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ORIGINAL ARTICLES.

A NOTE ON THE HISTORY OF INFLUENZA.*

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MR. CHAIRMAN AND GENTLEMEN,—When your Secretary conveyed to me some months ago his intimation of the distinction your Society had conferred upon me in asking me to become its Honorary President for the present session, his letter filled me with reflections both pleasing and alarming—pleasing in that you thought me worthy of so high an honour, alarming because I was informed that I should have to deliver an address, after hearing which you might very possibly reverse your opinion. I accepted the office, then, very gratefully, but with some trepidation, knowing that no pains I could devote to such an address would be too great for the honour you had done me, and conscious at the same time of the limited leisure which these piping times of war had left me for preparation. The choice of a subject for a while presented difficulties which the lapse of time

* Address read to the Glasgow University Medico-Chirurgical Society, 15th November, 1918.

has naturally solved. Next to the war itself, the one topic most prominent in all our minds has been the devastating epidemic of influenza which has raged all over the world, and to that subject I turned as of course.

In thinking over the features of the present epidemic, one aspect of it has struck me repeatedly, that both among the laity and to a less extent among the profession there is a widespread opinion that it is not comparable to former visitations: that it is not a true influenza; that the suddenness of its fatalities suggests a disguised form of plague; or that it is really "malarious fever" imported by our troops from the East, as I am told a good lady in a Perthshire village most pertinaciously affirms;* or, even in cases where the Pfeiffer bacillus has been identified, that it is not held to be a sufficient cause, that some more deadly organism, perhaps a filter-passer, must be associated with it in the production of the disastrous effects of the disease. The remarkable thing in all these opinions, well or ill informed, is their insistence that in this epidemic there is something *new;* and it occurred to me that it might interest you to inquire how far this impression is justified by the history of influenza. The sketch which follows is, I need hardly say, nothing more than a sketch, and makes no pretence to be based on any more profound research than a consultation of the best known and most readily accessible authorities. Enough has been written upon influenza, from its first identifiable appearance in history, to fill many libraries, and Hirsch, in his *Geographical and Historical Pathology*, published in 1881, gives a bibliography including the references to or treatises on the subject from A.D. 1137 to 1875. It extends over many pages, and since 1875 the amount of writing has been enormously increased.

In tracing the earliest appearances of the disease, we are confronted with the difficulty that such references as there are appear chiefly in the writings of the monkish chroniclers. They lack medical detail, and as the epidemics are recorded under a large variety of names, it is often doubtful whether a given epidemic was or was not really influenza, which was not widely known under that name before 1743. Italian authors writing on the subject had frequently before that date (Buoninsegni in

* Is this a local survival of the confusion between influenza and ague, so prevalent in former times?

1580) attributed the disease to *una influenza di freddo* (an influence of cold), and from that source the word influenza passed into use in English for the first time in 1743, being first employed in the *Gentleman's Magazine* and, according to Garrison, in the writings of Sir John Pringle, founder of modern military medicine, and being adopted somewhat later by the Germans, who appear even at that time to have acquired the habit of utilising the prior discoveries of other people. Whether the name thus arose out of a mistranslation or because, as others hold, the disease was in past times attributed to an influence of the stars, it means nothing but *influence*, and in the earlier writings such a mystic influence was often assigned as the cause of many widely different diseases. The name, then, is of no avail in identifying the earlier epidemics, which, as has just been said, were recorded under a large variety of names, both medical and popular. But while we deal with the subject of nomenclature, and in connection with the alleged newness of the features of the present epidemic, it is interesting to note how frequently in the past epidemic visitations of influenza have gone under the name of "the new disease." Thus we find in 1558 "the new burning ague," in 1562 "the new acquaintance," and at various times in the seventeenth century "the new disease," "the new ague," "the new delight." In 1562 Mary Queen of Scots suffered at the hands of "the new acquaintance," as appears from a letter of Randolph's written to Cecil from Edinburgh in November of that year :—

"Maye it please your Honer," he says, "immediately upon the Quene's arivall here, she fell acquaynted with a new disease that is common in this towne, called here the newe acquayntance, which passed also throughe her whole Courte, neither sparing lordes, ladies nor damoysells, not so much as either Frenche or English. It ys a plague in their heades that have yt, and a soreness in their stomackes, with a great coughe, that remayneth with some longer, with others shorter tyme, as yt findeth apte bodies for the nature of the disease. The quene kept her bed six days. There was no appearance of danger, nor manie that die of the disease, excepte some olde folkes. My lord of Murray is now presently in it, the lord of Lidingeton hathe had it, and I am ashamed to say that I have byne free of it, seeing it seketh acquayntance at all men's handes."

It would seem, then, that the idea of novelty in the features of a given epidemic is not itself new. Probably the explanation of its recurrence is to be found in the fact that though there is no real periodicity in the visits of influenza, smaller and slighter epidemics being of frequent occurrence in limited areas, yet between the greater epidemic and pandemic attacks there is usually an interval of a number of years sufficient for the features of the last attack to have passed out of common recollection. The last great pandemic was that of 1889-1890, with its recurrence in 1891-92. Its distinguishing features, as we shall see later, were much the same as those of the present onslaught, but between the two the disease has "skipped a generation;" and the present generation does not read medical history.

If we cannot rely upon the nomenclature, it is evident that we must turn to the characters of the disease to aid us in identifying it in the writings of bygone chroniclers; and here it may be well to attempt some sort of definition. To include all the occasional features of influenza such a definition would require to be a small treatise, and if we turn to the ordinary text-books we find much variety in the points selected. Osler, for example, defines it as "a pandemic disease, appearing at irregular intervals, characterised by extraordinary rapidity of extension and the large number of people attacked. Following the pandemic there are, as a rule, for several years endemic, epidemic, or sporadic outbreaks in different regions. Clinically, the disease has protean aspects, but a special tendency to attack the respiratory mucous membranes." Taylor calls it "an acute febrile disease which in past times has frequently swept as an epidemic over Europe," and then goes on to historical details. Quain's *Dictionary of Medicine*, in its last edition, states that it is "an acute specific infectious disease characterised by fever, catarrhal affections of the respiratory and digestive system, and nervous disorders of various types." Sisley, writing in 1891, gives a definition that appeared in *The Times* in April, 1890, at the height of the last pandemic:—"A specific fever, epidemic and often pandemic, of sudden onset and short duration, attended with loss of appetite and very great prostration, associated often with more or less severe catarrh, neuralgic pains, or gastro-intestinal disturbance, and especially liable to be complicated by

severe respiratory affections to which the mortality of the disease is chiefly due."

I have taken these four definitions at random from the books at my hand. The last, though the most complete, is obviously too long for our purpose; we shall not find such minuteness of description among the early chroniclers. But if we select from each definition such salient features as might be noticed by lay writers we shall find that influenza is an epidemic febrile disease of sudden onset and wide distribution, principally characterised by catarrhal affections of the respiratory tract; and to this statement we may add that its mortality in uncomplicated cases is low. It has, in fact, been called a disease of high morbidity and low mortality: it may affect a whole population, but it kills relatively few as compared with the other great epidemics of the Middle Ages, plague, sweating sickness, and the like.

With some such broad notion of the outstanding features of the disease, which have remained the same from century to century, one is in a position to trace its various recorded outbreaks. Some at least of these features are reflected even in the popular nomenclature, the suddenness of the onset in the French *grippe* (which the French themselves derive from *agripper*, to seize, although the Germans insist that they are wrong, and that the root is Slavonic or even German), and in the German *Blitz-katarrh* (lightning-cold); its universality in the French *la générale* and the German *Modefieber;* its capriciousness and usually trifling consequence in the French *la coquette* and *la cocotte*. When we turn to the historians, however, we find that there is no unanimity as to the time of its first appearance. Leaving aside fantastic speculations such as that which seeks to find influenza in the pestilence described by Homer as attacking the Greek army before Troy, and those which on very slender evidence discover it in the writings of Hippocrates, Livy, and Diodorus Siculus, there appear to have been epidemics of catarrhal fever in France and Germany, Italy, and England in the later years of the ninth and tenth centuries. They may have been influenza, but the records do not afford any certain proof of it. The disease is not heard of again till 1173, in which year Hirsch considers that its epidemiological features may be first distinguished with

certainty, although he also believes that it may be followed back with less convincing proof to much remoter periods. In that year the disease was epidemic in Germany, Italy, and England, and Creighton notes that the chronicle of Melrose for 1173 records "a certain evil and unheard-of cough (tussis quaedam mala et inaudita), which affected everyone far and near, and cut off many." The same adjective—inaudita—occurs in the description of the German epidemic by the monk Godefridus, the idea of newness or strangeness being thus present even in the oldest accepted records.

With doubtful and local exceptions the disease then disappears from the records for 150 years, the next epidemic, which affected Italy and France, occurring in 1323, when Buoninsegni states that "in the month of August there was a pestilential wind, which caused nearly all the inhabitants of Florence to fall sick of cold and fever, and the same thing took place throughout almost the whole of Italy." It recurred in 1328, and at that time invaded Ireland, where it was attended with much prostration. In 1387 there was an epidemic in Italy, France, and Germany, spreading from Florence where it first appeared. The morbidity was great, nine-tenths of the population of Montpellier, for example, being attacked, but deaths occurred chiefly among the old and weakly. The symptoms were cold in the head, cough, headache, oppression in the chest, fever, and sometimes delirium, the attack lasting four or five days. Treatment consisted in camomile tea and syrup of poppies, diaphoretics, enemata, and low diet. In 1403 it was endemic in Paris, nearly 100,000 people being attacked, and it caused great prostration among the sufferers. Next year it appeared in Germany, Flanders, and the Netherlands, and in 1410-11 it again attacked Paris, insomnia, fever, and weakness being among the symptoms, with a cough so violent as to cause rupture in some cases and to bring about abortion in pregnant women. Epistaxis and hæmorrhage from the bowel were frequent. The disease was attributed to "a general contamination of the atmosphere." In 1414 there was another epidemic in Italy and France, occurring in January and February, and attributed to a contagious *bise* or north wind. In France, among other names, the disease was called *coqueluche*, a name the use of which was later extended so as to cover whooping-cough, to the no small

confusion of epidemiologists. "Another poisonous air" was responsible for a Parisian outbreak in September, 1427, and the epidemic extended to England in October, when "a certain rheumy infirmity (quaedam infirmitas reumigata) which is called '*mure*' invaded the whole people, and so infected the aged along with the younger that it conducted a great number to the grave," as Creighton quotes from an anonymous St. Albans chronicler. There had been a comet in the previous year, and the winter had been so mild that everything was in blossom. From this date the malady seems once more to have disappeared until 1510.

Hitherto the epidemics of which we have traced the course have been more or less local, though sometimes extensive; in 1510 the disease becomes for the first time pandemic, affecting the whole of Europe and spreading in a general direction from south-east to north-west. Was this a real change due to a change in its character or to greater facilities for travel, or was it merely an apparent change, the result of the imperfection of the earlier records? I think it is permissible to believe that some at least of the earlier epidemics were of greater extent than the records would imply. The mediæval world was a small one; news did not travel fast nor from a long distance; what the chroniclers heard and recorded was chiefly the news of their own country; and the extant chronicles and records on which the epidemiologists have to found were written mainly if not entirely by inhabitants of the few most civilised countries of Western Europe—Italy, France, England, the Netherlands, and to a lesser extent Germany. Nothing, it may be noted, is said of Eastern Europe or of Asia in any of these earlier accounts; but it would almost certainly be a mistake to suppose that influenza had never visited them. At a much later date, indeed —in 1891—Sisley made the statement that it was mentioned by early Hebrew writers, and that there was reason to believe that it had always been endemic in China.

Be that, however, as it may, from 1510 onwards pandemic outbreaks involving now the Eastern, now the Western hemisphere, and sometimes the whole world, succeeded each other with great frequency. Hirsch enumerates fifteen affecting Europe mainly, but sometimes extending to America, up to 1875, and eleven confined to the Western hemisphere during the

same period, in which there were also ten extensive but more local epidemics in Germany or France. It is obviously impossible to attempt even a summary of the features of all these outbreaks. With the growth of learning, the spread of writing, the introduction of printing, the records become progressively more numerous: and all that it is possible to do within the limits of such an address as this is to select for notice a few of the more salient points in the history of the disease and of the views held as to its nature.

In 1510 the disease was at its height in July and August. It came on suddenly and affected wide areas in a surprisingly short time, striking down whole populations, though few died. Gastric and nervous symptoms were common, and it ended in many cases with diarrhœa or sweating. Blisters were much used in treatment—two to the arms or hands, two to the legs or feet, and one to the back of the head. Patients were of course bled, but bleeding was recognised as injurious. Erasmus may have suffered from it; at least he writes in 1511 from Cambridge that his health was still rather doubtful "from that sweat," which may have been the influenza of the year before. There was a murrain among cattle in Germany (the older name "mure" is possibly a shortened form of murrain), and many meteorological portents, storms, earthquakes, and an eruption of Hecla.

In 1557 there was another pandemic supposed to have spread from Asia to Constantinople, and thence roughly westwards. Early bleeding appeared to be useful for the severe pleural pain that was common. Women often aborted, and children, the weakly, and drunkards succumbed, chiefly from pulmonary complications. The disease prevailed from July to October; it was preceded by fogs and followed by inundations: there had been an eruption of Etna the year before. Next year it occurred in England, sweating being a common symptom, and was known as the new burning ague. In 1562 it was prevalent in Italy and also in Scotland, where, as we have seen, Queen Mary suffered. It was again pandemic in Europe in 1580, spreading to Africa and Asia, and being most prevalent from June to December. Millions suffered: epistaxis, otitis, nervous symptoms, and bilious vomiting were common, and the fever, which was often intermittent, lasted from four to seven or even fifteen days, ending in sweating, diarrhœa or diuresis. In Spain and

Italy bleeding was extensively practised, and nearly all those who were bled died, 9,000 of them in Rome alone. In unbled patients the mortality was very low. The weather conditions varied from intense heat to unusual cold; there were earthquakes in Yorkshire and Kent. During this epidemic, in the month of August, while an English force was advancing through Kerry in the war against the Desmonds "suddenlie such a sicknes came among the soldiers, which tooke them in the head, that at one instant there were above three hundred of them sicke. And for three daies they laie as dead stockes, looking still when they should die: but yet such was the good will of God that few died; for they all recovered. This sicknesse not long after came into England and was called the gentle correction." In this year the weekly deaths in London rose from 55 in the end of June to 133 and 146 in the middle of July, falling gradually to the previous rate by the middle of August.

From 1591 to 1612 there were local epidemics, of which the accounts are fragmentary. In 1626 influenza prevailed in Italy and Germany, spreading next year to Spain and thence to North America. Hirsch calls this the first epidemic known to have occurred in the Western hemisphere, but the epidemic of 1557 was also recorded there. The first American observations on influenza, in Noah Webster's *History of Epidemic Diseases*, are concerned with the American epidemic of 1647, in which, as in previous European experience, "such as were bled or used cooling drinks died; such as made use of cordials and more strengthening things recovered." In 1655 a smaller epidemic occurred in the New England States. In 1657-58 the disease broke out in Switzerland, and spread over Italy, France, Germany, and England, where it was preceded and followed by a new fever affecting "the brain and nervous stock." On this and on the intervening influenza we have the observations of Willis, with whose "circle" you are all familiar. The new fever, which he regards as akin in some respects to influenza, occurred in the autumns of 1657 and 1658, the influenza in the spring of 1658 after a long winter of intense frost and north wind. "About the middle of April, suddenly a distemper arose as if sent by some blast of the stars, which laid hold of very many together; and in some towns in the space of a week above a thousand fell sick together." Fever, anorexia, pains in the head, back and limbs, and weariness

were the initial symptoms, followed by cough, expectoration, and catarrhal secretion, "falling down on the palate, throat, and nostrils." Bleeding from the nose, blood in the sputum, and bleeding from the bowel were common. Many of the old and infirm died and "the third part of mankind, almost," was "distempered within the space of one month." "It seems very likely," says Willis, "that this disease had its origin from the intemperance and greater inordination of the year: and as the Autumnal Intermitting Feaver, before described, was the product of the preceding immoderate heat, so this Catarrhal Feaver depended altogether upon the following part of the year being so extremely cold." The doctrine of an "epidemic constitution" of the season was at this time very generally held. In the following spring there was a return of the influenza in London, with similar symptoms, and Whitmore says of it that it "struck many thousands in London down, scarce leaving a family where any store were, without some being ill of this distemper, suddenly sweeping very many away."

Smaller or slighter epidemics followed in 1675; in 1688, when although all Europe was affected the symptoms were so slight that patients were ill for only two or three days, unless they were bled; in 1693, the direction of spread being from west to east; and from 1709 to 1712. Disturbed meteorological conditions and volcanic eruptions preceded or accompanied most of these. In 1675, when Evelyn the diarist suffered, the deaths from "fever" in London rose from 60 in the week ending 9th November to 130 in the following week, falling in a fortnight to the former level, while deaths from all causes rose from 420 to 675 in the same period. Sydenham describes this epidemic, which he says spared hardly anyone, and went through whole families at once. Pleurisies and pneumonias were frequent complications. He also describes a similar epidemic in November, 1679, which our own Cullen has included among the influenzas, and which in a fortnight brought the London deaths due to "fevers" from 50 to 126, and the deaths from all causes from 328 to 764. The epidemic of 1688 had a similar effect upon the death-rate, an effect which, indeed, may be taken as a distinctive mark of all influenza epidemics from the time when death-rates began to be at all accurately recorded. The increase in the deaths from all causes was, of course, mainly due to respiratory

complications. This epidemic is well described by Molineux of Dublin, in which city, as he says, "it so universally seized all sorts of men whatever, that I then made an estimate not above one in fifteen escaped. It began, as generally fevers do, with a chilness and shivering all over, like that of an ague, but not so violent, which soon broke out into a dry burning heat, with great uneasiness that commonly confined them to their beds, where they passed the ensuing night very restless: they commonly complained likewise of giddiness, and a dull pain in their heads, chiefly about the eyes, with unsettled pains in their limbs, and about the small of their back, a soreness all over their flesh, a loss of appetite, with a nausea or aptness to vomit, an unusual ill taste in their mouths, yet little or no thirst. And though these symptoms were very violent for a time, yet they did not continue long: for after the second day of the distemper the patient, usually of himself, fell into a sweat (unless 'twas prevented by letting blood, which, however beneficial in other fevers, I found manifestly retarded the progress of this): and if the sweat was encouraged for five or six hours by laying on more cloaths, or taking some sudorifick medicine, most of the disorders before mentioned would entirely disappear, or at least very much abate. The giddiness of their head and want of appetite would often continue some days afterwards, but with the use of the open fresh air they certainly in four or five days at farthest recovered these likewise and were perfectly well. So transient and favourable was this disease that it seldom required the help of a physician: and of a thousand that were seized with it, I believe scarce one dyed." You will notice that catarrhal symptoms are not mentioned, and it is well enough known that influenza may exist without catarrh.

It may be worth while at this point to ask how it is that if influenza is a disease of low mortality, it should invariably, except in the slightest epidemics, sharply send up the death-rate both from fevers and from respiratory diseases. The explanation is, in the words of Hilton Fagge, "that almost all the mortality is brought about indirectly, and that the number of those who fall ill is greater, beyond all comparison, than in the case of any other epidemic disease. In London in 1847 not less than 5,000 persons are said to have died of influenza in six weeks; but then it was computed that 250,000 persons were attacked." And

further, the accompanying or following bronchitis or pneumonia from which so many patients die is usually regarded as a complication, and not to be laid directly to the charge of the influenza itself. How far that attitude can now be maintained is a doubtful point, in view of the fact that the bacillus can very generally be recovered from the sputum, and often in almost pure culture, in these fatal cases. The so-called complications or sequelæ would thus appear to be localised specific manifestations, and if so the disease is properly chargeable with a much greater mortality than is usually assigned to it.

The epidemic of 1712 was slight and without catarrhal symptoms, like that of 1688. It is, however, probably to this epidemic that Patrick Walker refers in his *Life and Death of Alexander Peden*, when he attributes the "new burning agues" to "the effects and evidences of God's displeasure appearing more and more against us since the incorporating unions, mingling ourselves with the people of these abominations, making ourselves liable to their judgments, of which we are deeply sharing." The people of these abominations were the English: the incorporating union was the Union of the Crowns in 1707. Freer intercourse between the two countries no doubt promoted the spread of infections from one to the other.

The next great pandemic, that of 1729-30, spread from Russia "like a hurricane all over Europe." It had the usual effect of sending up the London deaths due to "fever" from 88 in the week ending 21st October, 1729, to 267 in the week ending 11th November, and the deaths from all causes in these weeks from 564 to 993. In the following week there was an increased mortality from pneumonias and pleurisies. Thunderstorms in Italy and Switzerland, volcanic eruptions, and a fog of sulphurous smell preceded or accompanied the earlier months of the epidemic, which began in April in Russia and by the following year had spread even to Iceland. Huxham of Plymouth, well known for his *Essay on Fevers*, describes the disease, and notes its passage into "bastard pleurisy or peripneumony." Contrary to the usual experience, he seems to have been successful with blood-letting and emetics. There was a return of the disease in 1733, when it spread over the whole globe, for the most part from east to west. In this country Edinburgh was first affected, in December, 1732, the burials in

that city being in November 89, in December (the disease began on the 17th) 109, in January, 1733, 214, and in February declining again to 135. The prisoners in the gaol escaped, and also the boys in Heriot's Hospital. London was affected later, the deaths from "fever" in the week ending 16th January, 1733, being 69, in that ending 30th January 243, while the deaths from all causes in these weeks were 531 and 1,588. Epistaxis and pulmonary and intestinal hæmorrhage were common. In 1737-38 there was another epidemic involving Saxony, England, France, and also North America and the West Indies. Nervous and bilious symptoms were pronounced.

The epidemic of 1742-43 was notable for the introduction of the names "grippe" and "influenza." Its spread was definitely from east to west, and its beginning probably in Russia. It passed from Germany to Switzerland and Italy, then to France, England, and the Netherlands, at a rate not greater than that of human travel. It involved large masses of people, and there is a sprightly description of it from Horace Walpole, one of the sufferers. Writing on 25th March, 1743, he says:—"We have had loads of sunshine all the winter; and within these ten days nothing but snows, north-east winds and *blue plagues*. The last ships have brought over all your epidemic distempers; not a family in London has scaped under five or six ill; many people have been forced to hire new labourers. Guernier, the apothecary, took two new apprentices, and yet could not drug all his patients. It is a cold and fever. I had one of the worst, and was blooded on Saturday and Sunday, but it is quite gone; my father was blooded last night; his is but slight. The physicians say there has been nothing like it since the year thirty-three, and then not so bad; in short, our army abroad* would shudder to see what streams of blood have been let out! Nobody has died of it but old Mr. Eyres of Chelsea, through obstinacy of not bleeding; and his ancient Grace of York; Wilcox of Rochester succeeds him, who is fit for nothing in the world but to die of this cold too." Nobody had died of it when Walpole wrote, but later it trebled the deaths in London from fevers and from all causes; and though he and others survived bleeding, yet in Italy many died as a consequence of the use of the lancet.

An interval of some fifteen years was followed by a generalised

* 1743 was the year of Dettingen.

outbreak in North America in 1757, and by a local one in France and Scotland in 1758, when Edinburgh suffered severely, not one in six or seven escaping, while in Perthshire many died. Epistaxis, often profuse, was common; coryza was marked in some cases, fever without catarrh in others.

All the foregoing epidemics were preceded or accompanied by atmospheric vicissitudes, but of the most varied kinds; they occurred for the most part in the colder months of the year, but some of them in later spring or summer. Earthquakes or volcanic eruptions were noted in connection with many, comets in not a few. In 1759, the year of Halley's comet, influenza might have been expected to be unusually destructive, but it appeared only in Senegal, in the Swedish army, and in Peru.

