in a number of suspected cases, as well as in two native children who appeared at the time to be in good health. On the other hand, the parasite could not be detected in the blood of a large number of persons suffering from other diseases. The finding of the yellow fever bodies in two healthy native children suggested to Dr. Seidelin the possibility that there exist carriers of this infection, and he adds that there are many epidemiological facts which could be explained if the existence of chronic microbe carriers was proved in connexion with yellow fever. In a series of 21 cases admitted to hospital in Merida with a diagnosis either of "embarazo gastrico," malaria (no plasmodia being found), bilious fever, acute gastro-enteritis, acute bronchitis, dysentery, or classed as "diagnosis uncertain," the *paraplasma flavigenum* was in each instance found in the patient's blood, proving that the ailment was yellow fever. It appears that many mild cases of yellow fever are returned as suffering from "gastric fever." In Dr. Seidelin's own case the parasite was found on the first day of his attack, but could not be detected after the fourteenth day. His report, which is illustrated with coloured plates, is a valuable contribution to the literature of yellow fever, and will be studied with deep interest by all who are concerned with this disease.

CRIMINAL ANTHROPOLOGY.

ANTHROPOLOGY has come to include an undefined multitude of subjects. How lax the term has become may be seen from the subjects and papers included by Dr. L. M. Kötscher in the summary of the literature on criminal anthropology for 1911, which originally appeared in the *Jahresbericht für Neurologie und Psychiatrie*, and has now been issued separately.¹ It includes abstracts of over 600 papers published in 1911, all of them bearing more or less directly on crime and criminals, or on the habits of individuals who show some decided departure from the normal. Anthropology in the stricter sense is scarcely represented; at least, if we accept all the papers enumerated in Dr. Kötscher's list we must also admit all the published proceedings of police-courts to the literature of anthropology. Very few of the papers summarised by Dr. Kötscher deal with the physical characters of criminals. We are very glad to note, however, in the Report of the Commissioners of Prisons and the Directors of Convict Prisons (March, 1912; price 8d.) that a very complete anthropometrical survey has been made of over 3000 British criminals and that the results are being prepared for publication by Dr. Goring at the Biometrical Department of University College, London. Dr. Goring's report will be presented as a "Statistical Portrait of the Criminal of English Prisons," a very welcome contribution to the subject of criminal anthropology. The general conclusion at which Dr. Goring has arrived, subject to certain qualifications, is that British criminals are not markedly differentiated in body or brain from the law-abiding population of our country.

TENDERNESS OVER THE GALL-BLADDER IN TYPHOID FEVER.

MANY facts serve to remind us of the intimate connexion between enteric fever and infection of the gall-bladder: the large percentage of patients with gall-stones who give a history of typhoid fever, the persistence of bacillus typhosus in the gall-bladder of the chronic carrier, and the occasional occurrence of acute and severe cholecystitis as a complication of the disease. Dr. A. D. Radulesco and Dr. C. N. Atanassin, of Bucharest, have brought forward evidence in a short paper published in *La Presse Médicale*,

Nov. 30th, 1912, to show that tenderness over the gall-bladder, with muscular resistance in the right hypochondrium, is an early sign of typhoid infection. These observations relate to 78 cases in which the diagnosis of typhoid fever was confirmed by the Widal test. Of 47 patients examined during the first week every one displayed this sign; during the second week it was less constantly present, and still less so during the third week. An interesting point is that it was encountered in six convalescents, and that in all these relapses occurred. The writers think that persistence of this sign into the period of convalescence should convey a warning of the likelihood of relapse, and that return of the local tenderness after it has disappeared (as it usually does with improvement in the symptoms) is an almost certain premonition of relapse. Its disappearance is an indication of improvement and warrants a favourable prognosis. Control examinations were carried out on a number of patients suffering from other diseases; tenderness with resistance in the region of the gall-bladder was encountered in every case of right-sided pneumonia, and similarly in "asystole" and right-sided pleurisy; also in one case of puerperal fever out of five examined. Not unnaturally it was also noted in cases of gall-stone and cholecystitis. According to these investigators the liver should be thrust forward with the left hand (placed behind the patient, who is lying down), while firm but gentle and continuous pressure is exercised with the right hand, always from below upwards, through the anterior aspect of the right hypochondrium. If the patient be conscious he will complain of definite pain elicited by this pressure; if unconscious, the presence of tenderness is evidenced by muscular resistance and facial expression. The chief interest of the claim made for this means of diagnosis lies in the fact that it is readily available at an early stage of the disease.

