinician will lament that persons who have never even read a textbook on medicine should presume to lay down the law as to what is and what is not evidence in clinical matters. Both parties to the dispute would, however, be using a statistical method, and both would be using it incorrectly. In all such problems two systems of error are involved—errors of sampling and errors of observation; the theoretical statistician sees the importance of the former because his training enables him to estimate their magnitude, the clinician is impressed by the latter, which his special experience has forced upon his notice. We do not suggest that in current disputes the antithesis has ever been quite so pointed, but we are confident that our illustration does correspond to an actual tendency. The conflict is not between a statistical and some non-statistical method, but between two mutilated statistical processes. We conclude, therefore, that the discussion, in so far as it involves principles of scientific method, is not likely to be fruitful, but in so far as it bears upon current practice it seems to be of importance. To reach solid results, the *entente cordiale* between clinicians and theoretical statisticians will need to be considerably more cordial than it is at present. Whether the co-operation can ever be effective unless theory and practice are combined in one person, whether, pending the millennium, a theoretical statistician with some knowledge of medicine or a medical man with some knowledge of statistical theory is the more scientifically useful person, are all questions of much importance, and deserve considerably more attention than they have yet received. We shall doubtless see for some time to come the theoretical statistician thanking God that he is not as other men or even as this clinician, and the clinician taking precisely the same course. The spectacle is entertaining but not otherwise valuable.

ADMINISTRATION OF THE MENTAL DEFICIENCY ACT.

THE Board of Education has issued Provisional Regulations under Section 2 (2) of the Mental Deficiency Act, 1913, and Model Arrangements for the guidance of Local Education Authorities in carrying out the duties imposed upon them by Section 31 (1) of that Act. The regulations, which have been drawn up in consultation with the Board of Control, refer to notification only, while the model arrangements refer both to the method of ascertaining what children within the area are defective, and also to the duty of notification to the Local Control Authority in certain cases. The Board has issued at the same time an explanatory memorandum from which the following points appear. In certain exceptional cases, as, for instance, low-grade feeble-minded children, the Local Education Authority is to report to the Board of Education before notifying the case to the Local Control Authority; this has been arranged in order to secure a reasonable standard of uniformity of action among authorities. For example, the Board proposes not to admit, as a rule, that an educable feeble-minded child should be notified as causing detriment to the interests of other children unless it has been shown by actual observation in a special school for an adequate length of time that the presence of the child is a source of serious moral danger to the other children; thus the severe character of the mental defect or uncleanly habits would not, unless the circumstances were exceptional, lead the Board to authorize notification to the Local Control Authority. In short, the Board holds that it is only "moral imbeciles" who are detrimental to the interests of other children, and considers that all moral imbeciles are so detrimental. Moreover, it is pointed out that the term "moral imbecile" cannot be applied to children who possess comparatively slight criminal tendencies. The Board contemplates that educable feeble-minded children who require to be placed under supervision or guardianship owing to unfavourable home surroundings, or for some similar reason, should continue in attendance at a day special school; they would thus remain under the Local Education Authority as regards education, while in other respects and out of school hours they would be under the aegis of the Local Control Authority. In an appendix forms of certificate and report are given, which are to be used so as to secure the necessary uniformity. In Schedule F the form of the report occupies two foolscap pages; it is substantially the same as that printed in Appendix E of the annual report for 1911 of the Board's chief medical officer. For the assessment of mental conditions the tests designed by Binet and Semon are recommended.

MEDICAL SCHOOL INSPECTION IN NEW YORK.