Further epidemics occurred in 1761-62, 1767, both these affecting North America as well as Europe, and the latter, as it affected England, forming the subject of a paper by Heberden, and in 1775, when there was much debate as to the value of blood-letting. The deliberate progress of this last epidemic towards Britain was noted by Gregory, of Edinburgh, who "encountered it in Italy in the autumn, and followed it all the way home to Scotland. He saw it successively in Genoa, in the south of France, in the north of France, in London, and last of all in Edinburgh, where he himself at length fell ill with it, several of his travelling companions having taken it in Italy two or three months before." It was the subject of a collective enquiry conducted by Fothergill, of London, from the various replies to whose questions it appears that the idea of the contagiousness of influenza was even then held by many English physicians. It was in the next great epidemic, however, that of 1782, which affected the entire Eastern hemisphere, beginning in India and China, spreading to Siberia, then successively to European Russia, Finland, East Prussia, Denmark, England, France, Italy and Spain, and attacking in Rome two-thirds and in London three-quarters of the population, that proof of its contagiousness was first definitely furnished, again in response to a collective enquiry and by English physicians. More than a hundred years were to elapse before the bacillus was discovered: continental opinion at the time, and even much later, was antagonistic to the theory, and there were certain facts in connection with the propagation of influenza, as we

shall see, which it did not seem to cover: and hence even in England we find many persons up to 1891, on the eve of Pfeiffer's discovery, arguing against the contagious nature of the disease.

The epidemic, though so widespread, was not notable for its mortality. It raised the London death-rate in the usual way, but not nearly to so great an extent as some of the earlier visitations. One of its symptoms, noted by Gregory, is, however, interesting, in view of what the daily press has told us of people falling down in the streets of London during the present outbreak. "I have been told," he says, "of the haymakers attempting to struggle with the sense of fatigue, but being obliged in a few minutes to lay down their scythes and stretch themselves on the field." Another "universal and almost pathognomonic symptom," according to the committee of the College of Physicians, "was a distressing pain and sense of constriction in the forehead, temples, and sometimes in the whole face, accompanied with a sense of soreness about the cheek-bones under the muscles." A similar symptom in a South American epidemic in 1719 had brought the disease the local name of *fierro chuto* or "iron cap."

The last epidemic of the century, for the Eastern hemisphere at least, was that of 1788, also arising in Russia and spreading westwards. In 1789-90, and in 1798, North America was affected. From 1800 to 1803 there were several partial visitations of Europe, where throughout the nineteenth century epidemics, general or local, were so numerous and so abundantly "documented," if I may use that convenient but ungraceful word, that it is only possible here to take note of the most important of them, and to refer in the most inadequate manner to their literary record.

Skipping, then, the period from 1803 to 1830, in which nevertheless no fewer than nine epidemics occurred, that of 1816 in America being especially fatal to children, whom it destroyed in a few hours, we come to the three great consecutive epidemics of 1830, 1831, and 1833, which affected the whole globe. Glasgow was attacked in 1831; the disease prejudiced an Aberdeen election by laying up a number of Radical voters; and it was somewhat severely prevalent in London in the same year. In 1833 its incidence in these islands was much severer. In London the burials from 17th March to 23rd April were 2,105; from

24th April to 21st May they rose to 3,350. The mortality fell most on the richer classes. The earlier cases were mild; later, the disease assumed an "adynamic" type, with grave nervous symptoms accompanying or replacing the catarrh. Bleeding was still practised, and still found to be harmful. As Graves put it, lecturing in the following year:—"The sudden manner in which the disease came on, the great heat of skin, acceleration of pulse, and the intolerable violence of the headache—together with the oppression of the chest, cough, and wheezing—all encouraged us to the most active means of depletion; and yet the result was but little answerable to our expectations; for these means were found to induce an awful prostration of strength, with little or no alleviation of the symptoms." The epidemic spread rapidly all over Britain, 10,000 being down with it in Liverpool in one week; but the order of progression was not very definite, and, as a whole, medical opinion remained adverse to its contagiousness. Pleurisy, pneumonia, and other fatal respiratory complications were frequent in France.

In 1836-37 there was another epidemic beginning apparently in Sydney, spreading thence to Cape Town, Java, and Penang, then by way of Russia to Sweden, Denmark, Germany, Egypt, and Syria, at the same time westwards to England, Ireland, and France, and later to Italy, Spain, and Portugal. For England at least there is not much medical writing connected with it, but the *Gentleman's Magazine* for February, 1837, gives a graphic picture of its ravages:—"An influenza of a peculiar character has been raging throughout the country, and particularly in the Metropolis. It has been attended by inflammation of the throat and lungs, with violent spasms, sickness, and headache. So general have been its effects that business in numerous instances has been entirely suspended. The greater number of clerks at the War Office, Admiralty, Navy Pay Office, Stamp Office, Treasury, Post Office, and other Government offices have been prevented from attending to their daily avocations. . . . Of the police force there were upwards of 800 incapable of doing duty. On Sunday the 13th the churches which have generally a full congregation presented a mournful scene . . . the number of burials on the same day in the different cemeteries was nearly as numerous as during the raging of the cholera in 1832 and 1833. In the workhouses the number of poor who

have died far exceed any return that has been made for the last thirty years." In Glasgow 229 people died from influenza in January, 1837, and the deaths from all causes rose from 790 in January, 1836, to 1,972 in January, 1837. Of these deaths, 274 were among the aged, 185 from asthma, 201 from "fever," and 247 from "decline," and there was a great increase in the deaths of infants from bowel complaint. The doctrine of contagiousness from person to person gained no additional supporters, as the epidemic seemed to arise in many parts almost simultaneously, with great suddenness, and as it was very brief.

Passing over the next ten years, in every one of which except 1840 there were more or less localised outbreaks, we come to the European pandemic of 1847-48, beginning in the south of France, and extending northwards and eastwards. It lasted in London about six weeks, being at its height at the end of November and beginning of December, 1847, raising the deaths from all causes from 1,086 in the week ending 20th November to 2,454 in that ending 4th December, and the deaths from influenza from 4 in the former week to 374 in that ending 11th December. This was the first great epidemic under the new system of registration. It caused an excess of 5,000 deaths during the six weeks, about a fourth being due to influenza, the rest to pneumonia, bronchitis, asthma, &c. In the parish of St. Georges-in-the-East it raised the deaths during six weeks to a rate per annum of 73 per 1,000 living, while in some other parishes the death-rate was but little affected. In Manchester the total deaths from all causes rose from 169 in October to 270 in December, in West Sheffield from 27 to 85, in "places in Scotland" from 521 to 1,001. The epidemic was definitely catarrhal in type.

Between 1850 and 1890 there was a considerable number of minor epidemics, mainly local, though that of 1850-51 affected both hemispheres, as did that of 1857-58, in which besides the more usual complications—hæmorrhages, pneumonias, &c.—there was also a tendency to parotid and cervical abscess, and to œdema of the face, scrotum, and feet. In 1873 North America was universally visited, and in 1874-75 the disease was widespread in both hemispheres during the winter.

All these outbreaks are, however, of small importance compared with the great pandemic of 1889-90, which visited

the whole world in the space of a few months, its progress being more rapid than any former epidemic. Beginning in Bokhara in the end of May, 1889, it spread in October to Siberia and to St. Petersburg. Having reached the railway routes, its further spread was more rapid; early in November it had overrun Russia, and by the end of the month many of the chief towns of Germany, Sweden, and Denmark. Early in December the rest of Germany and Switzerland were attacked, France, Austria-Hungary, England, Belgium, Italy, Spain, and even New York all following before the 20th. By the end of the month further extension had occurred in all the infected countries and in America, while the Balkan States and Constantinople also suffered. Asia Minor followed in January, with Northern Africa and then the Cape, while Egypt, Madeira, Honolulu, Mexico, and Japan were included by the end of the month. South America, Greenland, Singapore, Sierra Leone, Delhi followed in February, in March Australia followed suit, and the epidemic did not die out till towards the end of the year, invading Abyssinia in November and the Hindu-Kush in December, 1890. In England coryza was not frequent, but nervous symptoms and prostration were; broncho-pneumonia caused many fatalities; and various rashes ending in desquamation were often noted. There was a recurrence in the spring and early summer of 1891, and in the winter of 1893-94. In 1890 the London death-rate rose in the beginning of January to 32·1 per thousand, the increase being due to influenza, bronchitis, and pneumonia; in 1891 the maximum death-rate in London at the end of May was 28·9, but in Sheffield in one week in May it rose to 70·5, in Leeds to 48·5, in Bradford to 56·7, in Huddersfield to 54·5. The maximum continental death-rates (I quote from Sisley) in 1890 were in St. Petersburg (as it was then called) 45·5, in Vienna 46, in Berlin 37, in Paris 62. In each town the death-rate rose at first somewhat gradually, then more sharply for a fortnight or three weeks, after which the fall was at first steep and then again more gradual. In all instances where careful observations were made the general diffusion of the ailment was preceded by sporadic cases. It was clearly shown that the spread followed the main lines of travel and commerce, villages not far from large towns being often infected later than towns at a considerable distance

but in close railway communication. The increased speed with which the disease was disseminated by the introduction of railways and steamships was well brought out by Lichtenstern in a comparison with the rate of diffusion in the epidemic of 1830-31.

Early in 1892 there was a recurrence, chiefly in this country, in which the London death-rate rose in the worst week to 46·0, there being 506 deaths from influenza, 1,035 from bronchitis, and 317 from pneumonia. In Brighton in the worst week the death-rate was 60·9, in Portsmouth 57, in Croydon 54·2.

The epidemic of 1893-94 was mainly localised to Northern and Central Europe, and presented no strikingly new features. Since then, although in a minor degree we have often had influenza with us, true or so-called, there has been no major outbreak until the present great pandemic, which has so rapidly swept over the world.

With the discovery of the influenza bacillus by Pfeiffer in 1892, the causation of the disease was definitely settled, or appeared to be so. The question has not been re-opened, as far as I am aware, until the severity of the present outbreak raised again the question of new features in the disease, and caused many to ask whether there might not be some other agency at work than the Pfeiffer organism. That this idea of newness or of increased virulence is not justified I have tried to show in this imperfect summary, in which we have seen that all the most striking symptoms of the present influenza have also appeared in the symptomatology of past outbreaks, and that the present death-rates, high as they are, have been equalled and even over-topped in the past. In the worst week of the epidemic still with us, the death-rate here in Glasgow was at the rate of 41 per thousand; compare that with the rate of 70·5 in Sheffield or of 60·2 in Paris in 1890-91, or with the rate of 73 in St. Georges-in-the-East in 1847, or with the *Gentleman's Magazine's* account of the London epidemic of 1837, and you will see that the notion of increased severity is unsupported by any historical evidence. What influenza has been in history it still is, and the chief mystery about it now is how the doctrine of its contagiousness was for so long a time so vigorously resisted. It may be worth while to spend the few minutes left to us in ascertaining how this came about.

The most striking epidemiological features of the disease are its wide diffusion, the rapidity of its spread, the apparent simultaneity with which it attacks large sections of a population, its disregard of differences of race or of climate, and its contempt of sanitary improvement. In the earlier ages of our records a disease locally widespread would easily be looked upon as universal, and a universal epidemic attacking its victims simultaneously was by the monastic chroniclers readily attributed to a direct visitation of God. We have seen that even in the eighteenth century the biographer of Peden considered the disease a punishment for our sinful union with the English. As with the spread of scientific observation and investigation the idea of such direct interposition slowly died out, it came equally slowly to be replaced by a belief in natural causes. The science or pseudo-science of astrology may be considered as, in a sense at least, a first step in this direction, and it is not surprising that for long the influence of comets and meteors was held to have something to do with influenza. Willis, indeed, speaks of its onset, as you will remember, "as if sent by a blast of the stars." But comets and meteors appeared with and without epidemics; and the next step was to see whether atmospheric conditions or disturbances of the soil might not have some more regular connection. The wide spread and the simultaneous attack suggested atmospheric influences, and hence for many a century the meteorological disturbance theory held the field; in one form or another it was advocated right up to 1893. The doctrine of "epidemic constitutions," according to which particular states of climate and of atmosphere were supposed to indicate the form of epidemic disease likely to prevail, was in its favour. As observations accumulated, however, influenza was observed to occur with every state of the weather, at every season of the year, with every variety of temperature and of wind. It was necessary to seek some less obvious association, and some—Boyle, the great physicist, among them, and Noah Webster in America—found it in earthquakes, which by vast disturbances of the soil liberated a miasma capable of being rapidly transported to great distances by atmospheric currents. If not directly due to earthquakes, for it could be readily shown when enough evidence was collected that the connection between these and influenza was of the loosest kind, then at least telluric emanations of some

vague kind were by others held to be at fault, Huxham in the eighteenth century attributing the disease to some "caustic substance" in the air. Even in the nineteenth century Prout suggested emanations of seleniuretted hydrogen.

Yet, while one or other of these more or less fantastic speculations held the field with the majority, it could not fail to be noticed in course of time by the more observant that the disease was not everywhere simultaneous, that it progressed with some regularity from country to country, and even from town to town. Horace Walpole, as we have seen, says in 1743, "the last ships have brought over all your epidemic distempers." The importation from abroad was bound to strike physicians as well as laymen, and it is to the credit of English medicine that the contagiousness of influenza was first definitely proved by English observers in the collective investigations of 1775 and 1782. It had been suspected earlier. Baker, for instance, writing of the epidemic of 1762, asks how if the disease was aerogenic, "persons who resided near to each other did not sicken at nearly the same time," and notes that it first appeared in London "and that, in many towns, those who were first affected had recently arrived from the metropolis." In 1775 many believed in contagion, and Campbell of Lancaster, one of the collective inquirers, traced the progress of influenza from London to the north, showing that Liverpool was attacked within three weeks after London, that it extended from Liverpool to Lancaster, previously free of it, within a few days, and that thence it invaded Kirkby Lonsdale and Kirkby Steven, smaller towns about fourteen miles from Lancaster, also previously free of the disease, after a definite though short interval. Gregory, it may be remembered, also noted the steady progress of this epidemic from the continent along the lines of travel. The collective investigations of the epidemic of 1782, conducted by a Society for promoting Medical Knowledge and by a committee of the College of Physicians, proved the matter beyond dispute. Edward Gray, an M.D. and F.R.S., presided over the former enquiry, which showed among other pieces of evidence that the disease was brought to Aberdeen by travellers from Edinburgh; that three doctors from Sandwich contracted it in London, and on their return gave it to their families, by whom it was spread throughout the town, which it had not hitherto

attacked: that country districts and villages near a town where it prevailed might quite escape it, but that wherever one in a family took it the rest were liable to suffer; and that it reached Shields from London on ships of which the crews had been affected. Similar evidence was led in the College of Physicians Report, which cites cases where the healthy crews of ships arriving from the West Indies were attacked by influenza shortly after they reached Gravesend. Hamilton, of St. Albans, gave numerous instances of its spread by contagion, and showed that it reached his town through a sergeant of Grenadiers who had been to London "on furlow," and had caught it there. Haygarth, of Chester, showed that it was brought to Chester from London; drew up a table indicating the dates of its spread to the neighbouring towns: demonstrated for most of them that the first cases had entered from previously infected districts: pointed out its independence of climate, season, or prevailing wind: and showed that it could not be propagated like sound in waves through the atmosphere with London as a centre, for if so it must have infected the whole island in about an hour, and that it could not spread locally by a local contamination of the atmosphere from the first infected patient, as in that case all the local inhabitants must have been affected almost simultaneously. No hypothesis but contagion remained, and Haygarth summed up thus in its favour:—"Many facts above related manifestly prove the truth of this conclusion. At Chester and most of the towns which surround this city I had the good fortune to discover the individual person who brought it into each place previous to the general seizure of the inhabitants. The intercourse is greater from the metropolis to Chester than to the other towns in its neighbourhood. Again, more people go from Chester to the adjacent market towns than to the villages and scattered houses which surround them. The influenza spread exactly in this order of time from the metropolis to Chester, to the neighbouring towns, and lastly to the villages."

The proof was complete, although many still ignored it, and clung to the older theory of influenza *ex aere*. The chief argument they had was from the occurrence of influenza at sea, and the two crucial instances were the outbreaks on the fleets of Admiral Kempenfeldt and Lord Howe. Kempenfeldt's fleet left Spithead on 2nd May, 1782. Influenza broke out on the

Goliath on 29th May and on other ships thereafter, affecting the crews so severely that the fleet had to return to port in the middle of June, having held no communication with the shore since its departure. The facts are similar in the case of Lord Howe's fleet, which sailed for the Dutch coast on 6th May, was affected towards the end of May, and returned to Portsmouth in the second week of June. But influenza was prevalent in Portsmouth when the fleets left; carriers might well be aboard them and even ambulatory cases, who, since malingering was severely punished in those days, would not be likely to report sick. The possibility of contagion is not excluded, such cases forming apparent and not real exceptions. Yet on this and similar evidence the aerogenic theory still found many adherents, and persisted till the demonstration of the bacillus in 1892. Hirsch in 1880 was a strong anti-contagionist; many eminent continental authorities held similar views; even Creighton apparently believed in a telluric theory; and Sisley in 1891 had to restate the whole argument, with many modern instances.

Finally, in connection with the present epidemic, although our historical survey has shown us that the idea of newness is not justified by anything in its symptoms, a certain amount of evidence for a filter-passing virus has been adduced. Nicolle and Lebailly have injected filtered bronchial secretion subcutaneously in certain volunteers, the first of whom suffered a typical attack of influenza, and the second a slight attack. Other volunteers, in whom intravenous injections were made, suffered no ill effects. The evidence does not appear conclusive; it is meagre in quantity, and we have in opposition to it the *Report on the Influenza Epidemic in the British Armies in France*, published in the *British Medical Journal* of 9th November, 1918. From this it appears that the *B. influenzæ*, although in many cases difficult to demonstrate in the first few days of the disease, is much more easily recovered from cases in which there is definite respiratory catarrh with muco-purulent secretion; that it is generally easily obtainable, and often in almost pure culture, in the sputum of cases of tracheitis, bronchitis, and broncho-pneumonia; that it has been recovered from the blood in a few of the severe cases during an epidemic; and that it commonly occurs in the lesions of those cases which succumb to complications, such as pneumonia and meningitis.

On bacteriological as well as on clinical and historical evidence, I think we are entitled to conclude that the present epidemic visitation is not a "newe acquayntance," but our ancient enemy, whose features, from long absence, have merely become a little unfamiliar.

REFERENCES.

I have to acknowledge indebtedness to many authorities and in so many places that a statement of the source of each quotation would overburden the text. I have been chiefly indebted to *Creighton's History of Epidemics in Britain*, Hirsch's *Geographical and Historical Pathology*, and Sisley's *Epidemic Influenza* (London: Longmans, Green & Co., 1891). There is an excellent abstract of the epidemiology in Finkler's monograph on influenza in the *Twentieth Century Practice of Medicine;* and Hopkirk's *Influenza* (Walter Scott Publishing Co., 1913) contains a very clear *résumé* of the history, and a full statement of the distribution of the various epidemics. For a study of the epidemic of 1889-90 the report of Dr. Parsons, presented to Parliament by the Local Government Board in 1891, is indispensable.

REMARKS ON MORO'S PERCUTANEOUS INUNCTION TEST, AND VON PIRQUET'S CUTI-REACTION TEST: WITH CASES IN WHICH THEY WERE APPLIED.*

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(*Concluded from* p. 331, vol. xc.)

I shall now submit a series of cases in which Von Pirquet's test was applied.

Group of four cases with T.B.—Von Pirquet positive.

Case 1.—A. K., æt. 38. Had hip-joint disease in childhood. (He is now lame). Had pneumonia in November, 1909 (right side). Complaining of cough and spit, principally in morning. Has been losing weight of late. Weakness and breathlessness. Tubular breathing above right clavicle and some crepitant or crackling râles made out below right clavicle. Some ill-defined râles heard over both scapulæ. T.B. medical certificate. Examination of sputum Glasgow Public Health Laboratory (specimen received 9th January). Result positive (very few).

10th January, 1911.—Von Pirquet.

11th January.—Red patches at seat of inoculation (no "control").

12th January.—Red patches at seat of inoculation. There seems to be enlargement but no areola. There seems to be a thickening or elevation of the skin, especially in one. In this case there seems to be a reaction. This seems to be the only case out of the eight which has given a *definite* reaction with Von Pirquet's test.

(Four Von Pirquets were down on the 10th and four on the 11th January. These constitute the group of eight referred to).

Case 2.—T. V., æt. 35. Had influenza. Complaining of cough and spit: shortness of breath sometimes. Patient suffers from

dyspepsia and has done so for some time. In right supra-clavicular a *dull* click (click is not the word to define it). Harsh inspiration and rhonchus right base. T.B. positive.

21st March, 1912.—Von Pirquet's test applied at two points on right arm and control on two points on left arm.

22nd March.—Result positive. Some raising and tumefaction at site of inoculations.

Case 3.—D. M., æt. 33. Had "rheumatics" when a boy. Complaining of cough, slight, in morning. Spit little. Hæmorrhage about a month ago, a "tick in spit." Shortness of breath on exertion. Sweating at night. Tubular breathing left supra-clavicular, and whispering pectoriloquy. Hard crackling crepitation left front. T.B. positive.

21st March, 1913.—Von Pirquet's test applied at two points on right arm and control at two points on left arm.

22nd March.—Result positive, slight.

Case 4.—D. E., æt. 39. Practically no cough nor spit, neither weakness nor shortness of breath. Was in Bellefield Sanatorium four years ago. His own doctor and Dr. Scott said there was friction at the top of his left lung. On 12th July noticed a slight staining—the amount of blood small. Above and below the left clavicle is heard a râle which may be indicative of friction. T.B.

8th October, 1912.—I applied Von Pirquet's test and control to-day.

9th October.—On looking at the arms to-day I find a distinct difference of appearance between the two at the site of inoculation. On the left arm the two spots are such as might be expected from the mechanical irritation of the rasp, and on the right arm there is a different appearance, namely, areas of redness at the site of inoculation. The difference is too striking to be overlooked, and the result must be regarded as a positive reaction.

These four cases have T.B. noted, and positive reaction following Von Pirquet's test.

Three cases which have T.B. noted; Von Pirquet failure, or, at any rate, not satisfactory. (In one T.B. on medical certificate. Report from G.P.H. Laboratory.)

Case 1.—J. M'F., æt. 26. Cough and spit; hill climbing and going upstairs short of breath; lost some weight. Breathing somewhat harsh in left front. Some coarse crepitation left lateral region. Some coarse moist râles made out in left base, and the respiratory murmur seems deficient. Inspiration on right base somewhat loud and harsh. T.B. medical certificate.

11th January, 1910.—Von Pirquet. Two drops of tuberculin scraped in on left arm. Two drops of simple glycerine scraped into right arm as "control."

12th January.—One of the sites presents a reddish tinge with a little tiny papule on it, the other a reddish mark. The effects are so slight as not to be worth notice.

Case 2.—D. S., æt. 38. Had a slight touch of pleurisy about eight years ago (left). Complaining of a little cough and spit; little shortness of breath; has lost weight. Expiration harsh right supra-clavicular. Breathing seems somewhat tubular in character left supra-clavicular. On returning to examine the right supra-clavicular I think the breathing may be described as somewhat tubular in character, and a coarse crackling râle was made out. A few T.B. medical certificate.

11th January, 1910.—Von Pirquet. Tuberculin on left arm and glycerine (as "control") on right. The second drops of tuberculin perhaps somewhat scanty.

12th January.—The sites of inoculation are red—more marked than the site of "control."

Case 3.—C. P., æt. 32. Cough and spit. Weakness. About six weeks ago had spitting of blood. Breathing somewhat tubular right supra-clavicular; below right clavicle breathing tubular in character. Breathing of tubular character left supra-clavicular, and below left clavicle tubular in character. Breathing tubular in character left supra-spinous. T.B. medical certificate. Examination for T.B., G.P.H. Laboratory, specimen received 2nd February. Result negative.