Mr. Alexander Campbell, Nicholson McHattie, M.B., Ch.B. Edin., D.P.H. (chief medical officer), has been appointed a Member of the Legislative Council of the Bahama Islands.

THE honorary degree of D.C.L. has been conferred on Sir William Osler, Regius professor of medicine at Oxford, by the University of Durham.

IS ANATOMICAL DESCRIPTION SUFFICIENTLY CONSTRUCTIVE?

BY WM. CUTHBERT MORTON, M.A., M.D. EDIN.,
HONORARY DEMONSTRATOR OF ANATOMY, UNIVERSITY OF LEEDS.

APART from those happy individuals who know everything which may conceivably be required in practice, there must be few medical men who can look back upon their anatomical training without a tinge of melancholy. Amid the stress and strain of practice the knowledge of which they were once so proud has long been crumbling away, yet they cannot set themselves seriously to repairing the damage. Not having access to the dissecting-room, they find revision so slow and painful a process that with the best will in the world they are unable to concentrate their attention on anatomy for any length of time. They are indeed suffering from anatomical aprosexia.

Anatomical aprosexia is an inability for close application to anatomy on the part of those who were once conscientious and energetic if not actually enthusiastic students of the subject. It is not to be confounded with either the antipathy or the apathy which the student sometimes displays during the period of his special training. Such antipathy may be due to a natural abhorrence of handling the dead, and it is usually overcome when, as in the case of the grave-digger, custom makes the work "a property of easiness." Apathy,

¹ Kriminal Anthropologie—Ergebnisse des Jahres 1911. By L. M. Kötscher. Berlin: S. Karger. Pp. 1159-1267. Price 3 marks.

on the other hand, may be merely an indication of indifference towards medical science in general, and it frequently yields to the *force majeure* of circumstances. In either case the student is safe if he has the good fortune to be initiated into the mysteries of anatomy by such an one as Sir William Turner, a teacher whose knowledge was surpassed only by his enthusiasm. Sir William Turner taught dissection as a fine art with the ideal—

Let's carve him as a dish fit for the gods,
Not hew him as a carcase fit for hounds.

As a lecturer, too, he held his students by a spell while he threaded his way through the labyrinth of the ear with the precision of Dædalus, or attacked the viscera with a zest worthy of the eagle which preyed upon the vitals of Prometheus.

During the later years of the medical curriculum the student's interest in anatomy does not flag, for he requires it constantly in the lecture room, at the bedside, and in the operating theatre, in addition to which there looms always before him the *dies infanda* of the final examination. Even the graduate is not likely to backslide if he has a hospital appointment or devotes himself specially to surgery. It is rather the busy general practitioner with a limited range of operative work who falls from his early ideal, and, abandoning all hope of recovery, lapses into indifference.

Study of Anatomy, both Analytic and Synthetic.