IN a paper on "Prejudices and superstitions met with in medical school inspection," published by the Department of Health of the City of New York, Dr. Jacob Stobel, Borough Chief, Bureau of Child Hygiene, gives an amusing account of some of the difficulties met with by the school doctor in that cosmopolitan city. In New York, he says, with its 5,000,000 people, its 700 schools, public and others, and its 825,000 school children, the doctor has to deal with a variety of nationalities—"the swarthy Syrian, the flaxen-haired Swede, the confiding loquacious German, the wary and reticent Greek, the suspicious Russian, the doubting Italian"—together with Jewish, Irish, Bohemian, Hungarian, Polish, Slavish, Armenian, French, "colored," Japanese, and Chinese elements. Besides the ignorance and prejudice in regard to sanitation common to them all, each of these races has its own peculiar traditions and superstitions. With this huge mass of obstructiveness the doctor and the district nurse have to contend. Defective eyesight is one of the most frequent causes of backwardness at school, but there is a great objection to glasses, which are regarded as worn "for style," or as making a child look old and ridiculous, and among Jewish mothers particularly, as interfering with a girl's prospects of marriage. Discharges from the ear are considered beneficial as a means of allowing the "poison" to escape; this mischievous belief is still too common in our own country. Suggestions for the relief of obstruction of the nose by the removal of adenoids are met with fatalistic objections. The negress tells the doctor that her child's nasal twang is due to the fact that the "palate am down," followed by the assurance that it can be raised to its proper place by constant pulling of the hair on the top of the unfortunate little one's head. An Irish mother will say, when told that her child's tonsils are enlarged, that "God put them there, and there they'll stay." The negress declares that the Lord made her child as He made her, "and she ain't going to have no one trying to improve on His work." The Jewish mother argues that "if the tonsils are taken out, the throat will be too wide and air will rush into the lungs too quickly and produce inflammation of the chest." Another superstition is that removal of tonsils or adenoids causes a loss of sexual instinct, and that the patient will become hypochondriacal and have suicidal tendencies. Voodooism leads to the use among negro children of different coloured yarn for contagious and other diseases—red for erysipelas, yellow for jaundice, pink for "pink eye," and white for anaemia. This might seem to be a survival of practices founded on the old doctrine of signatures. The Italian is convinced that the crusts of eczema are designed for protective purposes, and that the removal of them would cause death. Some mothers, when told that a child's hair matted together by dirt, lice, and scalp disease, should be cut, will reply that this will stop growth or undermine the strength. The nails, again, must not be cut short, or the child will become a thief or "have his speech retarded"; these consequences are averted by biting them off. When the doctor goes into the Jewish quarter to instruct a mother in the care of her child's mouth and teeth, she shows him her own toothless jaw, and says, "I haven't any teeth either, and I am alive." The negress will tell him that drawing teeth gives the children sore eyes; Dr. Stobel quotes one "mammy" as saying: "I pulls my own chile's teet and they is mighty lucky if they kin git the holes stopped up wid meat and bread." Weakness of memory is explained by the fact that the child will eat "the ends of the bread loaves." Wetting the bed is believed to be due to the child's playing at the fire with matches before he goes to bed, and pallor is attributed to looking into the looking-glass late at night. Warts and moles are supposed to be cured by the use of a small piece of meat stolen from a butcher and buried in the ground; the growths shrivel up as the buried meat decomposes. The difficulties caused by the ignorance and superstition of the motley population of New York are so serious that it has been suggested that rational treatment should be made compulsory. Dr. Stobel, however, believes in education of parents more than in legislation, and we think he is right. Already there are signs of the dawn of a better day. The mention of operation for school children does not cause the terror it carried with it some years ago. The tooth-brush is now often seen in humble homes and there are other signs of a growing enlightenment in the matter of health. As the children grow up they will spread the knowledge they have gained at the school. But the process will necessarily be long, for, as Hamlet says, "virtue cannot so inoculate our old stock, but we shall relish of it." One of the most remarkable things about the superstitions in respect of health, as of other things, is that they are so widespread. With local modifications the central idea is the same. Among the most diverse races the history of human civilization is the record of slow emancipation from fantastic beliefs, the source of which is difficult or impossible to trace.

MEDICAL TERMS IN THE NEW ENGLISH DICTIONARY.