11th January, 1910.—Von Pirquet. Inoculated two spots on

left arm. Two spots scratched on right arm with simple glycerine "control."

12th January.—The sites of inoculation are red spots—no areola. The sites of control red tinted—one of them slight.

In the foregoing three cases we have T.B. noted, so that the diagnosis is established. In one of them there is T.B. marked on medical certificate, and later a negative report from the Glasgow Public Health Laboratory. The results of the Von Pirquet test are:—In one "so slight as not to be worth notice;" in another, "the sites of inoculation are red—more marked than the site of 'control'"; in the third, "the sites of inoculation are red spots—no areola." I think these may be regarded as failures—at any rate they were not pronounced or characteristic reactions.

Case T.B. Negative—Von Pirquet—say negative.

J. W., æt. 33. No cough. Has spit. Has had hæmorrhage darkish in colour. Has some shortness of breath on exertion. A degree of dulness on right front. Some crackling râles heard over left scapula. Sputum twice examined but "negative" report.

10th January, 1911.—Von Pirquet.

11th January.—Red patches at the two seats of inoculation (no "control").

12th January.—There are two reddish spots at seats of inoculation; but there is no evidence of action going on.

In the following four cases the question of T.B. is an open one. In two of them examination for T.B. was not made, in another "no sputum," and in the fourth blank.

Von Pirquet's test was positive in one, in another we may perhaps say slight, and in the other two apparently failure. Of the two cases of failure, one furnished distinct evidence of pulmonary mischief on physical examination: in the other auscultation did not seem to yield much result. In the slight case there did not seem much to find in the chest. In the distinctly positive case there was harsh breathing and rhonchus heard on right side of chest, and the V.R. was markedly louder on right than on left front.

Case 1.—J. W. H., æt. 27. Cough and spit in the morning. Breathing somewhat tubular in right front, particularly under the clavicle. Some crackling râles made out in left supra-clavicular. Some coarse crepitant râles below left clavicle, but not satisfactorily made out. Coarse crepitation over left scapula. Some râles made out below left scapula. T.B. not examined.

10th January, 1911.—Von Pirquet.

11th January.—Slight reddish marks at seats of inoculation (no "control").

12th January.—There are two little reddish ticks about the site of one inoculation, and a wee dull tick at the other.

Case 2.—J. P., æt. 50. Has some cough and spit; slightly short of breath; has been losing weight. He only sweats at night. The right clavicle is remarkably prominent (?) from shrinking of right apex. Auscultation does not seem to yield much result in this case, but some waviness of breathing on left side may be noted. In the right supra-clavicular the expiration is of a somewhat wavy or interrupted character, and has also something of the tubular quality. Sputum not examined for T.B.

10th January, 1911.—Von Pirquet.

11th January.—Red spots at the seats of inoculation (no "control").

12th January.—Darkish red spots on site of inoculation. No areola.

Case 3.—J. A., æt. 21. Very little spit; had weakness; pain in left side of chest. Breathing somewhat tubular in character right supra-clavicular. Inspiration perhaps rather harsh right base; and once a sibilant râle was heard in right back. There really does not seem to be very much to be made out in the chest. "No sputum" medical certificate.

11th January, 1911.—Von Pirquet. Two drops of tuberculin on left arm scraped in. Two drops of simple glycerine scraped into right arm as "control."

12th January.—Reddish spots on the site of inoculation. The sites of "control" show some indication, one of them very slight. The inoculations are more pronounced in appearance. But nothing striking.

Case 4.—J. C., æt. 38. A number of years ago had pleurisy or pneumonia. Complaining of cough and spit, slight. Dyspnœa slight. Breathing loud and harsh in right front compared left. Rhonchus heard on right side of chest. V.R. markedly louder on right than on left front. T.B. (?) blank.

21st March, 1913.—Von Pirquet's test applied to two points on right arm and control to two points on left arm.

22nd March.—Result positive. Tumefaction at sites of inoculation.

Quanti-Pirquet tests.—I shall now review the results of the quanti-Pirquet tests: there are nine of them.

Case 1.—P. H., æt. 19. Has had cough and spit, but now only occasional cough; occasional spit not so much as cough. Some crepitation caught at left base. T.B. (?). Blank in medical certificate.

25th April, 1913.—Quanti-Pirquet test. Result positive, but gradation not very well pronounced.

Case 2.—W. L., æt. 31. Had pleurisy (left). Noticed blood in spit two or three times. Cough. Spit moderate—grey mucus. Râle of clicking and crackling character heard in left supra-clavicular. T.B. (?). Blank in medical certificate.

25th April, 1913.—Quanti-Pirquet test.

26th April.—Result positive. There is marked gradation from No. 1, which is next to the hand, to No. 4, which is next to the elbow—the result being more pronounced as we ascend the arm. The result is quite striking and unmistakable.

Case 3.—R. L., æt. 22.—Did not make much of the physical examination of the chest, and, on account of the blood spitting, I did not think it wise to prolong the examination. Bacteriological report positive.

27th May, 1913.—Applied quanti-Pirquet test to patient's forearm, at four points.

28th May.—Result positive. The penultimate best marked.

29th May.—The reaction is fairly well marked at the three upper sites: the lowest, *i.e.*, the weakest, may be called an abortion.

Case 4.—J. E., æt. 48. Cough not severe. Spit. Dyspnœa going upstairs. Loss of weight. There seems to be a degree of dulness in right supra-clavicular. In right supra-clavicular some râles caught but not well made out, and breathing somewhat tubular in character. Râle of crepitant character right front. Bacteriological report positive.

16th June, 1913.—Applied quanti-Pirquet (applying raspatory *through* the fluid).

17th June.—May be pronounced positive but not well marked. It is the three upper spots which show, but they are not very satisfactory.

Case 5.—M. S., æt. 33. There seems to be a degree of contraction left side of chest. In left supra-clavicular creaking rhonchus on deep breathing and a râle of a coarse ill-defined character. Crepitant râle left apex posteriorly. Creaking and crepitant râle; and somewhat tubular breathing left interscapular. Bacteriological report positive.

16th June, 1913.—Applied quanti-Pirquet (used raspatory first, then placed drops on the abrasions).

17th June.—Result positive but the first (lowest) is very slight, the second better marked but slight, the third merely an indication, the fourth (highest, strongest) pretty well marked.

Case 6.—J. B. R., æt. 27. Crepitant râle right supra-clavicular. Inspiration almost "whistling" in left base. Bacteriological report, "a few."

16th June, 1913.—Applied quanti-Pirquet (making use of raspatory first, then applying the drops).

17th June.—Result positive. The two lower insignificant, the two upper well marked as to red area, and they show some elevation and tumefaction.

Case 7.—W. G., æt. 25. There seems to be some dulness on percussion left supra-clavicular. Some râles caught in left supra-clavicular, louder and better heard below clavicle and down left front. V.R. louder in left than right front. Bacteriological report positive.

16th June, 1913.—Applied quanti-Pirquet (using the raspatory dipped into each drop of fluid).

17th June.—Result positive. The spots show gradation in size from below upwards.

Case 8.—W. L., æt. 18.—Râle heard over left scapula which I was at first inclined to describe as coarse crepitant, but on further listening felt inclined to regard as pleuritic friction. Wavy breathing left base. Bacteriological report negative.

29th April, 1913.—Applied quanti-Pirquet test to right forearm.

30th April.—Result positive, but the gradation from 1 to 4 is not perfect, No. 2 being better developed than No. 3.

Case 9.—J. T., æt. 36. On posterior surface of body ugly papular eruption with tendency to pustulation. Had a "slight touch of pneumonia" about six years ago. Underneath right clavicle tendency to tubular breathing. Bacteriological report positive (18th February, 1913).

29th April.—Applied quanti-Pirquet test to right forearm, but there was no fluid to apply to the lowest puncture (No. 1).

30th April.—No. 1 is insignificant (naturally, since there was no fluid to apply to the lowest puncture). Nos. 2 and 3 poor, particularly No. 3, but No. 4 shows a marked development. Result positive.

It is to be noted that I did not carry out the full scheme of quanti-Pirquet testing—*i.e.*, I did not make measurements to ascertain the degree of tuberculin sensitiveness.

Lastly, I shall present three cases in which both Moro and Von Pirquet tests were applied:—

Case 1.—G. H., æt. 41. About eight years ago had a tumour in the stomach which was cut out (he thinks it was "Dr. Caird" —it was in Edinburgh Infirmary). Complaining of cough and spit, and shortness of breath: has been losing weight this last year or two. Very poor appetite. Tubular breathing right supra-clavicular. Râle of a somewhat crepitant character caught in right lateral. At the right base respiration is not so well heard as at the left, and there is some "râle" heard. It is pretty evident that the right lung is diseased, but the question may be raised—is it tubercular or malignant disease? The

sputum was examined at the Glasgow Public Health Laboratory —result negative.

6th September, 1912.—Von Pirquet's test. Put two drops of tuberculin on right arm and used raspatory. Put two drops of "control" on left arm and used raspatory.

7th September.—There does not seem to be any striking difference between the appearance of the spots on the right arm and those on the left.

8th September.—Negative.

17th September.—Applied Moro's test (inunction of tuberculin ointment).

18th September.—A little eruption on the site of inunction.

20th September.—Three conspicuous papules and a number of small ones. May be taken as a positive reaction.

It is evident that the diagnosis in this case may be open to question. But accepting the Moro test as positive, the case may be passed as tubercular.

Case 2.—R. W. M'K., æt. 32. About three or four years ago had enteric fever (Ruchill). Had cough and spit, but now the spit is gone and there is little cough. Vomited blood at Glasgow Fair. Doctor said it was a blood-vessel burst with strain of cough. Seems to be some flattening on left side of chest, but patient has good physique. In the left infra-clavicular there is a râle caught immediately after coughing, of a sort of crepitant character, but it is evanescent. Bacteriological report—"No."

3rd December, 1912.—Moro's tuberculin inunction test applied to anterior surface of body.

4th December.—Nothing noteworthy to be seen.

6th December.—Nothing definite. Say negative.

16th December.—Applied Von Pirquet's test.

17th December.—Not much to be said between inoculation and control. Say negative.

The question of diagnosis arises—is the case to be accepted as one of pulmonary tuberculosis?

Pro.—There is a history of vomiting blood at Glasgow Fair—doctor said due to bursting of blood-vessel with strain of cough. We may suppose it to have been a pulmonary hæmorrhage. Had cough and spit. Dr. Macgregor notes in his certificate, "Creps left upper lobe." When he came into my hands I thought

there was some flattening on left side of chest, and "In the left infra-clavicular there is a râle caught immediately after coughing, of a sort of crepitant character, but it is evanescent."

Con.—No T.B. found. Moro's test seemed to give negative result. Also Von Pirquet's. I think, on the whole, I am justified in setting this case down as one of pulmonary tuberculosis (incipient).

Case 3.—R. B., æt. 37. *Note.*—This case was seen in the Dispensary by Dr. Scott and myself. We could not certify it as phthisis. But we thought it better on the whole that he should be sent to Bellefield. Complaining of cough and spit; sometimes a little weakness; lost weight. Wavy breathing right lateral and in left lateral. But I cannot say that I find evidence of phthisis. Bacteriological report—"No, examined twice and none found."

3rd December, 1912.—Moro's test applied.

4th December.—Not much to be seen.

6th December.—Really nothing noteworthy. Say negative.

16th December.—Applied Von Pirquet's test.

17th December.—On examining the arms to-day I find a marked difference between the points of inoculation on the right arm and the points of control on the left. But one could scarcely pronounce it a satisfactory reaction. There is a degree of reddening and elevation at the site of inoculation. Result, say "slight" or "doubtful." Case to be classed as "doubtful" as regards diagnosis.

In this group we have—

1. A case where examination of the sputum at G.P.H. Laboratory gave negative result. Examination of the chest revealed signs of pulmonary mischief, with a doubt as to whether that mischief was tubercular or malignant; and where Von Pirquet's test gave negative result, and Moro's test a result which "May be taken as a positive reaction."

2. A case in which the bacteriological report gives "No" as the reply, with some evidence of pulmonary mischief, and in which Moro's test seemed to give negative result: also Von Pirquet's.

3. A case in which there were some suspicious symptoms, but

in which neither Dr. Scott nor I could say that we found evidence of phthisis, and in which Moro's test gave "really nothing noteworthy—say negative;" and Von Pirquet's test gave result, say "slight" or "doubtful."

I have now submitted to you the record of my clinical experience with Moro and Von Pirquet's tests. And the results of these tests at the first glance present a variety, and sometimes an apparent inconsistency, which is somewhat disconcerting.

Further consideration, however, helps to explain the variations, and to reconcile some at least of the apparent contradictions. When we apply these tests to cases in which T.B. have been found, and cases in which there is evidence of phthisis derived from physical examination of the chest, one may be at first surprised to get negative results. But if the cases are advanced, and with pyrexia, we need not be surprised, for it is known that such cases fail to give a reaction. Slight or early cases give the best response.

When we get a positive reaction in cases where the bacteriological report is negative, it is to be borne in mind that the failure to detect T.B. is not a conclusive proof that the patient is free from tubercle. And the same applies to a negative result from auscultation and percussion of the chest. Even a skilled and experienced physician may fail to detect the lesion in a tuberculous lung.

When we get a positive reaction we may conclude that the patient is affected with tubercle, but it is not necessarily active; it may be latent tubercle.

The impression left on my mind by the application of these tests is that they are, on the whole, helpful aids to diagnosis. And these cutaneous tests have the advantage that we may use them without fear of doing harm.

Obituary.

ON SERVICE.

Captain JULES STEINMETZ MARTIN, M.B., Ch.B.Glasg.,
Royal Army Medical Corps.

We regret to announce that Captain Jules Steinmetz Martin, second son of Mr. Martin, 3 Glenavon Terrace, Glasgow, died at Port Amelia, East Africa, of influenza and pneumonia, on 15th December. Captain Martin graduated at Glasgow University in 1917.

MALCOLM BLACK, M.D. Glasg.,
Glasgow.

Dr. Black's professional life-work in the Townhead of Glasgow was mainly associated with the Maternity Hospital, and his appointment of poor law medical officer for the district. His long career in midwifery started in the seventies, when he was student and afterwards outdoor assistant at the old Hospital in Rottenrow, which consisted of an antiquated dwelling-house overcrowded with 20 beds. Black had his earliest experience of outbreaks of puerperal fever there. The frequent occurrence of septic cases led to its demolition and the erection of an up-to-date Hospital, which was opened in 1881, at the corner of Rottenrow and Portland Brae. Dr. Black was never resident in hospital while he was in office, but he resided in the vicinity, and all along he had been within call when needed. He held at his death the distinguished position of consulting physician to the Maternity Hospital, the great extensions and equipment being completed ten years ago which have made the institution the best of its kind in this country.

Malcolm Black early earned a well-deserved reputation as an

expert in practical obstetrics which he maintained up to the last. Students, practitioners, and nurses always found him ready to assist in a difficult case. Without demur or any excuse, which might have been justified when summoned in the early hours of the morning in bad weather, he would pick up his midwifery bag and proceed to some humble home in Townhead. It was notable that Black was not in the habit of expressing any serious concern regarding the nature of the case to which he was called. He was equally unconcerned about any remuneration he might receive. He does not seem to have thought it worth while to send out accounts.

Although Black's retiring and almost bashful disposition rendered him a comparative failure as a teacher by lectures, he was popular with the young resident doctors in the Maternity Hospital, and he occasionally ventured into their sing-songs, and in the course of the evening sang "The Deil's awa wi' the Exciseman." He was fond of music, and used to hum tunes all the time he was conducting a midwifery case. His early acquaintance with septic outbreaks in the original Rottenrow Hospital led Black to be meticulously careful in his obstetrical work, and he published in this *Journal* an important pamphlet on "Aseptic Midwifery." Beyond that little monograph he only contributed to the pages of the *Glasgow Medical Journal* notes on work done in the Maternity.

Dr. Black laboured among the poor of Townhead as district medical officer for nearly forty years, one of his duties being to examine and report upon homeless cases or "ins and outs," as they are called. He found it advisable in the course of auscultation to employ a large wooden stethoscope measuring half a yard long. He was sometimes a little irascible with the unwashed members of his *clientéle*, and could be heard in his thin, high-pitched voice soundly rating them for their delinquencies, but he was kindly and sympathetic with them all.

Not only did Black apply himself closely and at all times to the faithful discharge of his own duties but he was ever available to act for a parochial colleague or fellow practitioner in the event of illness or absence on holiday. During the few closing years of his life he was working harder than ever, acting for several doctors, doing their parish and panel work while they were on active service in the Great War.

The orbit of Dr. Malcolm Black's work in the ancient Townhead passed through all the medical institutions, past and present, situated within its bounds, namely, the Maternity Hospital in Rottenrow, the old Town's Hospital in Parliamentary Road, the first Corporation Fever Hospital in Kennedy Street, which was used during the building of part of the new Maternity, the Parish Chambers in John Street for homeless paupers, the Lock Hospital situated close beside the Maternity and the former Royal Infirmary, and, finally, the great modern Royal, whose kind ministrations Black most gratefully received during the few months he lay there a victim to malignant disease. He died on 12th December, 1918.

J. E.

JAMES BARRAS, M.D.St. And., J.P.,
Late Medical Officer of Health for Govan.

We regret to note the death of Dr. James Barras, which occurred in London on 24th November. Dr. Barras qualified in medicine in 1860, and received the degree of M.D. at St. Andrews in 1862. In the following year he entered the service of the Govan Parochial Board as medical officer, from which position he retired in 1913, after fifty years' service. It will be remembered that his son, Dr. W. G. Barras, was killed in the explosion on board H.M.S. *Vanguard*, in July, 1917.

JOHN BIERNACKI, M.D.Glasg.

Dr. John Biernacki, whose death occurred on 11th October, graduated at Glasgow University in 1889, and received the degree of M.D. in 1898. As Dr. Biernacki's life-work was done at a distance from Glasgow, we venture to abstract the following from an obituary notice which appeared in the *Lancet* over the well-known initials C. O. H.:—

"Throughout almost the whole of his professional life he was concerned with the study and treatment of the ordinary infectious diseases, and at the date of his death he had been for

some twenty-three years physician-superintendent of the Plaistow Fever Hospital. In the district served by the hospital his name has long commanded public confidence and gratitude, and his immediate colleagues were well aware that in his own department of practice he spoke as a clinical authority of the first order. Had he lived, a wider teaching would probably have been open to him, for he had accumulated many case-records and studies, and he always intended to found on these a systematic exposition of his experiences and conclusions. Something in this direction he did, indeed, accomplish, as may be seen in a lucid chapter on "The Infective Diseases of Temperate Climes" in Dr. Bain's *Text-book of Medical Practice.* But he had much more to say, and he waited for a quieter day in which to say it. Leisure, however, came to him in scanty supply, and he was ever restrained by a disinclination to publish any writing until by repeated review and self-criticism he had at least approached his own somewhat austere standard of worthiness. The artist in some measure hindered the teacher, and medicine is the poorer for the restriction."

CURRENT TOPICS.

APPOINTMENTS.—The following appointments have recently been made:—

Naval Appointment—Temporary Surgeon-Lieutenant to be Surgeon-Lieutenant (permanent list)—M. B. Macleod, M.B., Ch.B. Glasg. (1915).

Army Medical Service—Temporary Captain (acting Major) Herbert K. Wallace, M.D.Glasg. (M.B., 1896), to be acting Lieutenant-Colonel.

Royal Army Medical Corps—Temporary Captain to be acting Major whilst specially employed, R. W. Sutherland, M.B.Glasg. (1909).

Captain (temporary Major) A. A. M'Whan, M.B.Glasg. (1906), to be acting Major whilst specially employed.

Temporary Captains to be acting Majors—C. H. Haddow, M.B.Glasg. (1911); J. J. Gibb, M.B.Glasg. (1912); H. L. Neil, M.B.Glasg. (1911).

Captain J. Vallance, M.B.Glasg. (1914), from Special Reserve to be Captain; Captain J. W. Burton, M.B.Glasg. (1912), from Territorial Force to be Captain.

Temporary Lieutenant R. J. Wilson, M.B.Glasg. (1915), to be temporary Captain.

Supplementary to Regular Units, R.A.M.C.—To be Lieutenants from Glasgow University Contingent, O.T.C.—Wm. Young, M.B.; Hugh Wands, M.B; James Patrick Kilty, M.B.; Archibald Sutherland Strachan, M.B.; James Smith M'Lean Gray, M.B.; Ralph Paterson Smith, M.B., all graduates of 1918.

Territorial Force—Lieutenant-Colonels from Sanitary Service to be Lieutenant-Colonels—A. K. Chalmers, M.D.Glasg. (M.B., 1879); J. R. Kaye, M.B.Glasg. (1880); P. C. Smith, M.D.Glasg. (M.B., 1881).

3rd Scottish General Hospital—Captain (acting Major) J. Patrick, M.B.Glasg. (1893), relinquishes his acting rank and remains seconded. (20th September, 1918.)

Captain J. R. Riddell, 4th Scottish General Hospital, Stobhill, Glasgow, is appointed *X*-Ray Expert in the Scottish Command, with the rank, pay, and allowances of Major to date as from 19th November, 1918.

3rd Scottish General Hospital—Major H. Rutherfurd, M.B., is seconded for duty with a General Hospital.

Honour to a Glasgow Graduate.—The Council of the British Red Cross Society at a meeting held at St. James's Palace, London, on Tuesday, 15th October, 1918, decided that the name of Dr. George Gordon, of New Southgate, London, should be inscribed upon the roll of honourable service for his services to the Society. Queen Alexandra has been graciously pleased to confer upon Dr. Gordon the diploma for honourable service. Dr. Gordon graduated M.B. at Glasgow University in 1889, and for a number of years practised in Ibrox, Glasgow.

M. Poincaré's Message to Glasgow Students.—Principal Sir Donald MacAlister has received the following reply to a message of congratulation on the signing of the armistice sent to President Poincaré, Rector of Glasgow University:—

"My dear Vice-Chancellor,—I thank you very cordially, and I beg of you to also thank the students of our University for the felicitations you kindly conveyed to me. Please congratulate the gallant youth of Glasgow for the great and glorious part they have taken in this long war and in our common victory.—Believe me, dear Sir Donald, always faithfully yours,

"R. Poincaré."

Glasgow University Court.—The Glasgow University Court met on 12th December—Principal Sir Donald MacAlister, K.C.B., presiding. The Secretary, Mr. Alan E. Clapperton, intimated receipt of an Order by the Secretary for Scotland postponing the election of Rector of the University for another year. A letter from President Poincaré, who consequently remains in office for a further period, was also read, in which he stated that he hoped to come to Glasgow ere the fifth term of

office expired. The Principal welcomed Professor Latta on his election as an assessor on the Court to represent the Senate for the next four years. Professor Phillimore was thanked for his services during the past eight years. Intimation was made of the appointment by Glasgow Merchants' House of Dean of Guild Hunter to be a patron of the Adam Smith Chair of Political Economy during his term of office. The communications from the Senate included the approval of Ordinances No. 19 (provision for payments in respect of pensions or allowances for lecturers, assistants, &c.) and No. 20 (foundation of Chair of Mercantile Law). The Principal said that a meeting of the General Council would be held on the 18th. It was very desirable that these ordinances should get a step forward, and he suggested that a special meeting of the Court be held after the meeting of the General Council. This course was agreed to. A statement was made by the Principal in connection with the proposed Supplementary Order regarding privileges to students on war service, whereby it is proposed to modify or suspend certain provisions or ordinances relating to courses of studies and examinations. At last meeting a proposal was made to institute post-graduation courses for medical graduates. The Senate, after considering a report by the Faculty of Medicine, stated that they would welcome a well-considered scheme for the organisation of such courses, and that as there existed a committee representing all sections of the Glasgow Medical School, which was instituted in 1914, on the suggestion of the Faculty of Medicine they were taking steps to get into touch with the body as a preliminary to a full discussion. The action was approved. The Principal stated that the Rector was about to send them a series of those very artistic and beautiful posters used throughout France to advertise the various loans. When these arrived they hoped to have an opportunity of displaying them.