No one can hope to excel in the art of healing without a sound knowledge of the structure of the healthy body. He must become familiar not only with the individual structures of which the body is composed, but also with the manner in which these are grouped into systems and correlated in regions. Further, he must know the body not merely during the comparative standstill of adult life, but during every stage of its existence, during development both before and after birth, as well as during senile decay. Not until he has thus mastered the body will he be in a position to focus his attention upon the important facts unhampered by the countless details which are of no practical value. His knowledge of the whole will enable him to winnow out the chaff and retain the wheat. There is much which he will now gladly cease to recall, little which he will forget against his will. Mastery of the body is never acquired except by diligent and careful examination of the body itself. The best description by text or plates can serve only as a guide. In order that the structures may be studied individually and also in relation to each other and to the whole the dead body must be reduced to its parts. This analysis or dissection is the foundation of all anatomical knowledge. The superstructure, however, consists in synthesis, for the ultimate object of anatomical study must be the reconstruction of the body, not indeed of any body which has been dissected, but of the type or form to which every healthy body may reasonably be expected to conform. Practical anatomy necessarily involves analysis or dissection, but it becomes more valuable in proportion as it is also synthetic—that is to say, systematic and regional. The two methods of study, the analytic or destructive and the synthetic or constructive, are as far as possible to be employed simultaneously. During dissection the student learns the form, size, and disposition of the individual structures, but even when dissecting, and particularly when studying a part already dissected, he must also work out the various systems and reconstruct the regions. The attention must be focussed in three different ways—namely, for each structure, for each system, and for each region as a whole.

Description by Text and Plates.

In practical anatomy—and all anatomical study should be practical—the student must work out his own salvation. At the same time proper supervision is of great value, and a good description in the form of both text and plates is indispensable. Description by text is necessarily so diffuse that the attention is apt to become preoccupied with the details and the unity of the whole is only faintly perceived. Description by plates, on the other hand, may be so concise and compact that the unity of the whole compels attention and the details only speak when spoken to. Since the body is no mere conglomeration of structures, but an organic unity in which the parts are related to each other in a definite manner, the description in both text and plates must not merely present the individual structures, but

must also by its very construction emphasise as far as possible the manner in which these are related to each other in the whole.

Description by text varies according as it employs the dissecting, the systematic, or the regional method. The dissecting method is analytic—it reduces the body to its parts. The systematic and regional methods are both synthetic—the former reconstructs the systems, the latter rebuilds the regions. In the dissecting method the attention is focussed mainly on the individual structures as they are successively displayed and on their immediate relations, and the order of the description as a whole, and even the description of individual structures is seriously hampered by the practical limitations of knife-work. The systematic method describes the individual structures in order to follow out each system in turn, the whole body being thus traversed by several routes. Regional description carefully surveys the individual structures, but always in relation to the region as a whole. In each form of text, therefore, the same structures are described but they are differently viewed. It is greatly to be regretted that there should not yet have been devised a textual description suitable for both dissection and systematic study, yet at the same time emphasising the organic unity of the body by its own unity of construction. In such a text each part should be described in natural sequence to what has gone before and in natural precedence to what is to follow. Just as in the body each structure occurs but once, so too in the text each structure should be but once described; and as in the body, so too in the description it should be possible to focus the attention at will, either on an individual structure or on a system, or again on a whole region. By means of thorough and consistent subdivision and classification, by the choice of a natural and definite order, by conciseness, compactness, and strict continuity, the subject should be presented in such a way that the facts could soon be mastered, and even if forgotten could be readily recalled.