THE medical interest of this part of the *Oxford English Dictionary*[1] centres not in what may be called the official medical terms which it defines and illustrates (for they are but few in number), but rather in the medical meanings of the ordinary words which crowd its pages. Between *Shastri* and *Shyster* (the alphabetic limits of the present instalment of the *Dictionary*) the only purely medical words seem to be *shingles*, *ship-fever*, and perhaps *shock*, and even these are not technical or special in the strict sense. Though the technical term for shingles is "zona" or "herpes zoster," yet shingles itself has the classical word *cingulus* embedded and partly concealed in it, and the girdle-like distribution of the eruption of this troublesome complaint explains the etymological significance of the name. The earliest use of the word is found in Trevisa (1393) and the latest (which is selected) is from Clifford Allbutt (1899). A quotation of 1546 runs thus: "Our Englysshe women call it the fyre of Saynt Anthonye, or chingles." *Ship-fever* is a name for typhus, and once in the old days (not good ones in this respect) slew its thousands, but is now, both in this and in the form of gaol-distemper, happily almost, if not quite, abolished off the face of sea and earth. *Shock* is carefully defined as "a sudden debilitating effect produced by over-stimulation of nerves, intense pain, violent emotion, or the like; the condition of nervous exhaustion resulting from this." The earliest use of the word in this medical sense is found by Dr. Bradley in Abernethy's *Surgical Observations* of the year 1804. But, as has been said, the more interesting rubrics are the ordinary words used in medical senses. For instance, passing rapidly down the columns of meanings of such a word as *show*, we read, "a sight, a spectacle, a specimen, an apparition, a display, an exhibition, a pageant, a booth," then one comes to such phrases as "to boss the show" and "to give the show away," and then all at once one is startled to meet with "*a sanguino-serous discharge from the vagina prior to labour.*" It certainly is strange to find these medically employed words in the company of so many terms, plain and inoffensive (from the lay point of view). The word "show" in its obstetrical sense reminds us of a curious experience which befell a senior student taking out his midwifery cases. Following the advice of some book

[1] *A New English Dictionary on Historical Principles.* Edited by Sir James A. H. Murray. Shastri-Shyster (Vol. VIII), by Henry Bradley, Hon. M.A.Oxon. Oxford: At the Clarendon Press; London, Edinburgh, Glasgow, New York, Toronto, Melbourne, and Bombay; Oxford University Press: Humphrey Milford. April 1st, 1914. (Price 5s.; $1.25.)

(perhaps Swayne's *Aphorisms*), he asked his first patient, being desirous of ascertaining in an easy way whether labour had begun, if she had seen any show, and got the disconcerting reply that she had visited the menagerie! Another obstetrical use of a common word occurs in connexion with *shirt*. Dr. Bradley, with laudable comprehensiveness, gives as one of the meanings of shirt "an inner covering," and mentions the "amnion" or "child's shirt"; the illustrative quotation is from Cotgrave (1611): "th'inmost of the three membranes which enwrap a wombe-lodged infant is called by some Midwives . . . the child's shirt." Some other words with occasional medical significance are *shot* (an inferior quality of ewe, and so a person whom the eugenists would regard as an unfit from the reproductive point of view); *shoot* (to evacuate or discharge excreta); *shivers* (the ague); *shoddy fever* (a kind of bronchitis due to the irritating effect of shoddy dust), and *sheath* (in its anatomical meanings). The word *short* also comes into various combinations which have a semi-medical meaning, such as *short-sighted* (myopic), *short-breathed* and *short-winded* (dyspnoeic), and the less often used *short-eyed* and *short-lunged* (myopic and dyspnoeic). Although this part of the *Dictionary* is not highly distinguished for the importance of its medical terms, it is worthy of special notice, because it is the concluding portion of Volume VIII of the whole work. The ninth volume is more than half done, and Volume X has been begun. The first part appeared in the eighties of the last century.

DANTE AS A SCIENTIST.