The two draft ordinances of the University Court were considered at an adjourned meeting of the General Council of the University held on 18th December.

The report of the Business Committee with regard to Draft Ordinance No. 19 (provision for payments in respect of pensions or allowances for lecturers, assistants, &c.) states that the University Court have had before them the question of a pension scheme for members of the staff other than professors,

and have had their attention specially directed to the "Federated Superannuation System for Universities" which has been in operation in England for about five years. The main features of the system are as follows:—The beneficiary chooses an assurance society from seven selected societies, of which three are Scottish, and a policy is taken out in his name in respect of an annual premium amounting to 10 per cent of his salary—this premium being generally paid in equal shares by the employing institution and the beneficiary. Whenever the initial salary is increased by an amount of £25 or more, whether the increase takes place in the same institution or on removal to another, a supplementary policy is taken out proportionate to the increase. The policies mature at a stated age, generally 60 years. The nature of the benefit guaranteed to the beneficiary is left to his choice from amongst the various types of policy offered by the selected societies, the options at his disposal including an annuity on retiral, a single payment at death or retiral, and various combinations of such alternatives. In the event of the federated system being adopted by the University Court, the Carnegie Trust have gifted to the University a capital fund from which the University's share of the premiums is to be paid in the case of the beneficiaries belonging to those departments to which the funds of the Trust are applicable—those in the Faculties of Science and Medicine, and the departments of history, economics, English literature, and modern languages. This gift is conditional on the making of similar provision by the Court for the lecturers and assistants in the departments of ancient languages, philosophy, &c., to which the Carnegie Fund cannot be applied. The object of the Ordinance now drafted is to empower the Court to rank such provision "pari passu" with the ordinary remuneration of other lecturers and assistants. The acceptance of the Carnegie gift by the University, the committee report, seems to involve the establishment of a contributory pension scheme for the lecturers and assistants. There will then be two different pension schemes in operation, one for professors and one for the rest of the staff, and the non-contributory scheme will apply to those who have the larger salaries. The committee welcome the Ordinance, and recommend that in instituting such a superannuation scheme the Court should take into special consideration the claims of

members of the staff who have already been many years in the service of the University.

The Business Committee recommend approval of Draft Ordinance No. 20 (foundation of Chair of Mercantile Law). The income of the Chair is to be £600, and is provided from three sources—a bequest of the late John Maclachlan, Glasgow, the Carnegie Trust, and the Robert and James Dick of Greenhead Fund. There is no age limit fixed for the retirement of the professor. The committee think it is a matter of congratulation that the Lectureship in Mercantile Law founded in 1894 should at length have reached the dignity of a Chair.

Both Ordinances were approved by the meeting.

Discharge of Students.—Glasgow University authorities are issuing the following memorandum to all students or intending students:—Every student or intending student at present on war service who desires to be discharged in order to resume or begin his studies at this University shall apply in the first instance to the commanding officer of his unit for the requisite Army form of application—Z 15—which he must fill up and return to his commanding officer. He must then write to the Registrar of the University, giving the following particulars:—Name (in block letters, surname first), rank, regiment (stating battalion), present military address (if known), home address (if known). Along with these particulars he must also state any classes, with dates, he has already attended in his University curriculum, and the degree or degrees for which he is studying; or if he has not yet entered the University, or proposes to begin study in a new Faculty, he must supply full information regarding preliminary examination or equivalent passes (with subjects and grade), the course of study he means to follow, and the probable period of its duration. The University will then lodge an official form, embodying these particulars, with the proper authorities, in order that it may be considered along with the student's own application—Z 15. The applicant must then await the decision of the Government Board appointed for this purpose.

Increase in Number of Medical Students at Glasgow.—The position arising out of the large increase in the number of

medical students was considered at a meeting of Glasgow University Court on 7th November, when it was stated that the Faculty of Medicine had been invited by the Senate to make practical suggestions on the question. Principal Sir Donald MacAlister, who presided, referred to the pressure on the accommodation and the medical teaching staff. He gave figures showing that there had been a steady increase in the number of freshmen medical students from 1911, and said that while there was a decrease in 1916, following on the Military Service Act, the number jumped up by 50 per cent this year—from 177 in 1917 to 262. The sudden rise took place in the summer session. He said there might be temporary reasons for that. As they were aware, there was an Army Council Instruction exempting first year students from being called up. It was true that those who joined in April could not profit by that instruction, but it took a good deal to convince them of that fact, and they flocked in. While they might not have such a jump next year, the effect of the increase this year would be felt for four or five years, and that was what they had to face. Professor Noël Paton said he desired to bring before the Court the extreme gravity of the position. In addition to the figures given by the Principal, there was an increase in women students. The total number of new medical students had risen from 142 in 1912 to 393 in the present year. Their accommodation was planned for a limited number. In medical teaching there must be the personal influence of the teacher on the student. The Glasgow school of medicine should go ahead and be the best in the country. They should regard the increase as the natural increment of the school, and the way to face the position was to decide upon raising the standard of the preliminary examination, and also to remit to the Medical Faculty to prepare a scheme for the augmentation and reorganisation of the teaching staff. It would cost a lot of money. After further discussion the Court decided to remit to the Medical Faculty to bring up practical suggestions on the subject.

Post-graduation Courses.—Dr. Middleton, at the same meeting of the Court, raised the question of post-graduation courses for medical graduates who had been on service, and proposed that a remit be made to the Medical Faculty

to make suggestions. Professor Noël Paton supported the suggestion. The Principal said similar movements were taking place all over the country. Not only for war-worn men but for practitioners at home the need for brushing up from time to time their knowledge and of coming into contact with the newer methods in the laboratory was becoming very urgent. It was agreed to ask the Senate to remit to the Medical Faculty to consider and report.

Glasgow University and the War.—The report of the Business Committee of the General Council of Glasgow University, presented at the half-yearly meeting on 30th October, states that graduates, students, and alumni engaged directly on naval or military service now number 3,363, of whom more than 2,650 hold or have held commissioned rank. The losses have been severe—525 killed or died of wounds and 59 missing or prisoners of war. The number of wounded exceeds 600. To the senior members of the University have been awarded two C.B.'s and three Brevet Colonelcies, one K.C.M.G., and three C.M.G.'s. There are now held by members of the University three V.C.'s, 39 D.S.O.'s, and three Bars to the D.S.O. Last year 120 Military Crosses were noted. This year no fewer than 246 have been intimated, and in several instances additional Bars have been won. Members of the University now hold nine French Croix de Guerre, and five are Chevalier of the Légion d'Honneur, while three have been awarded the Belgian Croix de Guerre. More than 200 have been mentioned in despatches. The University staff is now down to the lowest point in numbers compatible with supplying the necessary instruction for a degree. Engineering, mining, and naval architecture are depleted of their entire staffs, but the courses at the Royal Technical College meet the needs of students during the suspension of the University classes. Over 60 members of the teaching staff and over 60 officials and employees are on service. More than 1,500 cadets have gained commissions from the ranks of the Officers' Training Corps, and of these nearly 1,100 are graduates or students.

The General Medical Council: President's Address.—In his presidential address to the General Medical Council at

its sittings in London, Sir Donald MacAlister, Principal of Glasgow University, said that though the war was in a sense over, its effects remained, and would long continue to be felt by the profession. The strain upon medical men in civil practice, already severe enough, had been increased by the prevalence of epidemic illness. There was good hope that it would speedily be relieved by the release of medical officers from military service at the rate of some hundreds every month. The professional committees in Great Britain, which with the able guidance of members of this Council had so effectively aided the Government in recruiting for the medical services during the war, were co-operating with the authorities in solving the scarcely less difficult problems of demobilisation and re-settlement. In particular it had been arranged that the release of teachers in medical schools and hospitals should have special consideration. The influx of students returned from active service, with a view to the early completion of their professional course, made it urgent that the sadly depleted staffs of skilled instructors should be reinforced without delay.

The census of medical students in progress during last session was completed in June. It showed that the total number in actual attendance on courses of professional instruction during May, 1918, was 7,630, as compared with 7,048 in October, 1917, and with 6,682 in January, 1917. Of the 7,630 students 2,250 were women. The number of first year students was 2,043, as against 1,480 registered in 1913. On the basis of these figures he had suggested to the Minister of National Service that, so far as the immediate requirements for junior students were concerned, it was unnecessary to extend beyond the original term, namely, 31st July, 1913, the instruction conferring exemption from military service on first-year men. The Minister adopted the suggestion.

The Lord President had been moved to forward, for the observations of the Council, the text of a Bill which proposed to establish a Ministry of Health for England and Wales, and a Board of Health for Scotland, for the exercise of powers with respect to health and local government. The Bill had been read a first time in the House of Commons, but would not be further proceeded with until the new Parliament met. Sir Donald suggested that the Council should first consider *in camera* the

manner in which it might with most advantage conduct the discussion of the Bill, with a view to formulating such observations thereon as it might wish to submit to the Lord President. The Bill, it would be found, was rather an enabling than an enacting measure. Certain medical functions of other departments were forthwith transferred to the new authority. Others might be transferred by Order in Council. Time would be given for the public discussion of such Orders before they took effect; and it was obvious that in many cases the terms of the Order might be of cardinal importance for medical science and practice. The Bill as it stood contained little that explicitly affected the Council; though he observed that it was made the duty of the Minister of Health to take steps for the effective carrying out of measures conducive to the health of the people, including "the training of persons engaged in health service." It should, he thought, be made clear whether this phrase would or would not cover the functions exercisable by the Privy Council and the Council in relation to medical and dental education, to public health diplomas, to rules framed by the Central Midwives Boards, and the like. He was advised that it would not; but the Council would no doubt consider the point to be of some importance.

Progress had been made by the English Board of Education with the elaboration of its scheme for a general school examination, to take the place of the multiple examinations in general education with which teachers and scholars had too long been burdened. Dr. Mackay, on behalf of the Education Committee, would report on the subject and offer recommendations for their approval. Meanwhile the four Scottish Universities had received from His Majesty in Council a new Ordinance, which established a common entrance board, empowered to accept the leaving certificates of the Scotch Education Department as the normal qualification for admission to the Universities in all faculties. This would liberate the Faculty of Medicine from the obligation hitherto imposed upon it by Ordinance to accept a lower standard of preliminary education than that required for degrees in arts or science. He was sanguine enough to believe that the so-called "junior" preliminary examinations for students of medicine would cease to be recognised in Scotland before they were extinct elsewhere. The large, and indeed embarrassing

affluence of students much below the age of eighteen who were now entering the medical schools made the change more than ever expedient on educational grounds.

The significant question of training in preventive medicine, raised at the beginning of the last session by Dr. M'Vail, had been considered during the recess by the members of the Education Committee. They would have proposals to submit on the manner in which the inquiry he suggested might best be carried out. That the inquiry was opportune was indicated by many signs of professional concern for its subject-matter. Among them he would mention as worthy of serious attention the remarkable Memorandum on Medical Education in England addressed to the President of the Board of Education by Sir George Newman, K.C.B., its Chief Medical Officer. He therein sets forth in lucid and vigorous English the changes that had gradually been made in the duties and responsibilities of the medical practitioner with reference to public health and public administration, and the grounds for requiring that a corresponding change should be made in the manner and matter of his training for their fulfilment. The Council was charged by law with the responsibility of ensuring that all persons admitted to its Medical Register possess "the requisite knowledge and skill for the efficient practice of their profession." When it was made to appear that "efficient practice" was to be judged by new civic standards, and to be carried on under new conditions demanding other forms of "knowledge and skill" than those that were before "sufficient," it concerned the Council to explore the position and to set forth in its recommendations the nature and extent of the training it deems to be "requisite." The cycle of inspections and visitations, suspended at the outbreak of the great war, must shortly be resumed. It would furnish the Council with valuable data for the final discussion and determination of the question, on which preliminary inquiry is now to be instituted.

Co-operation in Medical Research.—The fourth annual report of the Medical Research Committee, dealing with the year ended 30th September last, has just been issued. The committee draw attention to a feature in the work of the past year which they consider is significant and encouraging for the

future. This has been the continued growth and success of the method of promoting and co-ordinating inquiries by the regular meeting in committee or conference of the workers actually engaged in researches upon various parts of the same subject. The war had given many opportunities for this method of promoting advance to be applied and tested. The method, the committee say, while leading to the ready organisation of "team work" in a subject, had not been found to diminish the independence or value of the work done by individual members. In the formation of several of these special committees the Medical Research Committee had had the advantage of acting jointly with various Government Departments and other bodies with a view to meeting particular administrative needs demanding research work. The committee add that they venture to look forward to progressive developments in this co-operation with the Department of Scientific and Industrial Research.

Victory.—We have been watching for the past few months a series of victories followed by such important results that they may fairly claim to be without parallel in the history of the world. To the ordinary observer in the middle of September peace was still far out of sight. Although the Germans had been checked in their advance on Paris, and were slowly but steadily retreating, the Allies were still only recovering ground that had been lost earlier in the year, and there was every likelihood that we should be compelled to face another winter of trench warfare and to wait patiently until the Americans arrived in such numbers as would ensure the final smashing of the German line. Since the middle of September, however, the march of events has been extremely rapid. On the Macedonian front the French and Serbian troops attacked and broke the Bulgarian line and advanced rapidly northward, whilst the British and Italians kept up constant pressure on each side. The result of this success was the unconditional surrender of Bulgaria at the end of the month. In Palestine at the same time our troops under Allenby broke the Turkish line north of Jaffa and by a series of rapid and daring movements rounded up the entire Turkish army on that field and took Damascus at the beginning of October. Turkey was thus compelled to ask

for an armistice with a view to peace, and this was signed at the end of that month. By this time it had become clear that Germany could give no assistance to her Allies, and these Allies had given up all hope of final success. At this time, too, it was evident that Germany was not only unable to help her Allies but was now unable even to hold the lines she had fortified so strongly and had held so long. Not only was town after town torn from her grasp, but her lines of communication were one after another threatened and cut, while the advance of the French and Americans northward from Verdun made the chances of retreat daily more doubtful. In these circumstances, and in view of the falling away of Turkey and Bulgaria, it is not surprising that Germany and Austria began to recognise that their position was hopeless. The German Government therefore entered into communication with the President of the United States through the Swiss Minister, and indicated their readiness, on behalf of both Germany and Austria, to accept the terms laid down by the President in his speech of 8th January, 1918, and desired him to use his influence with the Allies to arrange an armistice in order to discuss the details with a view to peace. The President, after making it quite clear that any armistice which could be considered would be one which would leave the Allies in a position to enforce any arrangements that may be entered into to make a renewal of hostilities on the part of Germany impossible, and intimating that the nations of the world do not and cannot trust the word of those who have hitherto been the masters of German policy, said in plain language that the Government of the United States cannot deal with any but the veritable representatives of the German people who have been assured of a genuine constitutional standing as the real rulers of Germany. If, he said, it must deal with the military masters and monarchial autocrats of Germany now, or if it is likely to have to deal with them later in regard to the international obligations of the German Empire, it must demand not peace negotiations but surrender. He intimated finally that he would send a separate reply to Austria-Hungary. Austria sent an envoy on her own behalf to the commander of the Allied troops in Italy, the need for peace being made still more urgent by her suffering a very severe defeat on the Piave. The armistice with Austria was signed on 4th November. Germany,

on the other hand, contented herself with sending a message to Marshal Foch asking for terms, and was informed that if they desired to know on what terms an armistice could be concluded they must send accredited agents in the customary manner. On 8th November these agents arrived at the lines of the French, and an armistice was signed in the early morning of 11th November, the terms of which amount virtually to a complete surrender.

Scottish Women's Hospitals in France: French Decorations for Staff.—The French military authorities have once more given striking proof of their appreciation of the services rendered by the Scottish Women's Hospitals. It will be remembered that Dr. Frances Ivens, C.M.O. of the hospitals at Royaumont and Villers Cotterets, received the Cross of the Legion of Honour. On Thursday, 12th December, a large number of decorations were bestowed on members of the staff with full military honours at the Abbaye de Royaumont. Dr. Ivens received the Croix de Guerre avec Palme, "having ensured day and night the treatment of French and Allied wounded during repeated bombardments at Villers Cotterets in May, 1918. On the approach of the enemy she withdrew her unit at the last moment to the Abbaye de Royaumont, where she continued her humane mission with the most absolute devotion." Others in groups under various citations received the Croix de Guerre avec Étoiles—Miss Nicholson, Mrs. Berry, Miss Courtauld, Miss Martland, Miss Henry, surgeons; Miss Stoney, radiographer; Madame Manoel, bacteriologist; Miss Lindsay, Miss O'Rorke, sisters in charge, Miss Goodwin, Miss Anderson, nurses, are cited for "skill and devotion to the wounded under repeated bombardments;" Miss Smieton, Miss Armstrong, Miss Salway, Miss Daunt, orderlies, for "having continued the transport of the wounded within the hospital under repeated bombardments, showing devotion worthy of the highest praise." Miss Inglis, Miss Chapman, Miss Rolt (canteen) worked "with zeal and devotion under numerous bombardments." Miss Collum, assistant radiologist, "wounded while returning to her post in 1916, on board the *Sussex*, which was sunk by an enemy submarine;" Miss Ramsay-Smith, Gestionaire (Officier d'Administration), "carried out her duties with competence, zeal, and devotion in a critical period and in perilous circumstances;"

Miss Murray, Miss Fulton, Miss Smeal (chauffeuses), who "continued the transport of wounded with courage and coolness during the bombardment of Villers Cotterets and Creil in May and June, 1916."

Twenty-three of the staff were decorated, each receiving the accolade. The Orders were bestowed by General Nourisson. There were also present General Sir David Henderson, the Rev. Augustus Blunt, Chaplain to the British Embassy; and many other French and British officers. The band of the 12th Battalion de Chasseurs Alpins was in attendance. The ceremony began with a fanfare from the trumpets and the "Marseillaise," and ended with another fanfare, a speech of congratulation from the General, the "Marseillaise" again, and "God Save the King."

Commissions for Nurses.—The rapid progress of aviation has not failed to make a concomitant psychological impression on the organisers of its Services. The R.A.F. is a new branch of the forces, untrammelled by traditions, and is therefore in a favourable position for the introduction of novelties, and it is not surprising, therefore, to learn that among the attractions offered to candidates for the R.A.F. Nursing Service is the granting of commissioned honorary rank. Matrons-in-chief will have major's rank, matrons and superintending sisters that of captain; sisters will be lieutenants, and staff nurses second-lieutenants. Their uniforms will be of R.A.F. blue. The Matron-in-Chief will wear a frock faced and braided, a cape, and a bonnet of the same material. Matrons and sisters will wear similar uniforms unbraided, a cape, and a bonnet of the same material. Superintending sisters and sisters will wear becoming three-cornered hats of blue straw in summer and of blue felt in winter. Light-blue trench coats may be worn in suitable weather.

The "Misconduct Rules" of Approved Societies.—Approved societies, which invariably have a rule prohibiting members to receive benefits when their bad health is due to venereal disease, are being asked to cancel this rule. This request is made by the National Health Insurance Commissioners, who draw attention to the special provision of the 1918

Act which facilitates the amendment of such a rule. The Royal Commission declared that the "misconduct rules" of approved societies seemed likely to deter patients from seeking the treatment that they need. As the Commissioners now say, these rules were for the most part adopted in the earlier days of the Friendly Society movement, when the serious indirect and later effects of these particular diseases and, still more, the recently discovered methods of their effective treatment were not known. There is a widespread feeling that the refusal of benefit to those suffering from any form of venereal disease is not only prejudicial to the health of the community and contrary to the national interest, but may also, by discouraging early and proper treatment, in the long run prove injurious to the funds of societies.

A Glasgow Red Cross Gift.—The total sum raised by the Glasgow Drapery and Textile Trade through their "Red Cross Day" effort amounts with interest to £5,206. Deposit receipts and a cheque for the amount were presented to Sir George Beatson, chairman of the Scottish Branch of the British Red Cross Society, at a meeting held on 5th November in the City Chambers. Lord Provost Stewart presided over a large attendance. He congratulated the trade on the splendid effort they had made, and recalled that on a previous occasion the trade had presented to the Red Cross Society 11 motor ambulances. Sir Andrew H. Pettigrew, chairman of the trade executive, in presenting the contribution, said that on the first occasion the whole textile trade of Scotland was organised in making their effort, which resulted in the gift of 11 motor ambulances. A sum of £4,300 was raised on that occasion. The present effort had been confined to Glasgow alone, the rest of the trade being organised in different parts of the country. Sir George Beatson, in accepting the money, said the Scottish Red Cross had been most generously treated by the people of Scotland. When peace was declared there would still remain the care of the sick and wounded and disabled, and there was bound to be a heavy call upon their funds. He asked for a continuance of public support. Mr. W. J. Anderson, hon. treasurer of the Scottish Red Cross Society, also emphasised the need for continued support. He

said there was not one quarter in the whole world where fighting had been going on in which the Scottish Red Cross was not there to help.

The Red Cross Hospital at Millport.—The Dowager Marchioness of Bute has given her mansion-house, the Garrison, Millport, for use as an auxiliary hospital. Lady Margaret MacRae, county director and hon. treasurer of the Bute Branch of the British Red Cross Society, who will act as commandant, is making arrangements for the reception of between 70 and 80 patients. Lady MacRae is also forming V.A. Detachments in Millport.

Artists' Red Cross Exhibition.—Lord Scott Dickson, the Lord Justice-Clerk, opened the exhibition and sale of pictures presented by members of the Royal Scottish Academy and other artists to the Scottish Branch of the Red Cross Society at the Mound, Edinburgh, on 4th November. Lord Provost Sir J. Lorne MacLeod presided, and was accompanied on the platform by Lord Scott Dickson, Mr. James Paterson, R.S.A., and others. Lord Scott Dickson, in declaring the exhibition open, said it was a splendid testimonial to the interest taken in Red Cross work by the Royal Scottish Academy, and while it was held in the galleries of the Academy, it was the result of a movement not in Edinburgh alone but in the whole of Scotland, evidence of which he saw in the presence of representatives of the Western Metropolis. The exhibition contained about 300 contributions, all of the pictures except two being by living artists, most of them members of the Academy, and there were two of the late Mr. M'Taggart's works, which would doubtless realise a handsome sum. The pictures displayed on the walls were excellent specimens of the work both of risen and rising artists, and the Academy and Red Cross Society were deeply indebted to the *Glasgow Herald* and other Scottish newspapers for valuable notices of the exhibition. The whole of the proceeds of the sale of the pictures was to be given to the Red Cross. While they were all grateful to know that the end of the war was in sight, they must not forget that the need for the work of the Red Cross was as clamant as ever, and he sincerely

trusted that the sale would realise a large sum for Red Cross work.

On the motion of the Lord Provost, the Lord Justice-Clerk was thanked for opening the exhibition.

America's Great Gift to British Red Cross.—In connection with "Our Day," the day set apart for a world-wide appeal for the British Red Cross Society and Order of St. John, it is announced that the American Red Cross Society has presented a gift of £500,000. The gift was formally handed over to Sir Robert Hudson at a dinner at St. James's Club, where Colonel William Davison, American Red Cross Commissioner for Great Britain, entertained to dinner representatives of the British and American Red Cross organisations. The Duke of Connaught said he realised that the gift was made by the American Red Cross Society in name of the American people, and it was the thanks not only of the Joint War Committee but of the people of the British Empire he now expressed. Sir Arthur Stanley, Chairman of the Joint War Committee; Lord Reading, Admiral Sims, Lord Northcliffe, and General Biddle also spoke. Prince Albert has given £100 and Princess Mary £50.