At its best, however, textual description can but remotely suggest the organic unity of the body. Plates may do this with much greater verisimilitude. Thus a "part"—e.g., arm, abdomen—might be shown complete with every structure *in situ*. Such a presentation should be concise, no structure being shown more than once. It should be continuous, each plate being accurately linked to its neighbours. It should be compact, the whole "part" occupying as few leaves as possible. The description could then be studied by the destructive-constructive method—that is to say, it could be reduced to its parts, the parts could be studied both individually and in relation to each other, and lastly the parts could be rebuilt into the whole. Such plates would be of service not only in anatomy, whether dissecting, systematic, or regional, but also in medicine and surgery for both clinical and operative work. They could be used by the student as a means of unifying his knowledge, of marshalling under his command the host of impressions gained at the dissecting table, in the lecture room, at the bedside, in the operating theatre. They would not be a rival, but a companion and help to practical work to be used before dissection for a preliminary survey, during dissection for comparison and contrast, after dissection for revision, and at all times for reference. If also used for clinical and operative work they would, in course of time, cease to be merely a set of plates and would become to each mind a symbol of things which in the past the eyes had really seen and the hands had actually handled. It is obvious that no constructive scheme of plates will ever make it possible to dispense with accurate reproductions of the various parts of the dissected body. Some anatomists will have nothing to do with illustrations which do not faithfully reproduce such dissections, while others object to all plates on the ground that "if the description is made too lucid sufficient attention will not be paid to the body." The former argument will be valid when textual description is called upon to reproduce the actual body instead of the type or norm; the latter is entirely out of harmony with the general trend of modern educational methods.

The Question of Scientific Nomenclature.

In connexion with description by text, reference has been made above to the necessity for thorough subdivision and classification. For this a scientific nomenclature is essential. The B.N.A. (Basle Nomina Anatomica), the

nomenclature adopted by the Anatomical Society at Basle in 1895, is a great advance in the right direction, but if it is to win universal acceptance it must be considerably modified. Above all, it must adopt the synthetic or constructive principle. Should the decision that "the terms shall be merely memory signs" be adhered to, individual teachers and authors will always be loth to give up terms of their own preference for others which appeal to them solely on the ground of their having been adopted by the majority. Every man will continue to do that which is right in his own eyes. If, however, each term be carefully chosen as a unit in a single great constructive scheme, individual preference will be forced to yield to the claims of scientific nomenclature. Further, just as in human society the law that each man shall have but one wife is supplemented by the law that each woman shall have but one husband, so in the B.N.A. the principle that "each part shall have only one name" must in future be supplemented by the principle that each name shall designate only one part. That it is not enough to adopt terms such as "mesenterium," "omentum," "ligamentum," without signifying what structures these terms shall designate is evident from the fact that even now different authorities apply each of these terms to very different structures giving definitions which are protean in form and, based as they are upon unessentials, possess "semblance of worth, not substance." It is scarcely credible that in the use of such everyday terms as "abdomen," "abdominal wall," "abdominal cavity and contents," "spermatic cord and coverings," "mesentery," "omentum," "ligament," "peritoneal fold," the current descriptions are so often vague, loose, and inconsistent that it is impossible to be sure of the sense in which one will find these terms employed by any particular authority. In a recent article, "On the Importance of Precision in Nomenclature," Sir T. Clifford Allbutt says: "To shuffle our labels is as mischievous in nosology as in the cabinet of the naturalist." Is this not equally true of anatomy? Variety is indeed the spice of life, but with too much spice the most wholesome diet becomes uninviting and indigestible. It cannot be too strongly emphasised that the proper scientific content of these and of many other terms will ultimately be found not by dealing with each term in the splendid isolation of an independent unit, but by assigning to each a definite place in a complete constructive nomenclature of the peritoneum. It is not possible within the limits of this article to produce detailed evidence from the text-books. A few general remarks must suffice.

1. "Abdomen." Although the term "abdomen" commonly includes the whole "part"—namely, both wall and cavity, yet sometimes it is specifically limited to the abdominal cavity. ("The abdomen is that portion of the cavity of the trunk which lies below the diaphragm.")

2. "Abdominal wall" and "abdominal cavity." The distinction between the abdominal wall and the abdominal cavity is seldom accurately drawn, and the term "abdominal cavity" is even employed as a synonym for "peritoneal cavity." ("This visceral pelvic fascia is separated from the pelvic cavity by the peritoneum and the extra-peritoneal connective tissue.")

3. "Contents of the abdominal cavity." The abdominal cavity contains the extraperitoneal connective tissue, the abdominal organs, and the peritoneum, along with vessels and nerves—all these and these only—yet in the enumeration of the "contents of the abdominal cavity" the extra-peritoneal connective tissue is frequently omitted and even the lumbar plexus is occasionally included.