DANTE'S knowledge was as a precious gem with many facets; from whatever direction light is thrown upon it in these modern times a facet-flash is sure to come back. A few years ago[1] the Florentine poet's acquaintance with medicine and embryology, and especially with Aristotle's *De Generatione*, was discussed, and the conclusion formed that he had a more real and complete familiarity with the medical literature and practice of his time than that which a dilettante would possess, and that his enrolment in the Guild of Physicians and Apothecaries was no empty form, but was founded upon a certain amount of solid attainment. Dr. D. Lloyd Roberts, in a lecture on *The Scientific Knowledge of Dante*,[2] given to the Manchester Dante Society, takes a slightly wider range for his survey, and exhibits the poet as one of "those who knew" about meteorology, aëronautics, botany, astronomy, geography, and art. Dr. Lloyd Roberts is, perhaps, going a little further than the facts warrant, even as reinforced by Dr. Corrado Ricci, when he states that Dante studied medicine in Bologna, and graduated there after passing the usual examination on the completion of his studies; but there is much internal evidence in the *Commedia* and the *Convivio* to prove a first-hand acquaintance with things medical and scientific as they were then taught in universities. There is, however, little exaggeration in saying that in the *Inferno* Dante outlined a pathology of the Nether Regions, so accurate is his description of the diseases which affected the condemned spirits in Hell; and in a sense he adumbrated the discovery of the circulation of the blood. The instance given of Dante's acquaintance with aëronautics—his ride on Geryon's back down to the Eighth Circle—scarcely justifies Dr. Lloyd Roberts in calling him one of the forerunners of that art "which has of late made such wondrous strides"; but so great enthusiasm for his hero-poet can easily be forgiven the veteran Manchester obstetrician, and all lovers of the Florentine "poet, philosopher, and physician" owe him heartfelt thanks for the sentence with which the address closes, namely, "Throughout many of the great poet's Cantos these transfigured fragments of science, like gorgeous-hued inlays of mosaic, form lustrous stars, irradiating with intrinsic beauty, pregnant with hidden meaning."

[1] BRITISH MEDICAL JOURNAL, February 5th and 12th, and August 13th, 1910.
[2] Manchester: University Press. 1914. (Pp. 28.)

DRUGLESS HEALERS IN THE UNITED STATES.

WE are sometimes told that disease can, and should, be treated without drugs, and it is probable that at the present day not a few physicians use in their practice little in the way of medication beyond the mixture of hope and nux vomica in which the pharmacopoeia of a celebrated authority has been epigrammatically summed up. But in this, as in so many other departures from the old ways, America is far ahead. Not long ago a bill for the regulation of medical practice was before the California Legislature. We learn from the *Pacific Medical Journal* that with the fine catholicity that might be expected in a progressive State recognition was accorded in the proposed law to a motley crowd of "drugless healers" and "wonder workers," as various as the beasts in St. Peter's vision. Provision was made for the admission of all these to examination for a "drugless practitioner's" certificate. Our contemporary gives the following "partial list" of healers eligible for a licence after studying in their particular school for two years of 2,400 hours: "Absent treatment-paths, astrologists, astrological physicians, 'bloodless' healers, charlatanismus practors, chiropathists, mechano-therapeutists, mechanico-vibrationists, mentapaths, mental healers, mental scientists, mental telepathists, chiropodists, chiropractics, Christian science healers, clairvoyant healers, 'Cosmis Urge' physicians, crystal gazing physicians, damphoolismus healers, Divine healers, 'drugless' healers, 'drugless' physicians, electropaths, electro therapeutists, electro-mechano-therapeutists, Emanuel-movementors, faith-healers, fakopaths, fraudopaths, gift healers, health healers, humbugopaths, humanitarianists, hydropaths, hydropathic physicians, lost-manhood professors, magnetopaths, magnetic-electric-physicians, magnetic doctors, metaphysicians, naprapaths, naturopathists, naturopathic physicians, neuropathic physicians, New Thought physicians, New Thought Healers, Newthoughtists, Oculopaths, osteopathists, oxypaths, palm-reading physicians, panopaths, psychic physicians, Psychic Soc Et Tuum, Pneuma-psycho-mana-soma-paths, psycho-medical healers, psycho-paths, psychometropaths, psycho-therapeutists, quackopaths, spirit healers, spiritualistic healers, vibrationists, vitapaths, vitopathic physicians." This list is nearly as long and a good deal more varied than the catalogue of Don Giovanni's conquests. We join with the editor of the *Pacific Medical Journal* in asking for an intelligent definition of these terms. We do not know whether the bill became law, but in any case the amazing variety of forms of irregular practice which flourish so rankly in California is very striking to the unimaginative British mind. Renan said that the only idea he could form of the infinite was derived from the contemplation of the pretensions of quacks. He might, we think, with greater reason have found it in the spectacle of human gullibility which accepts these pretensions as gospel truth.

THE DAINTY DEVICES OF THE ANTI-VIVISECTIONISTS.