Red Cross Work in France.—Mr. R. J. Smith, convener of the Transport Committee of the Scottish Branch of the British Red Cross Society, has received intimation that Mr. George Middleton, Glasgow, the leader of Convoi de l'Ecosse No. 1, has been presented with the Croix de Guerre with Palm. This is the fourth French military decoration conferred upon Mr. Middleton. At the same time four members of the Convoi—viz., Messrs. J. A. H. Bowman, F. Horace Cook, George H. M'Lean, and John Buckland Wright—have been cited Order of the Regiment (Croix de Guerre with Bronze Star). This makes in all 35 decorations which have been conferred upon members of this Convoi. Mr. Smith and Mr. David Smith, who have just returned from a visit to the Scottish Branch in France, saw this Convoi at work on the French lines near Rethel, and were much gratified with the spirit displayed by every member of it.

REVIEWS.

BOOKS ON WAR SURGERY.

War-Surgery from Firing-Line to Base. By Basil Hughes, D.S.O., M.A., M.B., B.Sc., F.R.C.S., Temporary Major R.A.M.C. (T.F.), and H. Stanley Banks, M.A., M.B.Glasg., D.P.H. Cantab., Captain R.A.M.C.(T.F.) London: Baillière, Tindall & Cox. 1918. (30s. net.)

This is a large work of over 600 pages, well-written and well-illustrated. Some books, and many articles, on surgery are more remarkable for quantity than quality; but such a criticism cannot be made of this work. Save in one respect, and that a minor one (to be referred to later), it is full, and adequate to the great task of dealing with the surgery of the world-war. It is unacademic, original in outlook, and shows great powers of observation and industry. For four years the authors have been in touch with all varieties of surgical activity from trench-line to base-hospital; they are apt surgeons and expert bacteriologists, and never lose a chance of checking their findings by *post-mortem* examination, even in the firing line, *e.g.*—

"What is the special nature of the damage done to muscle in a war wound? One of us had the opportunity while in the line of securing a number of specimens of muscle within a few minutes of the infliction of the wound. These specimens included the part of the muscle actually penetrated by the missile, the varying lengths of the muscle above and below the wound which did not contract or bleed, and a certain amount of healthy living muscle in the parts distal to the latter. The specimens were cut off with a sharp scalpel and immediately placed in 75 per cent spirit. Subsequently the tissues were dehydrated, embedded, and cut. The sections showed the appearances illustrated in Plate II."

The plate that follows is beautifully drawn and coloured; and the point as to the disruption of fibres by the "cartridge" of air in front of the bullet, before the gas from the *Bacillus perfringens* has time to vacuolate the tissues, is proved at once.

This is the spirit that animates the book—that of personal observation and experiment; and conjoined with this is a width of view over all the factors at work in the battlefield, and a sympathetic understanding of the soldier's life in its every aspect. The correlation of these elements with the specific surgical work of the writers gives the medical reader a picture of the war far more realistic than he will find even in a novel like Barbusse's *Le Feu*. The reviewer has read much war-journalism, spoken with many soldiers, and done some war-work in France, but nowhere has he come across anything that has approached the depiction of the essence of the truly terrible in war so closely as this work. Yet nothing of this kind of history is consciously aimed at—it arrives, as it were, only in the by-going; for the authors are concerned only with a full scientific record of their special field of activity. It is this fulness of their personal record that gives the vivid picture we speak of.

One great advantage of the book is that its subject-matter is focussed by the fact that the authors, after prolonged trial of many systems of war-surgery technique—have selected one as easily first (the Carrel-Dakin), and deal fully with it in all their details of work done. This gives this manual a unity lacking in other works, where brief accounts are given of many methods with which the authors have made incomplete acquaintance, with no whole-hearted personal experience of any.

The first half of the work deals mainly with the vast field of the bacteriology of war-wounds. One knows how dreary such a subject may be; but here the account is so fresh and illuminating that it reads as easily as a novel, ghastly though the subject is. The writers had eyes and used them; and in such surroundings they had abundance of material for new observations. Here are some examples:—

1. *Anærobes.*—"Erroneous and contradictory statements were made in the pre-war literature on the anærobes—a literature which was based on an experience infinitesimally small compared to that which has recently been gained. It was, of course, known that these organisms were of fæcal origin, and the

reactions of a considerable number of them had been investigated. But the whole question was academic, and no practical classification was then possible" (p. 65).

2. *Maggots.*—"Maggot-infected wounds are extremely offensive to smell, yet the presence of these creatures in a wound has proved to be a not unmixed evil, for there is not the slightest doubt that they do in some way exert a strong inhibitory action on the growth of the more virulent bacteria. It is a noteworthy fact that gas-gangrene and maggots do not exist together in the same wound, and that maggots survive at the expense of gas-gangrene. Of the many maggot-infected wounds seen during the Somme fighting it was a most striking fact that these wounds did well. There was in these cases no gas-gangrene and no tendency for the infection to spread locally" (p. 93).

"We have already quoted cases in which gas-gangrene infection of the wounded tissues has subsided with the appearance of maggots. We can also quote cases to prove the converse.

"A good instance is that of Private ——, 5th West Yorks Regiment, who was severely wounded in the right leg. Both bones of the leg were fractured and comminuted, and the wound was literally crawling with maggots. There was no active gas-gangrene present. The maggots were washed away with 1 in 20 carbolic acid. Upon their disappearance from the wound gas-gangrene set in. This happened on more than one occasion, and is, we think, further proof that these two conditions rarely, if ever, exist in a wound" (p. 146).

"Whether or not these creatures might not be useful as a means of treating extensive gangrenous wounds in the early stages is a point to be settled; for, horrible as the idea may at first seem, yet these maggot-infected wounds could not be any more offensive than similar wounds that were treated with the salt-pack" (p. 94).

3. *Symbiosis and infection-control.*—"When flavine is employed on severely infected wounds the number of cells and organisms in the exudate diminishes markedly for the first three to five days, but after that time the number of organisms increases, and does not show the tendency to gradual and rapid fall which is seen in the case of wounds treated by the Carrel-Dakin method. The organisms which reappear in the discharge are not mainly cocci, as in the later stages of the latter method,

but include a goodly proportion of spore-bearing anærobes and of coliform bacilli. Thus, the effect of flavine on the organisms in the wound, as judged by smears, is quite different from that of the hypochlorite solutions, and hence by the combination of antiseptics in the sterilization of a wound, it is possible to break up the symbiosis of the organisms, and so produce a more rapid sterilization. . . . This, however, complicates the procedure, and we prefer the Carrel-Dakin from the commencement, except in non-gangrenous wounds in which complete or almost complete excision appears to be possible" (p. 115).

One could quote more of equal interest, but space is limited. Attention may be drawn to many practical points, however, viz., the relation of fatigue to gas-gangrene; the relation of gas-gangrene to abdominal wounds (hardly ever present); the need for avoidance of A. T. serum in large joint wounds (subsequent effusion into these); as regards the movement of abdominal cases from firing-line to base (rest for several hours first of all, then saline and morphia).

One important conclusion must, however, be given in full:—

"We would like once again to emphasise the important observation taken now over 2,000 consecutive cases of severe wounds, especially compound comminuted fracture of the femur and the like, where Carrel's treatment had been commenced early at the casualty clearing station, limbs and lives were saved; but in all cases where rush of work prevented the Carrel-Dakin treatment from being carried out, such limbs were gangrenous by the time the base hospital was reached, and had to be sacrificed, and in a considerable number of cases lives were lost" (p. 322).

As to the cost of this system:—

"We have found that the Carrel-Dakin system, when its continuity is not broken, is not only rapid and efficient but is easily carried out and cheap to the State. The cost of material per patient over our own series of 2,000 cases, from the time of infliction of the wound up to the time of healing and the patient getting about, works out at seven shillings (pre-war catalogue prices") (p. 236).

The reviewer's own experience of 1,000 Carrel cases of his in France bears out the claims of these two last excerpts.

The only omission in this important work that is of moment

is that of any reference to work on extraction of projectiles under the direct use of the *x*-rays in a dark room, or in the light with the *x*-ray operator wearing a bonnet-fluoroscope and wielding a sterile indicator.

This book will certainly take a foremost place in all future war surgery.

Surgery in War. By A. J. Hull, F.R.C.S., Lieutenant-Colonel, R.A.M.C., Surgeon B.E.F. Second Edition. London: J. & A. Churchill. 1918. (25s. net.)

The edition is more than twice the size of the first and the illustrations are correspondingly increased. There is much new matter, and no padding; it is thoroughly sound work in the way of registering the methods of 1918 in British war surgery.

In the 1916 edition it is to be noted that there is no reference to the Carrel-Dakin method; but in this of 1918 there is allotted a moderate space towards describing it, and its later developments up to Dichloramine-T. In the section entitled "Treatment of Wounds" in 1916 most space was given to the hypertonic saline regime; in 1918 the Carrel-Dakin technique and Dakin's later work receive the biggest share of attention. Flavine and other new antiseptics are more fully dealt with than formerly. This redistribution of matter reviewed is significant of much—the line of progress is really towards the newer antiseptics; and Mr. Bernard Shaw—as was recognised by many of us—was a day behind the fair in his attack ("What shall we do with the Doctors?" *English Review*, 1917) on the medical profession when he used the saline irrigation method as his chief weapon of offence.

The criticism quoted from an American journal in this edition, emanating from Dakin and others as to the Carrel-Dakin method "being elaborate and expensive of material and personnel," is easily answered by a reference to the quotation in the preceding review from the work by Hughes and Banks. Seven shillings per head is not a high figure for material for a wounded soldier's dressings. And Dakin is a research chemist, not a surgeon. If the budgets are high at Compiègne, is it not because Rockefeller runs the Institute there? If high at Le Pan,

would they have been so high had Le Pan depended purely on State funds?

Hughes and Banks' experience agrees with that of the reviewer as to cost; as to personnel, the reviewer has been to Compiègne, and recognises that a demonstration-clinique run by a multi-millionaire might be expected to have nothing lacking on this aspect. The true test as to figures should surely be taken from the work-a-day world of the average French hospital—such as Chaumont; or from Hughes' Balkan unit, and not from "star-turns." We have dwelt on this because without some challenge of the kind much harm to a good cause might result. A third edition of this useful manual, perhaps, will show a better balanced review of the Carrel-Dakin system by excision of this partisan quotation.

A special word of commendation must be given to the excellent skiagram reproductions in this volume.

Military Surgery of the Zone of Advance. By GEORGE DE TARNOWSKY, M.D., F.A.C.S., Major, M.C., U.S.A., American Expeditionary Force. Philadelphia and New York: Lea & Febiger. 1918. ($1·50.)

A CONCISE *vade-mecum* on the treatment of war wounds. There is a short chapter-summary of Carrel-Dakin technic among much else that is valuable: and a good account of Roentgenology in war surgery, with a special section on fluoroscopic assistance during operation. A useful little book.

The Soldier's First-Aid. By R. C. WOOD, Q.-M.S., Army Medical Corps. Toronto and London: Macmillan & Co., Limited. 1917. (2s. 6d. net.)

A HANDY pocket-manual, well-written. A special feature is the profusion of good, clear photographs (instead of the old-time diagrams) of first-aid treatment to soldiers.

Books, Pamphlets, &c., Received.

The Abnormal Forms of Tetanus: A Clinical, Pathogenic, Prophylactic, and Therapeutic Survey, by M. Courtois-Suffit and R. Giroux. With a Preface by Professor Fernand Widal. Edited by Surgeon-General Sir David Bruce, C.B., F.R.S., LL.D., and Frederick Golla, M.B. London: University of London Press, Ltd. 1918. (6s. net.)

Diseases of the Eye, by J. Herbert Parsons, D.Sc., M.B., B.S., F.R.C.S. Third Edition. With 18 Plates and 319 Text Figures. London: J. & A. Churchill. 1918. (16s. net.)

The Soldier's First Aid: A Simple Treatise on How to Treat a Sick or Wounded Comrade, by R. C. Wood, Q.-M.S., Army Medical Corps. Toronto and London: Macmillan & Co., Ltd. 1917. (2s. 6d. net.)

Our Baby: For Mothers and Nurses, by Mrs. J. Langton Hewer. Sixteenth edition, illustrated, revised (140 thousand). Bristol: John Wright & Sons, Limited. 1918. (2s. 6d. net.)

Saint Thomas's Hospital Reports, edited by Dr. J. J. Perkins and Sir Charles A. Ballance, K.C.M.G., C.B., M.V.O. New series. London: J. & A. Churchill.

The Organs of Internal Secretion, their Diseases and Therapeutic Application: A Book for General Practitioners. by Ivo Geikie Cobb, M.D., M.R.C.S. Second edition. London: Baillière, Tindall & Cox. 1918. (7s. 6d. net.)

Materia Medica and Therapeutics: An introduction to the Rational Treatment of Disease, by J. Mitchell Bruce, M.A., LL.D., and Walter J. Dilling, M.B., Ch.B. Eleventh edition, revised to correspond with the War Amendments of July, 1917, and March, 1918. London: Cassell & Co, Limited. 1918. (9s. net.)

Casting Out Fear, by Flora Bigelow Guest. London: John Lane. 1918. (3s. 6d net.)

The Australian Army Medical Corps in Egypt: An illustrated and detailed account of early organisation and work of the Australian Medical Units in Egypt in 1914-1915, by James W. Barrett, K.B.E., C.M.G., M.D., and Lieutenant P. E. Deane, A.A.M.C. London: H. K. Lewis & Co., Limited. 1918. (12s. 6d. net.)

Sanitation in War, by Lieutenant-Colonel P. S. Lelean. With an introduction by Surgeon-General Sir Alfred Keogh. With 68 illustrations. Third edition. London: J. & A. Churchill. 1919. (7s. 6d. net.)

Transactions of the Sixth International Dental Congress, compiled and edited by H. R. F. Brooks. London: Published by the Committee of Organization. (30s. net.)

Modern Chemistry and Chemical Industry of Starch and Cellulose (with reference to India), by Tarini Charan Chaudhuri, M.A. London: Butterworth & Co. 1918. (Rs. 3·12 net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 21st DECEMBER, 1918.

	Week ending			
	Nov. 30.	Dec. 7.	Dec. 14.	Dec. 21.
Mean temperature,	42·7°	50·0°	45·3°	36·6°
Amount of rainfall, ins.	1·11	0·74	0·49	0·73
Deaths (corrected),	465	376	304	299
Death-rates,	21·8	17·6	15·3	14·0
Zymotic death-rates,	0·7	0·7	0·7	0·4
Pulmonary death-rates,	9·0	3·9	4·7	2·0
Deaths—				
Under 1 year,	78	69	51	46
60 years and upwards,	109	78	96	70
Deaths from—				
Small-pox,	...	...	...	...
Measles,	1	...	...	...
Scarlet fever,	1	...	...	...
Diphtheria,	5	3	2	4
Whooping-cough,	4	7	5	1
Enteric fever,	...	2	2	...
Cerebro-spinal fever,	...	...	...	1
Diarrhœa (under 2 years of age),	5	3	3	4
Bronchitis, pneumonia, and pleurisy,	194	167	200	85
Cases reported—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	...	...	4	...
Diphtheria and membranous croup,	31	30	34	49
Erysipelas,	19	17	10	9
Scarlet fever,	31	23	33	26
Typhus fever,	...	..	...	...
Enteric fever,	1	2	2	4
Phthisis,	30	57	46	51
Puerperal fever,	5	4	2	5
Measles,*	12	32	10	30
Ophthalmia neonatorum,	6	10	14	6

* Measles not notifiable.

Sanitary Chambers,
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ORIGINAL ARTICLES.

THE DIAGNOSIS AND TREATMENT OF SYPHILIS.*

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THE only point in diagnosis I would like to touch on and emphasise is the routine examination of all venereal sores by the aid of the dark ground illumination. How often do we meet cases with developing or advanced "secondaries," which give the history that some weeks previously they had a slight abrasion of the penis which healed itself with no treatment or perhaps the application of a little black wash obtained at the nearest chemist's.

Every practitioner who is treating syphilis must acquaint himself with the technique of demonstrating the spirochæta pallida by the dark ground microscope and make a routine practice of its use. If he fails to find the spirochæta pallida on his first scraping he must make many examinations. Antiseptics should not be used to heal venereal sores until the dark ground

* A communication to the annual meeting of the Dublin Biological Association held on Saturday, 30th November, 1918.

examination is completed and the organism demonstrated or otherwise: indeed, the sore should not be healed till such time. Vigorous local treatment should then be commenced by mercury or by hectine. I have seen cases of innocent looking abrasions, and cases of supposed scabies, being at once confirmed as syphilis by the dark ground microscope. A sore that has been treated with antiseptics will not show spirochæta and should be dressed with normal saline for a few days before the examination. Sometimes help is obtained in these cases by puncturing with a hypodermic needle a neighbouring enlarged gland, which may clear up the diagnosis by examining the serum under a dark ground microscope.

Again, in what seems an ordinary case of balanitis, a careful examination must be made for any abrasion or other lesion on the glans or surrounding parts and a microscopic examination of these carried out.

It is well to keep such doubtful cases under observation for three or four weeks if possible. It will thus be seen that the routine use of the dark ground microscope in diagnosing the exact nature of a venereal sore is invaluable and will often save time in commencing anti-syphilitic treatment to the benefit and cure of the patient, when otherwise one would require to wait till such time as the blood would reveal the condition. As the stethoscope is to the physician so is the dark ground microscope to the syphilologist in importance.

Showing the great importance of early diagnosis of syphilis it has been shown that the chances of cure from a full course of "606" and Hg. mercury are as follows—in primary cases are approximately:—

(1) Spirochæta pallida present—Wass. – & – after provocative dose, 100 per cent cures.

(2) Spirochæta pallida present—Wass. – & + after provocative dose, 85 per cent cures.

(3) Spirochæta pallida present—Wass. + & + (stronger) after provocative dose, 70 per cent cures.

I would like to draw attention to the fact that chancres of the meatus urethræ and the throat are frequently overlooked, and it is only when secondaries have developed that it is recognised that a chancre has been missed in one or other of these regions.

Since I had the pleasure of taking part in the discussion on

treatment of syphilis at the Royal Academy of Medicine in Ireland last March, we have slightly modified the course of treatment in the hospital under my charge, and which I will give in detail presently. I might mention the different preparations we have used, viz.:—

Salvarsan, kharsivan, arsenobenzol, arsenobillion (and their neo and nova preparations), galyl, luargol and intramine.

The first four (salvarsan, kharsivan, arsenobenzol and arsenobillion) we are using exclusively, and they give equally good results.

Formerly galyl (arsenic preparation with phosphorus tacked on) was used on occasions, and although it seemed to clear up symptoms rapidly, it evidently was not so efficacious or destructive to the spirochæte as the other drugs, as relapses were frequent.

When used intramuscularly it did not kill the spirochæte. The advantages claimed for it are that it is easily dissolved and mixed and given by a Record syringe intravenously, and that it is not toxic. It oxidises quickly, and must be used at once after mixing. Although supposed to be non-toxic, cases of reaction with convulsions, albuminuria and dermatitis have been recorded. I have seen a number of cases treated with luargol (a preparation of arsenic with silver and antimony in combination) but cannot speak as to its lasting effects. It is easily mixed but tends to cause thrombosis. It is claimed that it is useful in later cases of syphilis and syphilis of the nervous system. Intramine and ferrivine, both introduced by McDonagh, have not been much used, at least in the army. I saw eleven cases treated by intramine with no marked improvement ten to fourteen days after the treatment. I have used it in extreme cases of arsenical dermatitis but am not convinced of its benefit. Ferrivine I have not used, but believe it was tried at one Military Hospital and gave rise to alarming symptoms of dyspnœa and shock immediately following the administration.

The routine treatment of syphilis carried out at Spike Island Military Hospital is as follows:—

On admission the following particulars are taken of each case:—

(1) 1st, 2nd, 3rd attack or relapse.

(2) Date and place of three last exposures.

(3) Main points in history.
(4) Condition on admission—
  (*a*) Condition of penis.
  (*b*) Condition of lymphatics.
  (*c*) Mucous membrane lesions.
  (*d*) Skin lesions.
  (*e*) Reflexes and other signs or symptoms.

A Wassermann and dark ground examination is made on admission, in every case whether clinical signs positive or not.

INJECTIONS.

Day.	Intravenous. "914" or "606."	Intramuscular. "914."	Intramuscular. Mercurial Cream.
1st . .	0·45	...	℥x
8th . .	...	0·45	,,
15th . .	0·45	...	,,
22nd . .	Rest.	Rest.	,,
29th . .	...	0·45	,,
36th . .	0·6	...	,,
43rd . .	...	0·45	,,
50th . .	0·6	...	,,
Total, .	2·1 gms.	1·35 gms.	℥lxxx

Total of "914" in full course, 3·45 gms.

From our experience it is advisable to adopt the course of giving one week's rest after three weeks' treatment. As the majority of intolerances show about this time, it is also advisable that daily observations should be made at this stage of treatment.

When the drug used in the above course for the intravenous injections is of the "606" series, the same doses can be given. Wassermann is again done immediately after last injection. If negative, patient is discharged from hospital and reports for blood test in two months. If positive, he is given a follow-up course of two injections 0·6 gms. intravenous, of either "914" or "606," or is discharged to his unit and put on a course of chronic mercurial treatment as follows:—

Hydrarg cum creta, ... 2 grs.
Pulv. ipecac. co., ... 2 ,,
Ft. pil.

The pills to be taken as follows:—

One a day for one week.

Two a day for one week.

Three a day for four weeks.

This course to be repeated *twice*, with *one week's* rest before recommencing.

Caution.—If it is noticed that the teeth ache in their sockets or the gums become inflamed, the pills should be stopped for three days before recommencing with *one* a day.

Intravenous injections of "914" series are all made up to 10 cc. Aq. Dist., irrespective of the dose of "914" given.

Intravenous injections of the "606" are dissolved and neutralised in the usual manner, but the amount of saline given is in proportion to the amount of drug administered. A dose of 0·3 grms. of "606" is made up to 90 cc. with normal saline solution—0·4 grms. equals 120 cc., or otherwise 30 cc. for every 0·1 grms. Litmus paper is used to ensure alkalinity. It must always be remembered that the "606" series are acid and must be rendered alkaline before use, while neo or "914" series are not acid and only require dissolving in distilled water. The full course in the "606" series, which is always given intravenously and in bulk, is commenced with 0·3 gms. dose for the first three injections; 0·4 gms. for the next three injections, and finished up with the dose of 0·5 gms., a total of 2·6 gms. being given in all.

The *intramuscular* injections are as a rule all 0·45 grm. doses of "914," and 7 m. of aq. dist. is used to dissolve each dose: when dissolved each dose is made up to 1 cc. with mixture of creosote and camphor (creo. camph. Burroughs Wellcome & Co.).

Novarsenobillion we have found most satisfactory for intramuscular injections, being easily dissolved in the small quantity of aq. dist. (7 mins.) giving a clear solution, and producing decidedly less pain than the other preparations in use.

Cases of syphilis of the nervous system are treated by smaller doses and for a longer period. Commence by a fortnight's course of KI., Hg., and then pass on to 0·1, 0·2 and 0·3 gms. of "606" and one grain of Hg. weekly till you have reached a total of 4/5 gms. of "606." Allow fourteen day's rest between seven injections and during that period of rest administer KI. Lumbar puncture is done in all nervous cases, and Wassermann

and cell counts carried out. I have not seen many cases of syphilis of the nervous system in the army. I consider all cases of this condition, no matter how far advanced, should have the benefit of "606" and Hg. treatment. If we do not get a surprising cure we may at least give relief to many of the distressing symptoms accompanying this condition. The courses at present in use have proved highly satisfactory both clinically and serologically, and beyond an occasional slight reaction no serious side issues have occurred, and cases of severe dermatitis have been unknown.

Further, there is no lowering of the vitality of the soldier, and as a result of the treatment he is usually able to return to his duty fit and without requiring any period of convalescence; indeed, the treatment acts as a tonic. During the course soldiers are not bed patients, but carry on their usual hospital fatigues, and are on ordinary diet except on the day of treatment, when they are on milk. They have 45 minutes physical training daily under a qualified physical instructor, which assists in keeping them fit and hard. I am still much in favour of the intramuscular or deep subcutaneous method of administering salvarsan. It is a simple method, does away with elaborate mixing and neutralising, which is only safe in the hands of an expert, and it does not tend to give rise to reaction. The bacteriological reports are excellent on the immediate destructive effect on the spirochæte and lasting effect on the Wassermann. Lastly, by its slow and gradual absorption and excretion the effect of the drug is kept up longer.