4. "Spermatic cord and coverings." Constructively it is impossible to avoid the distinction that the artery to the vas deferens belongs to the spermatic cord, while the cremasteric artery and genito-crural nerve, however closely they may be associated with the cord, really belong to its coverings, yet the artery to the vas is sometimes assigned to the coverings of the cord and the cremasteric artery and genito-crural nerve sometimes to the cord itself.

5. "Mesentery." The term "mesentery" is remarkable for its perennial elasticity. The mesentery sometimes includes not only the peritoneum, but also the "lamina propria mesenterii" (B.N.A.)—that is to say, the extra-peritoneal connective tissue which the peritoneum invests—yet the term is sometimes applied to the peritoneum only, in which case the mesentery may be the complete peritoneal fold within which the bowel lies ("The two layers of the

mesentery are separated by the gut itself"), or it may be only the reflected peritoneum which extends between the bowel and the wall ("The layer covering the intestine is called *visceral*; that reflected upon the parietes or wall is the *parietal layer*, and the passage from one to the other is the *mesentery*"), or, again, it may at one and the same time be both ("The mesentery is a broad, fan-shaped fold which connects the small intestine to the back of the abdomen One border of the fold is wide and contains the intestine within it The part of the tube to which the mesentery is connected is known as the mesenteric or attached border, the opposite side is the free border.") Moreover, the term "mesentery" is associated sometimes with the jejunoleum only (the B.N.A. knows but one "mesenterium," and Testut contrasts "le mesentère" with the other members of the group "les méso"), sometimes with various portions of the digestive tube ("mesenteries are folds of peritoneum which unite portions of the intestine to the posterior abdominal wall and convey to them their vessels and nerves. There are several mesenteries—e.g., the mesentery proper the transverse meso-colon, the pelvic meso-colon")—and sometimes even with organs other than the digestive tube ("the ovary is connected by a very short mesentery, or mesovarium, to the posterior aspect of the broad ligament").

6. "Omentum." The B.N.A. recognises only two omenta (majus, minus), most British authorities enumerate three (gastro-colic, gastro-hepatic, gastro-splenic), while Testut, who prefers the term "épiploon," states that there are three and names four ("gastro-hépatique, gastro-splénique, gastro-colique, pancréatico-splénique").

7. "Ligamentum." The term "ligament" is used for the most part in absolute contradistinction to the terms "mesentery" and "omentum," although constructively it is obvious that the mesenteries and omenta are merely special groups of ligaments. Not long ago a highly distinguished anatomist stated that if an omentum were called a ligament all anatomy would be thrown into confusion. Such fears for the stability of the science would never have been entertained had the speaker but realised that Quain mentions the "gastro-splenic omentum or ligament," and that in the B.N.A. the gastro-splenic omentum of British anatomists is termed the "ligamentum gastro-lienale."

8. "Peritoneal fold." The term "peritoneal fold" is applied to very different structures, sometimes to two layers of peritoneum continuous over a free border, sometimes to two layers without continuity. Sometimes, indeed, the two layers, whether continuous or not, are spoken of as a "double fold," possibly an echo of "duplicature," a term which is itself not guiltless of duplicity of meaning. It would be a great advantage if the term "double fold" were placed upon the *Index expurgatorius* of anatomy and the terms "fold" and "duplicature" were limited in their application, the former to two layers with continuity over a free border, the latter to two layers without continuity. In that case the gastro-hepatic omentum would present a fold, the gastro-splenic omentum a duplicature, and the gastro-colic omentum a duplicature folded upon itself. (A single example of the tendency to confusion must suffice,—"The great omentum is a large apron-like *fold* of peritoneum. Commonly it is *folded* in between some of the coils of intestine. It extends between the great curvature of the stomach above and the transverse colon below, not taking the shortest course from one of these to the other, but hanging down as a loose *fold* between the two. The great omentum may be said to consist of two *folds*, each formed of two layers. The anterior or *descending fold* begins at the great curvature of the stomach descends to the lower border of the omentum, where, turning back on itself, it passes up as the *posterior or ascending fold*.")