WE may claim to have done something to lay bare the workings of the antivivisectionist imagination, in which the yelping of puppies is transformed into howls of tortured dogs, and the nervous twitchings which are sometimes a legacy of distemper into signs of acute suffering. Thanks to the educative propaganda of the Research Defence Society, and to the solvent action of the laws of evidence on the products of an inflamed fancy the public is now able to estimate the true value of the "platform facts" which are the controversial stock-in-trade of the antivivi

sectionists. An instructive example of the recklessness of statement in which these fanatics indulge comes to us from New York. The *Medical Record* of March 14th says that stories were recently set about to the effect that children treated in the hospitals of that city had been inoculated with dangerous diseases as a part of the experimental work done in those institutions. These stories were investigated, and as a result Health Commissioner Goldwater has issued the following statement: "Not only were the children found not to be suffering with the diseases alleged, but it was also shown that there was absolutely no experimental work in any of the diseases with which it was charged they had been inoculated in any of the hospitals of the Department of Health. The charge was made that many of the children attending the public schools in the Bronx were suffering with disease due to experimentation and infection in city hospitals. In particular, B. S. Deutsch addressed a letter to the District Attorney of Bronx County in February, stating that forty-eight children, many of whom were attending the public schools, were suffering with a grave disease. Mr. Deutsch's statement goes on to say that the alleged infection of these children was the result of 'inoculation which occurs without the consent of either the children or their parents, or else as a result of negligence or carelessness within the hospitals.'" The department investigators, adds our contemporary, visited the forty families mentioned in the Deutsch list. Of this number fifteen could not be found at the addresses given. Interviews were obtained with twenty-five families, in which there were thirty-four children. Among these not a single case of the disease suspected was found. There was no evidence of the inoculation of any of these children with serum or vaccine. We need not call in question the good faith of the people who spread these calumnies; but we do say that the will to believe evil leads them to make statements which even a cursory inquiry, conducted in a proper spirit, would prove to be false.

A CUTI-REACTION IN PREGNANCY.

BIOLOGICAL tests for pregnancy are coming in crowds. Whilst discussion is still active over the reliability of the Abderhalden blood test, Dr. Ernest Engelhorn and Dr. Hermann Wintz bring forward a skin reaction which may turn out to be of real value in the detection of the pregnant state.[1] These two writers point out the difficulties or unreliability of the antitryptic test, the cobra venom reaction, and the Abderhalden procedure, and then state that one of them (Engelhorn) conceived the idea of recognizing the hypothetical substances which appear or are supposed to appear in the blood in pregnancy by means of cutaneous inoculation. With von Pirquet's and Noguchi's success in tuberculosis and tertiary syphilis in mind, they made a placental extract, which they named "plazentin," and carried out cutaneous inoculations upon pregnant and non-pregnant persons with it. A reaction was produced in from twelve to forty-eight hours, and was most marked about thirty-six hours after the inoculation. The reaction when positive consisted of an inflammatory swelling and reddening of the inoculation area, with a slight brownish discoloration of the surrounding skin. The upper arm was the part chosen, and controls, consisting of simple scratches with the lancet, were always made alongside of the plazentin inoculation. In all the pregnant women tested (70 in number) the reaction was positive, and in all the non-pregnant adults tested (53) it was negative. In three non-pregnant women in the premenstrual period there was, however, a slight reaction, and in one six-year-old child there was a positive result. The premenstrual result is rather interesting, and may point to the presence of increased proteolytic power in the blood just before menstruation, resembling that found in pregnancy. Of the pregnant women, 9 were between seven and eight weeks, 2 were in the third month, 1 in the fourth, 1 in the fifth, and 57 were between the seventh and tenth months. Of the 53 non-pregnant persons who gave a negative reaction, 13 were men; 12 (including the three pre-menstrual patients with slight reaction) were women with healthy genital organs; 8 suffered from carcinomata, 2 from myomata, 4 from cystomata, 2 from sarcomata, and 3 from disease of the appendages; whilst 9 had various other disorders. The one non-pregnant person giving a positive result was the six-year-old child (before-named) with a vesicular rash. Some puerperal patients were tested: 6 gave a positive reaction, and 8 a negative; it was noteworthy that the positive reactions were all in the first four days of the lying-in period, and the negatives were from the second day onward to the eleventh; further, the positive reaction in the puerperium quickly faded away. The authors are ready to admit that many more observations are needed before the test can be regarded as having a diagnostic value, but the fact that the inoculation of the skin with plazentin gave a positive result in women who were pregnant from the seventh week onward is one which must be taken into account in all future work along these lines, and it may also serve to throw some light upon the question of the real nature of pregnancy, which has been not a little discussed in the pages of the JOURNAL lately.