The objection to this method of administration is local pain, but I find if it is given carefully in small bulk and well massaged after injection to diffuse the drug there is little or no pain complained of. I consider that this method is well adapted for the dispensary treatment of syphilis. One does not infrequently meet with a case of syphilis which has received many full courses of "606" and mercury but still persists in showing a full positive Wassermann (I am not talking of congenital syphilis), and I do not know that it is fully explained why this should be so. In this connection I might just briefly refer to a discussion which took place recently at Cincinnati on a paper given by Dr. Heidingsfeld. He thought that the present-day tendency was to adopt a too intensive course of arsenic in treating syphilis, and

that cases which had received many courses of "606" and still remain positive with persisting clinical manifestations cleared up with six month's absolute rest from treatment and became negative serologically. He adopts the course of giving a full dose of "606" and repeats it in four to six months as long as necessary till the Wassermann continues steadily negative.

He based his arguments on the investigations of Noguchi, who asserted that the spirochæte in time increased its resistance to arsenic; in other words, that syphilis in a very short time acquires a tolerance to certain specific remedies, which remains till the patient is given a definite long rest from further specific treatment. This may explain the class of case that remains positive after many courses of "606," but I feel sure that most of us would not feel safe or content in giving only one dose of "606" every four to six months. His line of treatment was adopted in this country in the early days of "606," but was not continued, as relapses were the usual following.

Perhaps, gentlemen, you will allow me only to mention a subject that is occupying the time and thoughts of many interested in the question of venereal disease: especially I would mention the name of Colonel Harrison, D.S.O., K.H.P., Military Hospital, Rochester Row, London, who from his faithful work and writings on venereal disease is justly looked on as an authority. I refer to the preventive treatment of venereal disease, and a discussion on treatment is bound to open up the question of prevention. This question is a far-reaching one, and will meet with much opposition until the general public are educated and enlightened on the terrifying results of the disease. It concerns the civil authority as well as the military. "Prevention is better than cure," and forcibly applies to this class of disease. When we know that 70 per cent of women suffering from serious pelvic disorders, many of whom require mutilating operations, are infected, and when we think of the large number of congenital cases, and deaths in early childhood from contamination from venereal disease, I think the time has arrived when active steps must be taken to stay its progress. It is expected that, when our gallant and victorious army comes home, venereal disease, which has been prevalent during the war, will be greatly increased throughout the country. The reason is that during the war women in great numbers have

been employed in many kinds of war and other works; consequently they have in many instances been living more or less free or independent lives, and have been removed from their family influences and home life. As a result of this freedom many have contracted venereal disease. These women may be classified as "amateurs," and distinct from the "professional" class, who receive payment for their traffic. It is the former class that is in the majority and which is going to attract the returning soldier. In this way the disease will spread even to remote parts where it was possibly unknown, as soldiers of the present army come from all parts. Colonel Harrison has shown from recent statistics taken from various Military Venereal Hospitals that at the present time two-thirds of all cases in these hospitals were infected by women of the "amateur" class. He has also shown that at home alone approximately 48 per 1,000 of soldiers during the war have been affected by venereal disease, whence it follows that many women must also have the disease. Add to this the number of soldiers returning from abroad with the disease, or with the effects of the disease, and it will be easily seen how it is reasonable to expect for the time being at least venereal disease will be on the increase.

As men will be released from military service and no longer under its control, great responsibility will fall on local Health Authorities, Directors of Civil and Guardian Hospitals to devise some scheme of dealing with the disease in its different aspects. I might also add maternity hospitals, which can do a great deal in treating syphilitic pregnant women and new-born children.

With the happenings of the last few weeks there is no time to lose, and if we have not yet agreed in this country that we are justified in adopting preventive measures for venereal disease, we at least must make ample provision and facilities for the treatment of the disease as soon as it has been contracted.

A STUDY IN SELF-REVELATION.

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This account of a case of acute mental disturbance seems to the writer to be of interest owing to the curious way in which the patient herself laid bare the essential factors that culminated in her mental breakdown. This the patient did without either any instigation from without, or any intellectual grasp herself of the significance of her utterances. Owing, possibly, partly to this fact—her lack of insight and power of sane reassociation—and partly to her bad family history, &c., the patient has not made a complete recovery, and seems likely to become a case of chronic delusional insanity. The writer is no adept in the so-called "newer" psychology, nor has any experience of psycho-analysis, which may partly be why the patient made an incomplete recovery, and these notes were written over a period of nearly two years merely as a record—faulty enough—of a case that seemed rather unusual in some ways. One may or may not agree with Freud or Jung, but that this unsophisticated patient, of ordinary Scottish school board education, should so closely elaborate many of their views, struck the writer as extraordinarily suggestive.

No detailed picture of the patient's intimate life was obtained on her admission, and it was only as the illness progressed, and as various relatives could be approached at different times, that a more or less complete account was pieced together. This account bore out most of the statements made by the patient.

Mrs. R., a young married woman of 36 years, was admitted to the Royal Asylum, Gartnavel, in October, 1916, suffering from delusions of persecution, with suicidal tendencies, of a few weeks' duration. The mental breakdown was apparently attributed to

anxiety owing to her husband having volunteered under the Derby scheme, and she had delusions that the military and civil police were looking for her to take her into custody because she did not want him to enlist.

For the first eight months after admission Mrs. R. was moody, depressed, and inaccessible, and at times violent. Hallucinations of hearing were suspected, but were probably more of the nature of crystallised suspicions or rationalisations which the patient convinced herself she had "heard." During the outbursts of senseless violence that characterised this period, Mrs. R. would sob, cry, strike, and shout, and declare vehemently that she was "made" to behave in that way, and gave every indication of a most profound emotional disturbance. At intervals during this time expression was given, with much difficult emotion, to statements that she had often treated her little seven-year-old daughter, Ena, harshly, punishing her with utterly disproportionate severity, and that, although afterwards she was sorry, at the time she had really wanted to hurt the child. These self-accusations were always made with sobs and tears, and it was impossible to discuss them, as any remarks, except the most non-committal, were received with passionate disfavour that might be signalised by a blow or a curse. The patient seemed bitterly ashamed of some of the things the child had done, *i.e.*, small thefts (corroborated), and also terribly upset at her own violence (corroborated). When talking about this and describing the incidents, such as temporarily maiming the child's hand with a stick (corroborated), Mrs. R. at the same time would always excuse her roughness by saying that afterwards she found out that "people" had told Ena to do naughty things, and that "they," and not either the child or the patient herself, were to blame either for the child's naughtiness or her own brutality. By this rationalising, the patient excused both herself and the child to herself, while it also seemed to conceal from her an element of vicarious gratification derived from the infliction of excessive punishment. At this stage no explanation either of the unusual harshness nor of the morbid gratification it seemed to have afforded was forthcoming.

About May, 1917, the emotional disturbance gradually became for a time less profound, and conversation became easier and

safe, though it was less conversation than a continuous outpouring of the patient's thoughts. It was never possible to get Mrs. R. really to co-operate in an examination and discussion of her mental condition, but from time to time she had periods of calm when she would speak fluently, when, apparently in order to add vitality to her rationalisations, she had almost perforce to put them to the test of verbal expression. While still pretty stormy, Mrs. R. suddenly declared that Ena was really Agnes, Agnes being the name of a baby sister of the patient's who died at the age of 18 months many years ago. Mrs. R. now declared Agnes was not dead, but alive and very pretty and an actress, and that Ena was Agnes and a bad woman "who goes with men," and whom the patient's husband always preferred to herself. This fictitious personage "Ena-Agnes" now became at once Mrs. R.'s child and her sister—an entirely non-existent person—and in conversation was interchangeable as a child or as a grown woman, which was extremely confusing. Mrs. R. here revealed her profound feeling of jealousy of her husband in his relations to their little girl, and possibly also some much older conflict connected with the long dead baby sister. The patient was the eldest of a family of seven, of whom four were boys; she was as a child passionately attached to her father, and the baby Agnes was several years younger than she was. (That there was some older difficulty associated with the baby sister was indicated more than a year later, when the patient herself suggested an old conflict connected with the possibly adulterous birth of the infant.) At the same time this development illuminated, to some extent at least, the real emotion, that of jealousy of the husband and child, behind the unnecessarily severe punishment of the little daughter, and, to some extent also, the real reasons for the probable satisfaction it afforded the patient. To *some extent* only, because Ena was the centre of so many complicated associations, as will be observed later, that probably the emotions gratified by punishing her were equally complicated. This making her blood relationship to the object of her jealousy so very much more remote, if not entirely disowning it, apparently afforded Mrs. R. considerable relief; it was a defence formation from the shelter of which she could speak freely of the many moral delinquencies of Ena-Agnes, and, in the

unblushing enumeration of her deficiencies, find vent for long pent-up bitterness otherwise than in emotional nerve-storms. Mrs. R., of course, did not speak of "Ena-Agnes" by this name: she was either Ena or Agnes with completely interchangeable personalities, but I have fused the names to avoid confusion.

The next step was that Mrs. R. declared Ena was not her child, that she never had borne children (she has two), that she did not see her being born (*sic*), and that when she did see the child it was not a new-born baby, but had quite a grown-up look. The patient also said that she once found her husband sitting at a table with a lot of papers, which he said proved that she was not his wife and Ena not her daughter. This step rid the patient of the pain of her outraged maternal feelings, and so altered the relationships of her husband to Ena-Agnes, in regard to paternity, age, &c., as to allow freer and more natural play to the emotions of jealousy. Later Mrs. R. referred to Agnes as "Mrs. S.'s daughter:" she hardly ever referred to her as "my sister," and here a very subtle evasion cropped up. S. is Mrs. R.'s maiden name, but her mother died when the patient was a young woman, and lately her father has married again, a woman whom Mrs. R. had never seen and who is childless, but whom she now declared was her own mother, though she always referred to her as "Mrs. S." (At the same time, this referring to Agnes as "Mrs. S.'s daughter" also glanced at the as yet unspoken thought that Agnes was an adulterous child, and therefore not Mr. S.'s daughter, *i.e.*, not the patient's father's child.) In this way Mrs. R. was able completely to devitalise her maternal, sisterly, filial, and marital feelings, that, owing to the extremely intimate circle of personal feelings involved, caused the jealous emotions to be a source of poignant mental pain. The patient could now allow herself the satisfaction of a full expression of all her morbid thoughts with hardly any emotional disturbance. Mrs. R. was now no longer the mother of the object of her jealousy—Ena, because Ena was Agnes: she was not really the daughter of the same mother as her sister Agnes: she was perhaps not the daughter of the same father as Agnes: her sister was really hardly a sister at all, hardly even a step-sister: she (the patient) was not the wife of the man who loved her rival, Ena-Agnes,

better than herself, and now she could discuss the subject without that gadfly sting of personal feeling that was such bitter pain—almost the matter did not concern her at all. The dissociation of the objects of her jealous emotions from any essential claims on her affection, self-respect, reticence, &c., was complete, and the pathological ideas, emptied of all emotional content, could have full scope without causing the intolerable anguish of an inadequate attempt at control.

Accompanying the development of this insane psychic adaptation there was a progressive change in the patient's general mental and emotional attitude. At first inaccessible, repellent, sullen, dangerously impulsive, and given to bursts of passionate grief, Mrs. R. now became almost conversational, quite accessible, spoke freely of her delusions, but, of course, with the complete absence of insight and the imperturbable insane rationalisations of her kind. A curiously indifferent emotional tone now characterised the patient; she was apt to shed tired, quiet tears of obvious self-pity, but never showed any irritation—the very intonation of her voice had no depth of emotional *timbre.* Mrs. R. gave the impression of being burnt out, consumed by the ardour of her recent sufferings. With the achievement of an impersonal, though delusional, view of her troubles had come comparative emotional peace, but the relief was obtained by the action of an insane mechanism, and, though of great assistance temporarily to the patient's general mental and emotional comfort, it was doubtful whether the adjustment was likely either to have any permanency or offered any hope of an ultimate sane mental re-association and recovery.

In July, 1917, about three weeks after attaining this degree of emotional calm, Mrs. R. was visited by her husband, whom she had not seen for some months owing to his being away in camp. She took his visit calmly, except that she wept quietly and talked constantly of Ena, and wrote her a foolish little note, as though she had been a grown woman. After her husband left, Mrs. R., in reply to the question—"Were you not very happy to see your husband again?" said in an indifferent, unemotional way, "Oh, I suppose so—he says he loves Ena." "But didn't you think him looking well?" "Yes, Ena looks out of his very eyes. I would like best to be Ena, then every one would love

me." Here Mrs. R., in the same even, indifferent, toneless voice, without any outside instigation, proceeded to deliver one of her curious monologues. "My mother had a lot of trouble with me when I was a girl: she used to say I was always making trouble at home. I think I was jealous of my mother, and I had rows with her. Mother was an actress, she had a beautiful voice, and was a fine singer. Father played beautifully, but they quarrelled a great deal. Father used to say mother drank and went with men. I was very fond of my father. I didn't think mother treated him rightly. I shouldn't have left him, but I didn't get on with mother; I hated her at times. I went away because of mother, she was a pretty woman, fair and happy-natured like Ena, and everyone loved her. I sometimes think Ena has to be in my life what I was in my mother's—a source of trouble." Here Mrs. R. practically worked out the mechanism of her own unconscious identification of the various characters in her drama in the two generations. The cross identifications were rather complicated; that of Mrs. R. with her mother (Mrs. S.) in so far as her conjugal and maternal experiences were concerned; Mrs. S. had been unhappy with husband and child, so was Mrs. R.; that of Ena with her grandmother (Mrs. S.) in so far as Mrs. R. declared the child resembled Mrs. S. in face, disposition, and by inference, especially when Ena was Agnes, in doubtful morals, also it will be remembered that Agnes, who is Ena, was said to be an actress as was Mrs. S.; that of Ena again with her grandmother (Mrs. S.) as Mrs. R.'s jealousy of her own father, Mr. S., with her mother, Mrs. S., was repeated where Mrs. R.'s husband and her own daughter Ena were concerned; this included an apparent identification of the husband, Mr. R., with the patient's father, Mr. S., where Ena was identified with Mrs. S., the patient's mother. It will be seen that Mrs. R. later consciously identified herself with her own mother (Mrs. S.) again in another respect, that of undue indulgence in alcohol.

It is of interest to note here that this was the only time I ever heard Mrs. R. use the word "jealous." She was never in the least aware that this fantastic edifice of insane rationalisation was an attempt on her part to escape the pain caused her by her passionately jealous nature. That she had possibly just transferred her jealous troubles with her mother, &c., to the next

generation with additional complications never dawned on her, and any attempt at explaining this was disregarded and flouted. Though the complex achieved expression, it did so indirectly without arousing the patient's consciousness of its real nature, hence her complete ignorance that it was her own weakness and not the cruelty, injustice, &c., of others that was being exposed.

For some days at this time (July, 1917) it was never quite possible to disentangle Ena, Agnes, and the grandmother, Mrs. S., in Mrs. R.'s talk: they were practically interchangeable, and always portrayed as extremely seductive and lovable, and extremely immoral. Although this curious trinity lied, stole, drank, and had all the vices, nevertheless Mrs. R. always insisted with pathetic iteration that they were much beloved by every one, and her husband was always the one person whose name cropped up in this respect: he loved them, whichever one of the three it might be, in turn, he gave them presents, he caressed them, sat with them in attitudes of affection, &c., &c. So large did the husband loom in these amorous relationships with this triple personality, Ena-Agnes-Mrs. S., that it again seemed to imply that he was being confused to some extent with Mr. S., the patient's father, of whom she had always been jealous with her mother. The thought that the patient was to have the same sort of life as her mother, as far as troubles went, was also repeated from time to time; she was to have trouble with her child; she was not to be happy in her married life; she must have been already a bad woman because she was being so punished—her mother had been a bad woman; item for item it was what had befallen her mother, only the latter had been much beloved, and the patient was different in that respect, and no one loved her. This theme of being unloved recurred quite often, and sometimes with fantastic remarks as, "Does taking drink make people love you? Mother drank," &c. Ena and Agnes were always identified with all that was sinful and ugly and horrid, yet successful and popular and attractive in Mrs. S., briefly the world, the flesh, and the devil, while Mrs. R. identified herself only with the elements of tragedy and suffering in her unfortunate mother's life. This curious splitting of the personality of Mrs. S. into two distinct entities was of

considerable interest. It was always a matter of regret to the writer that no adequate sketch of Mrs. S.'s character was obtainable.

(Mrs. S. was actually a singer, of alcoholic habits and doubtful morals, and there was a very considerable amount of domestic unhappiness, from which the patient escaped by starting to earn her own living away from home at an early age. Mrs. R. then married into a somewhat better social grade than her own, and this added to her mental burdens. Mr. R., who is rather a stupid man, has always been foolishly indulgent with his little daughter, petting and spoiling her, and the child is disobedient and forward to the extent of leading some of her relations to think that she is not quite normal.)

This was the first time that Mrs. R. referred to her mother by that title, and the first time that she spoke freely of her; from now on, however, a certain increasing inadequacy of the delusional defence system became apparent. Agnes was not mentioned unless asked for, and then she was said to be alive, but married to someone else. Ena became herself again—Mrs R. seemed to appreciate better that she was really a child, though still attributing all sorts of adult desires and capabilities to her. Occasionally, too, now, Tommy, the little boy was mentioned, an individual whose name had not crossed her lips for ten months. At this time she was fairly quiet and indifferent, but there were indications that with the gradual disappearance of the defence system emotional disturbances were threatened again.

This emotional lull, with improved adjustment, lasted about four weeks, and was followed in August, 1917, by a period of stormy rebellion and trouble, when Mrs. R. mingled passionate clamour for her children, husband and home, with bursts of jealous anger against Ena which were accompanied by insane accusations of all kinds against the child and her father. This would be followed by a day or two of indifferent calm, when utterly unemotional expression was given to the wildest statements about Ena, who was now a baby of seven, and now an adult of the most depraved character. This variable period was followed in February, 1918, by about three weeks of calm, when, however, Mrs. R. was inaccessible, then by three or four months of

sullen temper, when no interest was shown in anything, not even in the news that her husband was wounded and a prisoner. This period probably coincided with the final disappearance of the delusional defence system, and the gradual suppression of the jealousy complex. This suppression, and the fair degree of readjustment that followed, were probably rendered possible by the comparative stability following the evacuation and insane sublimation of so much tortured emotional energy. In June, 1918, at anyrate, a period of comparative calm once more supervened, and with it the need to give her thoughts the sanction of speech. News of her husband being in hospital in London (minus a foot) undoubtedly helped at this juncture, and Mrs. R. held several long, more or less calm, conversations with the writer. The following is a sample :—

"Doctor, does drink lead to madness? I drank a lot. Much more than was good for me. Once at a dinner party I drank six glasses of champagne. I used to take whisky when I was a shop-girl, and at home I took port and sherry to keep up my strength. My husband would get it for me. I know, of course, that I was doing wrong, and I didn't like it. It made me sad, rather miserable. My mother drank a lot, and that was why I left home. She would take my clothes even and pawn them. We had a wretched life. But I ought to have stuck by my parents, you get punished for breaking the commandments. I used to be afraid of what would happen to my children if I drank too much. But my mother was never punished like this. I didn't know you could be kept in a place like this for always. I was ashamed of my parents, and didn't want my husband's people to know about them, and that was wrong. Father has told me that he never knew whether we were his children or not, but I should have stayed and helped them all the same. If I get out I'll thank you then for showing me how I deserved to be punished for the wrong I did, and was doing."

The curious statement about the effect on her of alcohol was interesting, and it was adhered to when questioned later. Mrs. R., however, frankly stated that she had at times taken whisky to the verge of intoxication for no particular reason, and with no resulting feeling of well-being—simply because her mother had taken it. In her talk at this time Mrs. R. gave free expression

to all the minor conflicts, fear of alcohol, shame of her social status, pain at her children's undisciplined behaviour, &c., which were all ultimately associated with the major jealousy complex expressed during the acuter phase of her illness. These minor superficial conflicts, of which she was quite conscious, Mrs. R. discussed freely, though without any satisfactory intellectual grasp; but she became resistive, antagonistic, and inaccessible as soon as any attempt was made to pass by way of one of these questions to the deeper matters at issue. The unconscious jealousy conflict was once more suppressed, and Mrs. R. could not recognise any of its parts when they were presented to her. If things she had said were repeated to her, she either denied them, said she had no memory of them, declared she must have been made to say such things, or else she would reason them away completely out of their significance.

As on former occasions, these conversations were really monologues on the patient's part, and any attempt to guide or discuss her statements was put aside and the monologue continued. Mrs. R. never throughout her illness showed any real insight into her condition: she never considered she had been mentally ill, though she could not account for her violent conduct when challenged with it; her one conviction was that she was being punished, and the only change ever noticeable in her attitude was one of degree, not kind. At first she held that the punishment was entirely unmerited, but at this stage (June, 1918), she insisted upon acknowledging it was deserved because of her treatment of Ena, because of a lie that she had once told about her age when she was a girl applying for a post, &c., &c., &c., but that surely every criminal got a second chance, and she should be let out for a trial. It was impossible to shake her conviction that she had committed a crime, and that her sojourn in the hospital was a punishment.

Mrs. R. remained to the end of her stay suspicious, unsociable, moody, unstable emotionally, and still giving many indications of an abnormal mental state, but showing at last a fair control as far as her general conduct about the ward was concerned. Her discharge from the hospital, at her husband's request, brought this series of notes to an end.

Of the various conflicts revealed by this patient, undoubtedly the really important one was the jealousy complex with all its ramifications. This complex was the underlying disruptive force below the whole upheaval, and in the comparative degree of adjustment that was finally obtained this complex was undoubtedly only buried again, shoved out of sight and left dormant, liable to cause a recurrent acute attack at some subsequent, probably not far distant, date. To the writer it seemed amazing and pathetic to watch this emotion-riven creature reconstructing in her periods of calm what was probably the clue to the whole problem of her illness, and yet to see her apparently precluded from using it for the unravelling of her troubles.

I have to thank Dr. Oswald, Physician-Superintendent of the Glasgow Royal Asylum, for permission to publish these notes.

THE INFLUENCE OF CEREBRAL SYMPTOMS ON THE PROGNOSIS IN PNEUMONIA IN CHILDHOOD.

By MARY PUTNAM, M.D., New York City, U.S.A.,
Late House Physician, Royal Hospital for Sick Children, Glasgow.

The question of the influence of cerebral symptoms on the prognosis in pneumonia in childhood is an interesting one. Holt[1] writes in this connection, "Early convulsions are not generally followed by an especially severe type of the disease, only one of seven such cases proving fatal. On the other hand, cases with late convulsions are usually fatal, as they indicate either a very severe form of the disease or the development of a serious complication, usually meningitis."

Koplik,[2] in a recent article on pneumonia in early childhood, says, "Meningism is a condition characterised by symptoms that at times closely simulate meningitis, and, as a rule, these symptoms are present from the onset of the disease." He concludes that in children over 5 years of age, the development of these symptoms is unimportant in prognosis, but in children below the age of 2 years it is practically a fatal sign.

During my service as resident physician in the Royal Hospital for Sick Children, Glasgow (1916-17), my attention was drawn by Dr. Findlay to the number of young children who gave evidences of tetany in their history or physical examination, and I wondered whether this condition might not often have been overlooked as a predisposing factor in the early cerebral symptoms, the traditional convulsion, said so often to replace in children the chill encountered in adults, and, if so, whether the existence of tetany increased the gravity of the prognosis. Finkelstein,[3] who has written extensively on tetany, or spasmophilia, holds that this condition is invariably responsible for the early cerebral manifestations, the tetany being latent and only brought into activity by the stimulus of the pneumonic toxæmia.