Even etymology occasionally suffers from insufficient attention to the synthetic principle. Thus derivations such as "mesencephalon (μέσος, middle, ἐγκέφαλος, brain)" and "mesentery (μέσος, middle, ἔντερον, intestine)" shed "no light but rather darkness visible," for whereas the mesencephalon is the mid-brain the mesentery is by no means the middle intestine. Nor is the darkness dispelled by the explanation "mesentery (μέσον, middle; ἔντερον, entrail—the word signifying any of the abdominal contents and not only the bowel)." Of what assistance is it to explain the mesentery as "medium intestinum, or μέσον ἔντερον, middle intestine," or again "(μέσον ἔντερον) so called from being

connected to the middle of the cylinder of the small intestine"? The mesentery is not the "middle intestine" or mid-gut, and if a cylinder has a middle it must surely be its axis (*cf.* centre of a circle); moreover, the term "mesentery" is used in connexion with the large intestine also, and even with organs other than portions of the digestive tube. Some of these derivations indeed appear to owe their origin to causes such as led a distinguished lecturer in anatomy to explain that the mental and sub-mental arteries derive their names from the Latin *mens*, *mentis*, the chin—the mental attitude is correct but the etymology is weak. They resemble but do not possess the merit of the showman's explanation, "The rhinoceros, ladies and gentlemen, called *rhino* because of his big nose, and *serious* because he is mentioned in Holy Writ." As all roads lead to Rome, so such derivations all lead to the *fossa cæcalis* (*fossa*, ditch, *cæcalis*, of the blind), the ditch into which the blind fall when led by the blind.

But to return to our black sheep and his anatomical aprosexia. If the condition is to be cured, or still better to be prevented, a description must be provided which will stimulate interest and encourage the hope of ultimate success. The daughters of Danaus might well be pitied, for they were doomed to ever-recurring failure in the only task allotted to them. But piteous, too, is the plight of the man who, amid the perplexing calls of many studies and practical duties, endeavours to piece together the fragments of his rapidly disintegrating anatomical knowledge. After long and futile labour he will assuredly echo the cry, *Vitam perdidit diligenter nihil agendo*. But if anatomical description were provided with the coherence of a great constructive system the student, and even the graduate, would no longer be tempted to feel that anatomy, the science of the structure of the healthy body, is a *Monstrum, horrendum, infandum, ingens, cui lumen ademptum*. Rather would he know that she is a goddess whose shrine is thrown open to every earnest worshipper, and gives forth words of such encouragement that he who hears ceases never in his quest until he has attained—

Tu ne cede malis, sed contra audentior ito.

[In this article quotations have been taken from editions of the following works:—Barker's "Anatomical Terminology (B.N.A.)," Cunningham's "Text-book of Anatomy," Cunningham's "Manual of Practical Anatomy," Gray's "Anatomy," Quain's "Anatomy," and Testut's "Anatomie Humaine."]

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

Metropolitan Borough of Bermondsey.—This borough fell in population from 130,760 in 1901 to 125,960 in 1911, the decrease, as in other central parts of London, being attributable to the increased facilities of transit leading people to seek residences farther out. Dr. R. King Brown considers the transfer beneficial alike to those going and to those remaining; it will decrease the demand for slum property in Bermondsey, of which there is now too much, and will tend ultimately to secure sufficient space round houses and the avoidance of overcrowding on large areas. Untenanted slum dwellings, however, are apt to attract undesirable migrants from elsewhere, particularly when they are situated in a district favourable to casual labour, and the extent to which the results that Dr. Brown desires will be attained in practice must depend largely on the activity of the borough council and its officers in dealing with the insanitary property, overcrowding, and other objectionable conditions of environment which are still too common in the poorer parts of London. Dr. Brown shows that several houses were dealt with last year under the Housing and Town Planning Act, with the result that they were either put into a reasonably fit state or, in one or two cases, made the subject of a demolition order. The figures are, however, small, and the procedure under this Act is referred to as very complicated and admitting of great delays before the final result can be recorded. The