[1] *Muench. med. Woch.*, March 31st, 1914.

THE PATHOLOGY AND TREATMENT OF OZAENA.

THERE is nothing new in the suggestion that atrophic rhinitis is an infective condition, but proof of its correctness has been forthcoming only during recent years. In 1899 Dr. Fernando Perez described a bacillus which he named the "cocco-bacillus," which he believed to be the specific causal organism of ozaena. Two instructive papers were read recently before the Berlin Laryngological Society by Dr. Perez and Dr. Gustav Hofer,[1] in which the evidence in favour of the causal connexion between the cocco-bacillus and atrophic rhinitis was fully set out. The bacillus is a non-motile organism, which stains with the aniline dyes, but not by Gram's method. It grows aërobically, and can grow anaërobically (facultative anaërobe). It grows well on the usual media; its colonies are not very characteristic in appearance, but cultures emit a very penetrating and peculiar odour. Pure cultures when inoculated into rabbits produce a well-marked atrophy of the anterior turbinated bones. Dr. Perez further adduces evidence of the contagious nature of true ozaena in support of his contention that a specific micro-organism must be held responsible for the local conditions in the nose. Perhaps the most striking evidence of the specific nature of the cocco-bacillus was that advanced by Dr. Hofer. After describing the manner in which he succeeded in obtaining pure cultures of the bacillus he records the fact that the serum of patients suffering from typical atrophic rhinitis agglutinated his cultures. It is true that he does not give the titre of the agglutination, but presuming that this was low, provided that the controls gave a negative result, and as the local nature of the affection would not be likely to effect a marked degree of general immunity, a low agglutination would suffice for the purposes of identification. His further evidence consists in the clinical records of cases treated by a vaccine of the cocco-bacillus. While he does not claim complete cure of this highly chronic disease, which is characterized by a progressive atrophy of the nasal mucous membrane, he states that the fetid odour was removed, the formation of the incrustations materially diminished, and the accompanying pharyngitis and laryngitis cleared up. These facts need confirmation, but inasmuch as Dr. Perez and Dr. Hofer have worked quite

[1] *Berl. klin. Woch.*, December 29th, 1913.

independently of each other in two different continents there is reason to regard these records as promising from a practical point of view.

IMPERFECT DIFFERENTIATION OF SEX.

In recent years numerous additions have been made to that section of the Hunterian collection at the Royal College of Surgeons of England which illustrates imperfect or abnormal development of the sexual system. Some of the more recently added specimens exemplify those difficult cases in which medical men are called on to settle the question of sex when the external manifestations are ambiguous. These difficulties will be discussed and demonstrated by Professor Keith in the first of a series of museum demonstrations which commence at the Royal College of Surgeons, Lincoln's Inn Fields, on Friday, April 17th, at 5 o'clock. The demonstrations are open to all medical men and students of medicine. The dates and subjects of the remaining demonstrations will be noted in our Diary of the Week.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

The Dogs Bill.—This bill, introduced by Sir Frederick Banbury, to which reference was made some time ago in these notes, has been put down for second reading on Friday, April 17th, and at present is first order of the day. In consequence of the pressure of business the House will reassemble on Wednesday, April 15th, and it is most likely that Sir Frederick Banbury's bill will be reached, although it may possibly be displaced by some bill which has obtained the Committee stage. It is necessary, therefore, that every effort should be made on the part of those opposed to the provisions of this very drastic bill to influence members of Parliament on the subject and to urge the attendance of those who are opposed to it.

Midwives (Scotland) Bill.—A midwives bill for Scotland, entitled, A Bill to Secure the Better Training of Midwives in Scotland and to Regulate their Practice, was introduced by Mr. Barnes into the House of Commons on March 25th. A bill with the same title was introduced into the House of Lords by Lord Balfour on April 1st.