In this connection I studied the cases admitted to Dr. Findlay's

service between 1915 and 1917, and selected for consideration only those in which the histories and clinical records were sufficiently detailed to admit of no doubt being entertained as to the presence or absence of any nervous signs.

Evidence of tetany was demonstrated by the usual signs:—

1. Electrical reactions—Erb's Sign, *i.e.*, K.O.C. being induced by a current less than 5 m.a. Anodal opening contraction induced by a current under 5 m.a., and weaker than that required to cause anodal closing contraction.
2. Chvostek's sign (facial phenomenon).
3. Laryngismus stridulus.
4. Carpopedal spasm (spontaneous or elicited).

A diagnosis of meningitis was only permitted after positive findings in the cerebro-spinal fluid or *post-mortem* examination.

The total number of cases of lobar and primary broncho-pneumonia studied was 120, with a mortality of 26, or 21·6 per cent. A detailed table is given at the end of this paper.

Presence of Cerebral Symptoms.

Nineteen, or 16 per cent of the children, presented early cerebral symptoms, with two deaths, giving a mortality-rate of 10 per cent, and of these only five demonstrated tetany. (Summaries of the clinical histories of these five cases are given below.) Six cases suffered from late cerebral symptoms with four deaths, or a mortality-rate of 66 per cent; of these four fatal cases three had pneumococcal meningitis.

It is thus seen, firstly, that late cerebral symptoms are of much more serious import than early cerebral symptoms; secondly, that the mortality-rate in cases with early cerebral symptoms is decidedly lower than that in the disease in children generally; and, finally, that tetany could only be cited as a cause of the early cerebral manifestations in slightly over 26 per cent.

Presence and Influence of Tetany.

Of the 120 cases, 9, or 7·5 per cent (two of whom were under 1 year of age), had demonstrated tetany, and of these one, *i.e.*,

11 per cent, died. Only five, *i.e.*, 55 per cent, of these nine cases (four of whom were under 2 years of age) suffered from early cerebral symptoms, and one died, giving a mortality rate of 20 per cent. Thus, though the presence of tetany renders the child more susceptible to early cerebral symptoms, the gravity of the prognosis is not enhanced, as the mortality both with (20 per cent) and without (0 per cent) symptoms is lower than that (21·6 per cent) of the cases collectively. It should in this connection also be borne in mind that tetany usually affects the younger children, among whom the mortality is relatively higher.

Clinical Histories of Cases with Active Tetany.

Case I.—A well grown boy of 7½ years was admitted suffering with lobar pneumonia, accompanied by delirium, vomiting, tremor, laryngismus stridulus and carpopedal spasm.

Chvostek's sign was exceedingly active. The temperature fell by crisis on the sixth day, but delirium and a very marked facial phenomenon were present for ten days, and visual and auditory hallucinations persisted at night at the time of his transfer to a convalescent home a week later.

Case II.—A child of two years was admitted with what appeared to be a primary broncho-pneumonia. His mother said that he had had "fits" at intervals of two or three months for the past year, with laryngismus and carpopedal spasm, but apparently no loss of consciousness. His brothers and sisters had been subject to similar attacks in infancy.

The pneumonia was ushered in by two convulsions. On admission to the hospital ten days later, he gave no evidence of tetany. On the sixteenth day, when his temperature began to fall, by lysis, he showed rigidity of the neck. On the nineteenth day Chvostek's sign was positive, and there was laryngismus, and electrical excitability was slightly increased. K.O.C. 4·5 m.a. right median and ulnar nerves.

Case III.—A child of 1½ years, with a history of laryngismus at 11 months, had a general convulsion at the onset of a primary

broncho-pneumonia. On admission he had laryngismus and a positive Chvostek. On the seventh day he had a second general convulsion.

Temperature fell by crisis on the ninth day, when his electrical reactions were tested with the following result:—

K.C.C.,	0·2 m.a.	A.C.C.,	1·5 m.a.
K.O.C.,	2·5 m.a.	A.O.C.,	0·5 m.a.

There were no active symptoms of tetany after the seventh day, but on the eleventh day the electrical excitability was still increased, *e.g.*—

K.C.C.,	0·6 m.a.	A.C.C.,	2·0 m.a.
K.O.C.,	4·0 m.a.	A.O.C.,	2·0 m.a.

and Chvostek's sign was present.

Case IV.—A well-nourished infant of 11 months, the third child of healthy parents, having a past history of laryngismus and occasional carpopedal spasm, was admitted with a primary broncho-pneumonia.

Two days before the onset of respiratory symptoms, he had had two general convulsions. Chvostek's sign was constantly present, and from the beginning of the illness there was retraction of the head, with resistance in the neck.

On the seventh day the retraction was more marked, and vomiting, which had been occasional, became frequent.

Lumbar puncture was done on the ninth, eleventh, and twelfth days, with negative results. On the fourteenth day there were a number of general convulsions, followed for several days by intermittent strabismus. From the seventh day until the time of the crisis on the twenty-third day, there was marked and constant opisthotonus.

On the twenty-eighth day, five days after the crisis, spasticity of the neck was negligible, but carpopedal spasm and Chvostek's sign persisted.

The child remained conscious throughout the illness. His gastro-intestinal history was unimportant, except for the above mentioned vomiting. The Von Pirquet test was negative. Urine was negative throughout.

Fever persisted for twenty-three days and fell by crisis, with no post-critical rise. The child was in the hospital eight and a half weeks, during which time he lost and regained 1½ lb.

On dismissal he was bright and vigorous, but the facial phenomenon could still be elicited. He passed an uneventful convalescence.

Case V.—The one fatal case was that of a child 22 months old, who had sixteen convulsions at the onset of the pneumonia. Death occurred on the eighth day, after repeated convulsions.

Table.

	Total No.	Mortality. No.	Per cent.
Cases of lobar and primary broncho-pneumonia,	120	26	22
Cases under 1 year,	29	13	45
Cases 1 year or over,	91	13	14
Cases with no cerebral symptoms,	95	20	21
Cases under 1 year,	20	10	50
Cases 1 year or over,	75	10	13
Cases with tetany,	4	0	0
Cases with cerebral symptoms,	25	6	24
Under 1 year,	8	3	37
1 year or over,	17	3	17
Analysis of cases with cerebral symptoms,	19	2	10
1. *Early*—			
Under 1 year,	7	1	14
Over 1 year,	12	1	8
(*a*) Plus tetany (4 under 2),	5	1	20
(*b*) No tetany,	14	1	7
Under 1 year,	5	1	20
1 year or over,	9	0	0
2. *Late*,	6	4	66
Under 1 year,	2	1	50
Meningitis,	3	3	100
Not proven to be meningitis,	3	1	33
Tetany, with or without symptoms,	9	1	11
Tetany, without symptoms,	4	0	0

In these cases no account was taken of the group of pneumococcus. As a basis of comparison I quote the figures of

Dr. Koplik,[2] from a series of 1,351 cases of pneumonia occurring in New York City from 1906 to 1914:—

Age.	No. of Cases.	No. of Deaths.	Per cent.
Under 1 year. . .	334	117	35
Over 1 year, . .	1,017	131	12·8

Conclusions.

Although one cannot draw any definite conclusions from so small a series of cases, it seems safe to assume reservedly that when one meets a case of pneumonia complicated by tetany, the prognosis, apart from the caution which must always be used in making a prognosis in the spasmophilic diathesis even when uncomplicated, need not necessarily be grave. To recapitulate, in this series the mortality per cent of cases without cerebral symptoms was 21, with early cerebral symptoms 10, with latent or active tetany 11, with active tetany 20, and with late cerebral symptoms 66.

REFERENCES.

[1] L. E. Holt and J. Howland, *Diseases of Infancy and Childhood*, 1916, p. 534.

[2] Henry Koplik, "Pneumonia in Early Infancy and Childhood," *Journ. Amer. Med. Assoc.*, vol. lxix, No. 20, p. 1661.

[3] Finkelstein, *Lehrbuch der Säuglingskrankheiten*, Berlin, 1905, p. 238.

Obituary.

THOMAS ORR GUTHRIE, M.D.Glasg.,
New Zealand.

Many of our readers will learn with deep regret of the death of Dr. T. O. Guthrie, which occurred at Wellington, N.Z., on 18th December last.

He was one of the leading men of his year, graduating with high commendation in 1876. Having acted as resident assistant in the Royal and the Western Infirmaries, and having taken special courses, such as that at the Rotunda, Dublin, he went to New Zealand, where his elder brother, Dr. John Guthrie, had already settled. He soon acquired an extensive practice, and won the confidence and the esteem not only of his patients but of his fellow-practitioners.

Several years ago he retired from work, and came home for the education of his family, a son and a daughter. When his son, Errol, who took his degree in medicine at the University of Edinburgh, was ready to commence practice, the whole family returned to New Zealand.

In 1916 Dr. Errol Guthrie came to France with a New Zealand contingent as an officer in the R.A.M.C., and was killed early in July of that year. A most promising life was thus cut short, and the blow to his father was very severe, as there was a companionship between them which is rarely seen between father and son. Since that time his health had not been what it formerly was.

Dr. Guthrie was a man of marked ability and of sterling character, and occupied a high position in the medical profession in New Zealand. Those who enjoyed the privilege of his intimate friendship had such an affection for him as is inspired by few.

ANGUS MACPHEE, V.D., M.D.Glasg., F.R.F.P.S.G., Glasgow.

By the death of Dr. Angus Macphee, which occurred on 3rd January, a figure well known, at least to the older members of the profession in Glasgow, has disappeared from our midst. Dr. Macphee was born in Lochaber, and graduated at Glasgow University in 1879. After holding a post as resident physician in the Western Infirmary, he became a demonstrator of anatomy under Professor Cleland in the University. Here Dr. Macphee's cheerful smile and West Country tones gave courage to many a young student entering on a strange scene with many unpleasant surroundings, and reminded him that he was not entirely cut off from the world he had known before. Dr. Macphee afterwards became a dispensary physician at the Royal Infirmary, and delighted in showing how an accurate knowledge of anatomy helped to elucidate medical problems, and with him the prescription of a sudorific might readily introduce a dissertation on the sweat glands. He was interested in improving the maternity service among the poor, and about fourteen years ago founded the General Nursing Association, to which he devoted much of his time. He was a very keen Volunteer, and naturally joined the Glasgow Highlanders, from which he retired with the rank of Honorary Surgeon-Colonel a few years before the war, after nearly twenty-four years' service. On the outbreak of war he gave his services as a medical officer when the new battalions were being formed. The strain of this work, it is feared, injured his health, and he was compelled to retire from active practice a short time ago.

JOHN CUNNINGHAM, J.P., M.B., C.M.Glasg., D.P.H.Camb., Campbeltown.

Dr. John Cunningham, whose death occurred suddenly at his residence at Campbeltown on 23rd December at the age of 74, after he had spent fully forty-one years as a practitioner in that town, was a native of Girvan, and was trained in medicine at Glasgow University, where he graduated in 1871. Always

keenly interested in educational affairs, he was for many years chairman of Campbeltown School Board, when many important reforms were effected, and served also on the Secondary Education Committee of Argyll. He was a Justice of Peace for the County.

JOHN STEVENSON, M.D.Glasg.,
Paisley.

We regret to announce that Dr. John Stevenson, of Paisley, died on 13th January at the age of 67. He graduated at Glasgow University in 1880, and the degree of M.D. was conferred on him in 1894. He was formerly medical officer of health at Armadale.

WILLIAM DIAMOND, M.B., C.M.Glasg.,
Christchurch, New Zealand.

We regret to learn of the death of Dr. William Diamond, which occurred on 23rd December, 1918. Dr. Diamond graduated at Glasgow University in 1888. After engaging in practice for some years at Shawlands he settled in New Zealand, where he acted as medical officer for the Government Railways in the District of Canterbury.

CURRENT TOPICS.

UNIVERSITY OF GLASGOW: THREE NEW CHAIRS.—The announcement of a munificent gift to the University of Glasgow was made on 9th January at a meeting of the University Court. Principal Sir Donald MacAlister stated that since last meeting he had received intimation from Mr. William Guthrie Gardiner and Mr. F. C. Gardiner that they desired to endow three Chairs in the University—one of Bacteriology, one of Organic Chemistry, and one of Physiological Chemistry. Their intention was to provide £20,000 for each Chair—£60,000 in all. The Court had accepted with gratitude the munificent benefaction offered to the University by the Messrs. Gardiner for the foundation of these Chairs, and proposed that in the ordinances for the establishment of the new professorships they should be designated the Gardiner Chairs in honour of the founders.

The donors of the new Chairs, Mr. W. G. Gardiner and Mr. F. C. Gardiner, are prominent members of the commercial community of Glasgow. About a year ago the elder brother, Mr. W. G. Gardiner, retired from partnership of the firm of Messrs. James Gardiner and Co., shipbrokers, St. Vincent Place, in the affairs of which he had taken an active part. Mr. F. C. Gardiner, who is still engaged in the business of the company, is perhaps better known than his brother to the citizens through being prominently identified with the work of Glasgow Chamber of Commerce, of which he is vice-president, and other public bodies. In all the efforts that have been made in recent years to strengthen the prestige of the city in commercial and industrial affairs through the Chamber of Commerce and other channels he has borne a notable part. He was given the opportunity during the war of turning his knowledge and experience to the nation's account in connection with shipping and transport business, in regard to which he has done valuable work for the Government.

The benefaction will make possible a notable development in the resources of Glasgow University at an important epoch in its history. In the sphere of education the future holds a promise of better facilities for all classes and the advancement of education is almost certain to have an important bearing upon our capacity to increase our commercial and industrial influence among the nations. The gift now announced is evidence of the greater interest that business men are taking in the provision of education, and it should forge still closer the link between the commercial community and the University. The importance of establishing an intimate relationship between Town and Gown was emphasised during the Principalship of the late Dr. Story, who endeavoured particularly to interest the leaders of commerce in the work of the University, and Sir Donald MacAlister since the beginning of his reign in the Principal's chair has devoted himself whole-heartedly not only towards strengthening these bonds but also to widening the scope of the University's influence.

The new Chairs will add greatly to the teaching power of Glasgow University. In the Faculty of Science there is already a Chair of Chemistry (founded by George III in 1817), which has been held by only three professors—Dr. Thomas Thomson from 1818, Dr. Thomas Anderson from 1852, and Dr. John Ferguson from 1874 until 1915. Since Professor Ferguson's retirement (the year before his death) the chair has been vacant. It is a Crown appointment. There are at present lectureships in organic chemistry, metallurgical chemistry, and physical chemistry (including radio-activity). The addition of Chairs in Organic Chemistry and Physiological Chemistry, which are now to be made through the munificence of Mr. W. G. Gardiner and Mr. F. C. Gardiner, will make a valuable contribution to the University's equipment for dealing with one of the most important studies in the whole range of science. Much gratification will be felt also that the donors have chosen bacteriology—a subject which has not hitherto attained to the dignity of a lectureship—for one of the new professorships. The gratitude with which the members of the University Court learned of the gifts will be shared by the whole community.

The Principal also announced a gift by a Professor in the

Faculty of Medicine of a sum of £800 in 5 per Cent War stock for the institution of a bursary in Medicine to be known as the "Arbroath Bursary," and of a sum of £350 in 5 per Cent War stock for the purpose of establishing a prize for the best essay on some subject in the History of Medicine. There was also intimated the gift of a sum of £262, 10s. by Sir Joseph P. Maclay, Bart., to provide the stipend for five years of a Lecturer in Clinical Tuberculosis in connection with the Bridge of Weir Consumption Sanatoria. The Principal said that that was an experiment which might be extended to other institutions for the treatment of tuberculosis. It was agreed to thank the donors.

At this meeting the Principal expressed gratification at the announcement that Professor Rait had been appointed Historiographer to the King in Scotland. It was, he thought, the first time that honourable distinction had come to the West of Scotland.

A letter was read from the Army Council to the effect that unless the military situation changed materially in the near future it would be possible in the interests of education to dispense with whole-time training in the Senior Division of the Officers' Training Corps this year. It was hoped that the high standard of efficiency which obtained at present would be kept up, and they invited the University to submit a scheme showing the number of hours per week that they proposed to devote to military work in future. The O.T.C. throughout the country had improved during the war in a marked degree, and the Council wished the University to continue their encouragement to the Corps. The O.T.C. was formed for such a war as the present one, and its foundation had been more than justified by results. The letter concluded by expressing high appreciation of the services of all those concerned in raising the Corps to the standard it had attained. The Principal said it was gratifying to know that the Army Council appreciated what had been done. It was agreed to remit the communication to the Committee on Military Education for consideration. The Court decided to ask Professor Phillimore to act as their representative on the Committee of the Royal Scottish Academy which is being formed to act in an advisory capacity with regard to war memorials.

Appointments.—The following appointments have recently been made:—

Royal Field Artillery, 4th Lowland Brigade—To be Major —Captain A. Peden, M.B.Glasg. (1912).

Royal Air Force, Medical Branch—Captain A. D. Kennedy, M.D.Glasg. (M.B., 1903), R.A.M.C., and Surgeon-Lieutenant D. S. Stevenson, M.B.Glasg. (1917), R.N., are granted temporary commissions as Captains.

Royal Army Medical Corps—Temporary Lieutenants to be temporary Captains—B. W. H. Fergus, M.B.Glasg. (1917); J. G. Millar, M.B.Glasg. (1901); R. Steel, M.B.Glasg. (1909); G. Ferguson, M.B.Glasg. (1902).

R.A.M.C., Territorial Force, 1st Lowland Field Ambulance —Major W. C. Murray, M.B.Glasg. (1892), to be a Deputy Assistant Director of Medical Services.

Attached to Unit other than Medical Unit—Captain A. S. Macgregor, M.D.Glasg. (M.B., 1904), to be a Deputy Assistant Director of Medical Services.

R.A.M.C., Territorial Force (Reserve)—To be Lieutenant-Colonels—Lieutenant-Colonel (acting Colonel) J. M'Kinnon, D.S.O., M.B.Glasg. (1900), from 3rd West Riding Field Ambulance; Lieutenant-Colonel H. W. Thomson, D.S.O., M.D. Glasg. (M.B., 1895), from Lowland Mounted Brigade Field Ambulance.

To be Lieutenant-Colonel — Lieutenant-Colonel (Brevet-Colonel) J. R. Kaye, M.B.Glasg. (1880), from general list.

To be Major—Major W. A. Burns, (M.B.Glasg. 1900), from 2nd Lowland Field Ambulance.

To be Captains—Captain (acting Major) J. Henderson, M.D. Glasg. (M.B., 1898), from 4th Scottish General Hospital; Captain D. A. Wilson, M.B.Glasg. (1902), from 1st North Midland Field Ambulance; Captain D. H. M'Phail, M.B.Glasg. (1902), from 2nd Lowland Field Ambulance; Captain (acting Major) A. R. Muir, M.B.Glasg. (1910), from Lowland Mounted Brigade Field Ambulance.

Honours for Glasgow Graduates.—His Majesty the King has been graciously pleased to approve of the undermentioned

awards for distinguished service in connection with military operations in France and Flanders :—

Distinguished Service Order—Captain (acting Major) T. I. Dun, M.C., M.B.Glasg. (1914), R.A.M.C. ; Captain (acting Lieutenant-Colonel) J. M'Millan, M.B.Glasg. (1908), R.A.M.C.

Military Cross—Temporary Captain (acting Major) John Gibson, M.B.Glasg. (1911) ; Captain (acting Major) Clark Nicholson, M.B.Glasg. (1910), R.A.M.C.(S.R.) ; Temporary Captain John Wylie, M.B.Glasg. (1914), R.A.M.C. ; Captain E. M'M. Dunlop, M.B.Glasg. (1916), R.A.M.C.(T.F.) ; temporary Captain Joseph Patrick M'Greehin, M.B.Glasg. (1915), attached 4th Battalion Royal Fusiliers.

For services in connection with military operations in Salonika :—Captain H. W. Torrance, M.B.Glasg. (1916), R.A.M.C. (S.R.).

Mentioned in Despatches.—The names of the following are mentioned for distinguished and gallant services and devotion to duty in a despatch received from the Commander-in-Chief of the British Armies in France :—

Army Medical Service—Staff—Captain (acting Major) T. I. Dun, M.C., M.B.Glasg. (1914) ; Captain (acting Major) A. L. Robertson, M.B.Glasg. (1912).

Royal Army Medical Corps—Temporary Captain J. W. M'Leod, M.B.Glasg. (1908), attached to 8th Mobile Bacteriological Laboratory ; temporary Captain (acting Lieutenant-Colonel) L. D. Shaw, D.S.O., M.B.Glasg. (1904).

Mentioned in despatches for service in connection with military operations in Italy :—

Captain A. Picken, M.B.Glasg. (1914), R.A.M.C.(S.R.).

Order of British Empire.—The King has been graciously pleased to give orders for the following appointments to the Most Excellent Order of the British Empire for valuable services rendered in connection with military operations in Egypt :—

C.B.E.—To be Commanders of the Military Division of the said Most Excellent Order—Major Farquhar Gracie, M.B.Glasg. (1892), R.A.M.C.(T.F.) ; Captain David Livingston Graham, M.B. Glasg. (1904), Indian Medical Service.

To be Officer of the Military Division of the said Most Excellent Order—Captain A. Picken, M.B.Glasg. (1914),R.A.M.C. (S.R.), for valuable services rendered in connection with military operations in Italy.

For valuable services rendered in connection with the non-combatant side of the war:—

K.B.E.—To be a Knight Commander of the Civil Division of the said Most Excellent Order—Edward Napier Burnett, J.P., M.D.Glasg. (M.B., 1894).

O.B.E.—To be an Officer of the Civil Division of the said Most Excellent Order—Hugh Allan Macewen, M.B.Glasg. (1905), Medical Inspector, Local Government Board.

To be Brevet-Major—Captain (acting Major) A. A. Jubb, M.D. Glasg. (M.B., 1898), R.A.M.C.(T.F.).

The following are the records for which awards have already been made:—

Second Bar to Military Cross—Temporary Captain (acting Major) Robert Masson Greig, M.C., M.B.Glasg. (1914), 63rd Field Ambulance, R.A.M.C. He displayed conspicuous gallantry and great devotion to duty in attending to the wounded and superintending their evacuation from advanced positions. To his admirable organisation and self-sacrificing endurance, working without rest or sleep, many wounded men owe their lives, and his coolness and courage when leading his stretcher-bearers forward under heavy fire were admirable.

Bar to Military Cross—Captain (acting Major) Charles Stuart Peddie Black, M.C., M.B.Glasg. (1910), 1/2nd (Lowland) Field Ambulance, R.A.M.C. (T.F.). For conspicuous gallantry and devotion to duty during an advance. Under heavy shell and machine-gun fire he reconnoitred the forward roads and brought up a tent sub-division and set up an advanced dressing station. By his energy and courage he was enabled to clear all wounded from the aid-posts and evacuate them to the main dressing station.

Temporary Captain (acting Major) John M'Lean Pinkerton, M.C., M.B.Glasg. (1914), 13th Field Ambulance, R.A.M.C. For conspicuous gallantry in charge of stretcher-bearers. He went

fo ard with some bearer squads to bring in wounded which bea..rs had been prevented from getting to by machine-gun fire. He ultimately succeeded in bringing in some of the wounded, though fired on every time he was observed. Throughout the operations he showed the greatest zeal and devotion to duty. He was finally severely wounded.

Military Cross—Temporary Captain Alfred Mackenzie Clark, M.B. Glasg. (1915), R.A.M.C., attached 1st Battalion Northumberland Fusiliers—For conspicuous gallantry and devotion to duty. Hearing that there were several wounded men lying out that could not be collected until nightfall, owing to snipers and machine-gun fire, he went himself and dressed them in the shell-holes where they lay. On this, as on other occasions, he showed a total disregard for his personal safety when the welfare of the wounded was at stake.