hard cases which a medical officer of health often has to face in dealing with overcrowding of persons in houses is well illustrated by the table on p. 32 of this report; case after case of overcrowding of families in single rooms is reported, mostly with a comment which shows that poverty or unemployment made it impossible for the family to secure more accommodation. The borough council has wisely appointed a second health visitor for the prevention of infant mortality; a single visitor required to deal with some 3000 births annually could usually only make a single visit, and it is now intended to make additional visits in order to give special attention to babies over the age of 6 weeks who are left in charge of miscellaneous people to be "minded" while their mothers go out working. It is satisfactory to find that the food-supply of a district of this sort is closely supervised by the local authority; the list of prosecutions shows how much this is needed. Many of the milk samples were adulterated—the vendor usually escaped any ill consequences by proving "warranty"—and there were examples of substitution of margarine for butter, watering of skim milk (in one case 61 per cent. of added water), excess of water in butter, substitution of acetic acid for "malt vinegar," and like fraudulent practices. The district has numerous wharves at which food-stuffs are landed, and these are kept under special supervision in consequence of the Local Government Board's regulations. Sometimes the action required involves a great deal of labour, as when the despatch of damaged grain has to be checked so that it is not used for human food at the place of delivery. Dr. Brown considers that the regulations as a whole have been of great benefit to the public, and that since they have come into force we have come to realise that large quantities of unsound food must formerly have found their way into the markets and been disposed of in some way or other not beneficial to the consumer. Even now, however, trade competition is so acute that a very small advantage, such as an apparently less stringent examination at the port of entry, will often result in the diversion of considerable quantities of food from a port where examination is more strict. While admitting that the Local Government Board has endeavoured to obtain strict uniformity of examination at all ports in the United Kingdom, Dr. Brown is of opinion that further improvement is necessary in this respect.

County Borough of Hastings.—Dr. A. Scarlyn Wilson gives a good account of the general sanitary circumstances of Hastings. The town is well sewered, and as a consequence of steady work during many years most of the house drainage is highly satisfactory. The water-supply, obtained from deep wells in the Ashdown sand, is of high degree of purity, though it needs treatment by open sand filtration or by Candy filters to remove the ferruginous deposit which usually is present in water from this formation. The system of removal and disposal of refuse, undertaken by the corporation, is satisfactory, save for the objectionable custom of tipping the contents of some of the scavengers' carts in isolated parts of the district, and the practice of leaving domestic refuse too long before its collection in the summer months. There is a good hospital service for infectious disease, arrangements for the institutional treatment of tuberculous patients are in progress, and in general the report records much useful work on the part of the public health department. For the time, at all events, Hastings seems to have reached, or rather already to have passed, its maximum development. The population, 61,146 last year, shows a diminution of 4382 on the previous census. Dr. Wilson notes with some anxiety the persistent emigration from the district of many of the more enterprising and capable among the working classes as the result of want of employment. Outside the building trade, which is now stagnant, there is little demand for male labour, and the fishing industry has considerably declined in late years. There is, however, plenty of work in domestic service and shops for women, and the female population preponderates over the male roughly in the proportion of 7 to 5. The birth-rate for the year is 15·7 per 1000. The proportion of illegitimate births to total births, 6·3 per cent., is somewhat high. The crude death-rate for the year was 13·9 per 1000, but Dr. Wilson estimates that when the factor for correction is available from the last census returns a considerably lower rate will result from the age and sex