Assistants to Chemists and Druggists (Qualification) Bill.—This is a small bill which has been introduced by Mr. Glyn-Jones in accordance with a pledge given during the time of the passage of the Insurance Act. It has been prepared by a committee of the Pharmaceutical Society, on behalf of whom Mr. Glyn-Jones introduced it. The second reading was reached on Friday, April 3rd, a few minutes before the rising of the House; Mr. Glyn-Jones was unfortunately unable to secure the second reading for it before 5 o'clock, and the debate therefore stood adjourned.

Tuberculosis Treatment and Children.—In reply to Mr. Astor, the President of the Local Government Board said that in almost every case schemes prepared by local authorities for the treatment of tuberculosis related to the whole population; in 31 cases it had been expressly stated that the scheme would provide for children, and in 18 cases some provision for children had already been made. At the present moment no portion of the £100,000 provisionally allocated for separate institutions for children had actually been spent, but about £30,000 had been conditionally promised, and proposals which would involve further grants of from £30,000 to £40,000 were now under consideration.

Physical Instruction (Scotland).—In reply to the Marquess of Tullibardine, Mr. McKinnon Wood said that the Education Department was not insisting that physical instruction should be given by those who held a diploma from one of the gymnasia recognized by the department in the case of primary schools, but that it was doing so, as a rule, in the case of higher grade and secondary schools. The governors of the Dunfermline College of Hygiene and Physical Training had appointed a Dane to be one of their instructors in physical exercises, and this gentleman had been employed temporarily by the Scottish Education Department for the inspection of physical exercises under the supervision of the chief inspector of that subject. This appointment did not seem to have any possible bearing on the question of the employment by school boards of ex-army men as attendance officers.

Lunacy Notices.—Sir John Jardine asked the Home Secretary with reference to the requirement of the Lunacy Act, 1890, Section 8, Subsection (2), that where a lunatic who had not been personally seen by the judicial authority had been received as a private patient by the manager of an institution for lunatics, or by a person taking charge of him as a single patient, such manager or person must, within twenty-four hours after reception, give the patient a notice in writing of his right to be taken before or visited by a judicial authority, if he could state how many cases had occurred in the five years last past of this direction of law not having been obeyed; whether there had been any instance of a prosecution for the misdemeanour having been instituted by or on behalf of the Lunacy Commissioners; and in what way the liberty of the subject was protected in the case of such incarceration where the above requirement had been ignored and the protection of judicial authority avoided.—Mr. McKenna said: The Lunacy Commissioners are unable to state definitely the number of cases in which notice in writing has not been given, but they believe them to be very few. Where any failure has occurred the person in default has been seriously warned, but there has been no case in which, in their opinion, a prosecution was called for. Where there is a failure to give notice the patient is protected by the report which has to be made to the Commissioners, and by the visits and inquiries which the Commissioners make.

Population (United Kingdom) Males and Females.—In reply to Mr. C. Bathurst, Mr. Herbert Lewis said that the female population of the United Kingdom at the census of 1911 was 23,275,120, and exceeded the male population by 1,328,625; at the census of 1901 the female population was 21,356,313, and exceeded the male population by 1,253,905.

Medical Officers of Health in Ireland.—Mr. Astor asked how many full-time and how many part-time medical officers of health were employed by local authorities in Ireland; how many of the former received a salary of £500 or over; and how many received less than £500?—Mr. Birrell replied that there were 903 medical officers of health, including medical superintendent officers of health and consulting sanitary officers, employed by local authorities in Ireland. Of these only two were full-time officers, and they were paid salaries of £500 a year or over.

Sierra Leone Nursing House.—In reply to Mr. MacCallum Scott, the Secretary of State for the Colonies said that before sanctioning the proposed rule prohibiting patients in the Sierra Leone nursing home from being treated by their private practitioners, he would fully consider the peril to recovery which might arise through denying to patients suffering from a disease the continued medical skill of their regular medical practitioners.

Indian Medical Service.—In reply to Mr. Astor, the Under Secretary of State for India said that no good service pensions of £100 a year had been conferred on retired officers of the Indian Medical Service during the last five years.