Temporary Captain William Hamilton, M.B., Ch.B.Glasg. (1910), R.A.M.C., attached 223rd Brigade R.F.A.—For conspicuous gallantry during an advance. He remained at the gun positions throughout the operations. Under heavy shelling he attended to wounded in exposed positions, and was always cheerful under most trying circumstances. His courage and devotion to duty won him the admiration of all ranks.

Temporary Captain William Brockie Wilson, M.B., Ch.B. Glasg. (1912), R.A.M.C., attached 1st Battalion Devon Rifles —For conspicuous gallantry and devotion to duty. He treated the wounded of his own and other battalions; this involved passing backwards and forwards over shell-swept areas. Later he went forward with his stretcher-bearers and searched all the ground up to the front line. He showed splendid zeal and disregard of danger, and set a fine example to those under him.

Sir Douglas Haig and Army Medical Service.—In a lengthy and most interesting despatch dealing with the brilliant victories of the British Army on the Western front which led up to the signing of the armistice on 11th November last, Sir Douglas Haig pays the following tribute to the medical services:—

"During the period under review the medical services, under the direction of Lieut.-General C. H. Burtchaell, deserve special

commendation for the initiative, energy, and success which have characterised all branches of their work. The rapid advance of the troops and the extended front on which operations were carried out during the final stages of the offensive created problems in connection with the collection, evacuation, and treatment of wounded which had not been met with in the earlier phases of the war. These difficulties were met with the most admirable promptness and efficiency.

"My thanks are due to the consulting surgeons and physicians for the invaluable assistance given by them in the application of new methods to the treatment of wounds and disease; to the R.A.M.C. officers and permanent staffs of the convalescent depôts for work which enabled many thousands of men to be restored to the fighting ranks; to the untiring and devoted work of the British Red Cross Society, the Order of St. John, and all members of the nursing service, whose unremitting kindness and constancy have done much to alleviate the sufferings of the sick and wounded; and, finally, for the very valuable services rendered by the base hospital units and by individual officers of the Medical Corps of the United States of America attached to the British Army."

The Ministry of Health: The Views of Industrial Assurance Approved Societies.—The sixth annual meeting of the National Conference of Industrial Assurance Approved Societies was held at Stable Inn Hall, Holborn, on Tuesday, 5th November, when the president, Mr. A. C. Thompson, chairman of the Prudential Approved Societies, delivered an address on the subject of a Ministry of Health, and defined the attitude of the industrial assurance organisations towards such a Ministry. In the course of his remarks he said:—

It is hardly necessary, in speaking as the president of this conference, that I should vindicate our right to be heard in regard to any measure affecting the health of the people, or dwell at any length on the extent of our interest and experience in this matter. I may, however, point out that the societies constituting this conference have a total active membership of 5,900,000, of whom 3,100,000 are men and 2,800,000 are women. In respect of this membership the societies here represented have during the past year distributed by way of sickness benefit

£1,680,000; in disablement benefit, £488,000; and in maternity benefit, £433,000. The total amount distributed by our societies in benefits since the commencement of the Act exceeds £15,500,000.

The approved societies into whose hands the carrying on of the work of National Insurance has been committed by the State, could not if they would remain mere business concerns in the face of the hard facts relating to the health of the people with which they are brought into contact. They are not content to occupy the position of an ambulance column dealing with the casualties and patching up the wounds as they occur in the battle of life, and they insist on their right to go into the fighting line in the great struggle against disease and death, and to take their part in putting an end to the cause of much of the evil with which they have to contend, and they have therefore been pioneers in the movement for the establishment of a Ministry of Health.

In setting out to secure the establishment of such a Ministry the ideal which most, if not all of us, desired to realise was a separate Department of the State, distinct from all existing Departments, which should be concerned with functions relating to the health of the people and with nothing else, and to which should be transferred all functions coming within this description that are at present being exercised by other Departments. The merits of the ideal Ministry of Health are so great, and the need for it is so urgent, that it is possible, and even probable, that public opinion when fully informed on the subject would be strong enough to sweep away all opposition that might seek to obstruct the formation of a Ministry on the lines we desire. On the other hand, it must be borne in mind that we are still engaged in the greatest war of all time, and that things which might be possible in the quieter times of peace are impracticable in the conditions in which we are living at the moment. This fact, coupled with the urgent necessity for something being done at once, without waiting for the end of the war, has led many of us to consider whether it is not better to see what can be accomplished now by way of amicable arrangements with the different Departments concerned rather than to take up the attitude that we will have all or nothing.

The only point of difference between us and these other

approved societies, with whom we have worked for a long time past on most friendly terms, and with whom we hope to co-operate most cordially in the future, arises from the proposal to include temporarily the whole of the Poor-law in the new Ministry of Health. It would appear from various statements that have been made at recent conferences and in the press that the present Government is prepared to introduce legislation on these lines, coupled with an undertaking to take immediate steps for the transfer away from the new Ministry of those portions of the Poor-law which have no direct relations to health, and after careful consideration the Executive Committee of this conference has come to the conclusion that if a bill on these lines is introduced it could not take upon itself the responsibility of recommending the absolute rejection of such a measure.

In taking this course, however, I should like once more to emphasise the fact that such a measure will not satisfy us and does not represent the ideal at which we aim. We shall not rest content until we have a Ministry of Health dealing only with health matters and supervising and co-ordinating all the health services of the country, and anything short of this that may be attained in the immediate present will be regarded by us only as an instalment of what we hope and intend to obtain in its entirety. We have no greater liking for the Poor-law than have our friendly society friends, and our attitude towards it will be one of uncompromising hostility until we have succeeded in wholly and finally destroying those features of it which have made it an object of hatred to the poor.

The conference passed unanimously the following resolution relating to the establishment of a Ministry of Health:—

"That this conference of Industrial Approved Societies, administering National Health Insurance benefits to nearly six million members, cordially welcomes the statement in the Prime Minister's Manchester speech of his conviction as to the need of a strong progressive policy in the vitally important matter of the health of the people, and pledges to the Prime Minister its united support in placing on the Statute Book an Act to establish a Ministry of Health for the unification and co-ordination of the functions of the various existing central authorities in this field of national work. The conference is

convinced that such a Ministry must have a strong Advisory Council or Councils, composed of persons of both sexes closely conversant with the several elements of the various problems involved, and that similar measures to those now urged for England and Wales must also be taken for Scotland and Ireland on lines suitable to their respective conditions and requirements.

"The conference pledges its united support to the Prime Minister in giving immediate effect to the reforms in Poor-law administration recommended by the Maclean Committee, so as to eliminate all trace of the taint of pauperism from which the recipients of Poor-law relief have hitherto suffered, and thus remove any cause for opposition to the immediate establishment of a Ministry of Health.

"The conference is deeply impressed by the revelations brought to light by the administration of National Health Insurance, by the high percentage of rejections for the Army, and by the great number invalided from the Army after a few months' service. These facts, added to the admitted need for more and better medical attention to women and children, and to the appalling housing conditions in which so many of its members live, satisfy the conference that there is no social measure of greater importance or more urgently needed than the immediate co-ordination of the health services (including housing and sanitation) of the nation by means of a Ministry of Health."

A Reconstruction Scheme. — Several schemes for the reconstruction of medical practice have recently appeared in the professional journals, and a very suggestive sketch by Major-General Sir Bertrand Dawson entitled the *Nation's Welfare*, being the Cavendish Lectures delivered before the West London Medico-Chirurgical Society, has now reached our hands.

The organisation suggested by Sir Bertrand Dawson may be summarised thus:—

1. A Ministry of Health with a Medical Advisory Board. This Ministry of Health should be in three divisions—(*a*) Health, (*b*) Housing, (*c*) Local Government. The Health Division would take over the existing health services of the Local Government Board, including the medical parts of the Poor Law, pending

their reform, and the present duties of the Health Insurance Commission. As the organisation matured it could take over the health services now belonging to other Ministries.

2. Local health authorities, which should be chosen from an area not smaller than a county or a county borough. These local authorities to be advised by a Medical Council of the area.

The hospitals required will consist of local hospitals, central hospitals, and teaching hospitals.

The author gives a very attractive picture of the health services for a small town:—

"In a small town the buildings for the health service would be all located at one spot, whereas in big towns there would need to be two or more clinics, each serving a group of doctors. The doctors would further co-operate in running hospital accommodation for their private patients.

"I will briefly sketch the accommodation in a small town served, say, by six doctors. It would comprise consulting rooms, examining rooms, minor operating room, *x*-ray equipment, a laboratory, provision for nurses, a room for notes and records, and adjacent to it a common room for the medical officers. In the proximity would be the hospital, baths, and other remedial equipment, and the centres for maternity care, infant welfare, school hygiene, &c. Rather more remote would be the covered and open grounds for physical culture, and adjacent to these the playing grounds. In short, the health organisation of that community and the intellectual life of the doctors would find a home and mutual inspiration in the settlement. Incidentally, this arrangement would lead to close co-operation in work amongst the doctors and allow them more freedom for recreation and repose. There will still be home visiting and treatment, but these will tend to diminish as the benefits of such a scheme become apparent."

These local hospitals should be related to *central hospitals* situated in larger towns. The staff of the *central hospitals* will provide the consultants and specialists for the local hospitals of the district. Round the *central hospitals* should be gathered health services, both preventive and curative, and these would be more amply provided, both as regards equipment and

personnel, than those of the local hospitals. With regard to *teaching hospitals*, the author considers that these should be affiliated to a university, and should not be under the health authority. As their primary function is education and research, they should gather their patients from everywhere, and would no doubt be fed from hospitals and clinics far and wide.

Attached to the teaching hospitals should be various institutes where the domains of medicine and social science meet, representing such subjects as maternity care, school hygiene, &c., and these should be directed by specialists, who would be on the staff of the hospital. In these institutes would be given post-graduation training for doctors and instruction to nurses and social workers.

With regard to the practical working of the scheme it must be confessed that we have some difficulty in following the author. In fact, he warns us that it would be premature to draw up any detailed scheme of organisation, as any scheme should be established gradually, will improve with experience, and, no doubt, will vary in its details according to local needs.

It is understood, of course, that any adequate medical service, if it is to be available for the population, will need State aid and central guidance.

We are pleased, indeed, to have before us a considered scheme such as this, and have no doubt that it will help the medical men of the country to realise that great changes are pending, and to realise also the necessity for a careful study of the various suggestions put forward. It is, however, of the first importance to remember that the satisfaction of the demands of the public will be the primary consideration in the view of the Government.

Literary Intelligence. — The sixth edition of Luff & Candy's *Manual of Chemistry*, revised and enlarged by Mr. Candy, is announced for immediate publication by Messrs. Cassell & Co., Limited, London.

The eleventh edition of Bruce and Dilling's *Materia Medica and Therapeutics*, revised to correspond with the War Amendments of July, 1917, and March, 1918, is also announced for early publication by the same firm.

Red Cross: Scottish Branch.—The following list of County Subscriptions was issued at the close of the year:—

Aberdeenshire,	£14,739	17	6
Argyllshire,	10,225	13	10
Ayrshire,	53,959	6	10
Banffshire,	5,487	19	3
Berwickshire,	8,977	9	1
Bute, Arran, and Cumbrae,	2,839	9	6
Caithness,	1,796	6	10
Clackmannan and Kinross,	9,858	16	0
Dumfriesshire,	22,441	0	0
Dumbartonshire,	20,194	0	11
Fifeshire,	35,872	1	10
Forfarshire,	14,629	13	9
Haddington,	9,831	0	4
Inverness-shire,	4,329	1	7
Kincardineshire,	3,199	2	2
Kirkcudbrightshire,	7,604	16	8
Lanarkshire,	46,774	4	7
Linlithgowshire,	4,215	13	2
Midlothian,	9,316	6	8
Morayshire,	5,894	0	11
Nairnshire,	1,934	8	3
Peeblesshire,	3,986	3	7
Perthshire,	11,542	12	11
Renfrewshire,	35,975	18	10
Ross and Cromarty,	4,202	18	5
Roxburghshire,	9,610	18	8
Selkirk,	3,232	15	0
Stirlingshire,	12,583	13	4
Sutherlandshire,	1,425	13	3
Wigtownshire,	6,040	4	10
Orkney,	1,428	17	0
Shetland,	484	7	3
City of Aberdeen,	6,762	12	0
City of Dundee,	10,000	0	0
City of Edinburgh,	14,534	10	6
City of Glasgow,	10,496	14	4
Abroad (Scots in Chili),	2,185	2	3
	£458,613	11	10

The following article, which appeared in the columns of the *Glasgow Herald* of 11th January, seems to indicate the view taken by those in authority at the headquarters of the Red Cross Scottish Branch with regard to the future activities of the Society and the methods by which the moneys now in their hands may be utilised to the best advantage :—

"Though the casualties of battle have ceased the work of the Red Cross continues, perhaps in somewhat diminished volume, but none the less necessary a part of the great machine organised to minister to the sick and wounded. Even after peace is signed, and for an indefinite period, there will be in one form or another calls upon its resources. The repairable wastage of war cannot be made good without much treatment and after-care, and it is probable that for years to come men who have suffered grievous injury in the service of their country will require all the attention that such an institution as the Red Cross Society can give them. While it is not possible to set down with anything like definiteness the line of work that may be followed by the Scottish Branch (to which alone reference is made here), some indication can be given of the operations in which it is likely to be engaged for some time. Even if a period could be set to the kind of work that fell within the scope of the Red Cross while fighting was in progress, it would be unfortunate if the valuable organisation which has been created since the outbreak of war, and which links up every county and district in Scotland to the headquarters of the Scottish Branch in Glasgow, were allowed to collapse. A very large number of young women have devoted themselves to voluntary work under its auspices. Is it not highly desirable that they should be offered an opportunity in some sphere where they might be able to render service equally in harmony with the fine humanitarian principles upon which the Red Cross is founded? There are phases of the reconstruction problem towards the solution of which these women might helpfully contribute. For instance, in regard to child welfare, one of the most important subjects comprehended in the term social reform, they would find an outlet for their energies in a field where, if fruitful results are hoped for, women are best qualified to obtain them. Provision would require to be made for giving them instruction, and in that work the Red Cross might take part, just as it helped in

co-operation with the St. Andrew's Ambulance Association to train women as V.A.D.'s. Whether the suggestion is practicable or not, it is offered as a means by which those who have laboured voluntarily under the Red Cross in some of its many spheres of beneficent activity may find scope for further endeavour.

"The Scottish Branch of the Red Cross is far, however, from being in the position of having to look round for something to keep its organisation going. No general indication on the subject of demobilisation has yet been given by the military authorities so far as work for the sick and wounded is concerned, and it is improbable that a definite scheme will be formulated until after peace is signed. Meanwhile some of the smaller and more remote auxiliary hospitals of the Scottish Branch are being closed. The hospital at Rouen has also been evacuated, but the one in Paris remains in use. Transport work in France continues, and supplies of clothing and comforts are still being sent to units abroad, though these will tend to diminish as the necessities grow less. At home the calls upon transport services are certain to last for a considerable time. So far as one can form an opinion on the subject, some time must elapse before the work of the Scottish Red Cross for the fighting troops—the term is used to distinguish them from the men under treatment for sickness and wounds—comes to an end. And when that ends there will remain a very important part of its activities which the branch undertook some time ago—the provision of treatment and assistance to discharged disabled soldiers and sailors. In 1917, it may be recalled, the Scottish Red Cross made an arrangement with the Ministry of Pensions under which it furnishes special equipment and funds to provide institutional treatment for discharged men suffering from tuberculosis, neurasthenia, paralysis, rheumatism, and other complaints, and this work will probably continue for a long period. Independent of that obligation, the Scottish Branch at Ralston Hospital has on hand the treatment of paraplegics—some of the saddest cases of the wreckage of war—and that is likely to last longer than any other phase of its operations. The provision of comforts and surgical dressings for hospitals still engages the energies of Red Cross work parties, to whom a debt of gratitude is due for their self-sacrificing labours throughout the war.

"Alteration was made recently in the regulations for the treatment of discharged men which were in use during the war, the Army Medical Service having for a period of six months, dating from 3rd December, arranged to undertake the treatment of all sick and wounded men. The effect of this temporary change is that during that time no man will be discharged from the Army on health grounds. At the expiry of the prescribed period, these operations will again devolve upon the Ministry of Pensions. Meanwhile the Red Cross will continue to co-operate with the Army Medical Service as it has done since the beginning of the war in providing hospital treatment and all the other necessary services that it has given for these cases. The work for the sick and wounded during the ensuing six months will therefore remain on a war footing. Thereafter the Red Cross will co-operate for the same purpose with the Ministry of Pensions, and there is no doubt that a considerable number of men will require special treatment even after the period of six months has expired. It is probable that the Red Cross will have to take an important part in endeavouring to deal with the increase of tubercular complaints due to the war, in providing sanatoria and treatment. On its administrative side the work in connection with these cases will, it is expected, be discharged by the National Health Insurance Commissioners. When the cases which can be traced directly to the war have been disposed of, any institutions which may have been provided by the Red Cross will be available for the civil population. There are other lines of work in which measures taken by the Red Cross for the treatment of diseases or injuries directly attributable to the war may ultimately be used for the benefit of civilian patients.

"With such prospects before the Red Cross, there seems no danger of the funds, which have been so generously subscribed to enable it to carry on its great work, not being required. In regard to the future of the hospitals under the control of the Scottish Branch, the public may rest assured that the best use will be made of those that are still fulfilling their function in helping to restore men to usefulness in civilian life. The Scottish National Red Cross Hospital at Bellahouston is likely to remain one of the leading centres for cases requiring orthopædic treatment long after its wards are vacated by ordinary

patients. In connection therewith Bellahouston possesses finely equipped workshops for manual curative treatment, a valuable adjunct of its orthopædic section. It is expected, however, that Woodside Hospital at Kelvingrove will shortly be handed back to the Glasgow College of Domestic Science, for which the building was originally erected. Convalescent homes rather than hospitals are now required, and it is gratifying to know that in Scotland at present the Red Cross have over 6,000 beds for convalescent patients. The public are aware that a large number of transport waggons were gifted to the Red Cross during the war, and that many of these were presented from funds to which the miners and coalowners of Scotland liberally subscribed. It was understood that when these vehicles were no longer required for Red Cross work they would be handed back for use in colliery districts in cases of pit accidents. Meanwhile there is no indication that the war transport work of the Scottish Branch is nearing an end. Scotland has every reason to reflect with pride upon the support it has given to the Red Cross. The total amount subscribed up to date is over £1,500,000. Only a cause that appealed to the hearts of the people could have secured so generous a response. It is a tribute also to the faith of the Scottish people in the wisdom of those who have directed the operations of the Red Cross. In the work that remains to be done, it may be taken for granted that they will endeavour to retain the confidence and goodwill of the whole community."

Closing of Red Cross Auxiliary Hospitals.—The first of the Red Cross hospitals auxiliary to Stobhill, Glasgow, to close down is the Dumbarton Hospital, in the Parish Church Halls, which was evacuated on 27th December. There were about 40 patients, who were driven off in motor cars to other hospitals in the district. The Dumbarton Hospital, which had Miss Ward as commandant, Miss Scott as quartermaster, and Mrs. York as matron, opened on 13th January, 1915, with 25 beds. This number was subsequently increased to 63, and the number of patients treated was 1,800. The voluntary staff of V.A.D. nurses gave excellent services. Colonel Denny and Mrs. Matthew Paul, who supervised the hospital on behalf of the Red Cross, are now

arranging to open a clinic in the town, where wounded men may still receive treatment.

Scottish Women's Hospitals.—The Headquarters Committee of the Scottish Women's Hospitals, 2 St. Andrew Square, Edinburgh, have received a further grant of $50,000, forwarded to Mrs. Laurie, hon. treasurer, from Major Endicott, Red Cross Commissioner in Great Britain, acting for the American Red Cross, Washington. This further donation is the third instalment of the new war grant of $150,000 made to the Scottish Women's Hospitals at the instance of Miss Kathleen Burke. The gift has been received at a most opportune time. There are still countless sick and wounded in Serbia. At Vranya, near Uskub, the Scottish Women's Hospitals have recently taken a large hospital, and are dealing with nearly 500 patients. The wards are full of soldiers of all nationalities.

The Scottish Women's Hospital in Sallanches, which was opened last February for the treatment of tubercular Serbs in France, has proved of very great value to the many young Serbian students who have fallen victims to this disease. The American Red Cross Tuberculosis Bureau in Paris have shown great interest in it, and lately asked the committee to increase the accommodation by fifty beds, for which they would be responsible. Further accommodation has been taken and is now ready for these additional patients. The committee of the Scottish Women's Hospitals have received from the bureau in Paris of the American Red Cross, per Professor Woolston, a gift of 100,000 francs for the furtherance of this work.

Child Welfare: Extension Proposals in Glasgow.—The development of the Maternity and Child Welfare Scheme in Glasgow is the subject of a report which has been prepared for the Maternity and Child Welfare Committee of the Corporation by Dr. A. K. Chalmers, Medical Officer of Health, who makes a number of suggestions for the further extension and organisation of the work. In previous reports, existing provisions were described and the more urgent of the further steps indicated. Since the last of these issued on 22nd July, 1916, additions to the provisions formerly existing have been made in the opening

of an ante-natal ward (containing twenty-five beds) at the Maternity Hospital; of an ante-natal dispensary there, and also at the Training Home for Nurses, Govan; of an infant consultation at the Maternity Hospital, and at the Elder Dispensary, Govan; and of a dispensary for children aged 1 to 5 at the latter dispensary. Further, during the current year the whole work of the Glasgow Day Nurseries Association and the Phœnix Park Kindergarten, together with the adjacent crèche consultation and mothers' dinner table, have been transferred to the Corporation Welfare Committee.

In considering the further steps to be taken by the committee, Dr. Chalmers says the obvious defects in the existing provision will serve to indicate the direction which these should take. The unsuitability of most of the existing infant consultation premises both for their present purpose and to meet the requirements of medical inspection of all children during pre-school ages, and the structural limitations imposed on the day nurseries by their situation, suggest the need for re-casting both and combining with them the added accommodation which a fully developed maternity and child welfare centre requires. An outline of further necessary developments includes the following:—(*a*) An ante-natal clinic for outdoor cases, with beds available when required. For the present the ante-natal ward of the Maternity Hospital supplies this provision, but its adequacy has not yet been tested, and additional provision of a similar character may be required elsewhere. (*b*) A consultation centre for infants under 1 year and nursing mothers, with special provision at the Children's Hospital for such as require institutional treatment. (*c*) A centre for the inspection of children 1 to 5 years, with rooms for dental, nasal, and aural treatment. (*d*) A kindergarten, such as now exists at Phœnix Park, with adequate space attached to form an outdoor play centre. (*e*) A crèche for such families as need home relief in this form.

These are the principal structural requirements of a welfare centre, and broadly raise the question whether the committee should not now adopt the policy of acquiring ground in each district of the city for their erection. Space is the first requisite, and this in areas already built up can only be obtained by clearing sites. It is desirable to interpret the space requirements

in a liberal manner. To be completely useful they must be situated in the centre of populous districts. Anderston, Hutchesontown, Tradeston, Gorbals, Bridgeton, Springburn, and Cowcaddens will readily occur to the committee as the most urgent within the limits of the older city. Shettleston, Maryhill, and Cathcart have also separate claims for consideration. The provision of country homes for mothers and children is among the urgent requirements. Already there is a scheme under consideration by ladies interested in the movement to provide one for two wards of the city (Govan and Townhead), and the principle of associating these homes with particular wards would tend to stimulate local interest in their success. The West Govan Branch of the G.I.H.V.A. have adopted the suggestion of providing a welfare centre in the Elder Park opposite the Elder Dispensary to replace the present nursery in the Pearce Institute. The time seems opportune to invite the Parks Committee to consider the whole question of setting apart for mothers and children some portion of the public parks, just as they at present provide bowling greens for adult males. Were the Parks Committee willing in the first instance to set aside a portion of Elder Park for the purposes indicated, all the other elements of a welfare centre, not already existing in the clinics at the Elder Dispensary and at the Training Home for Nurses in Govan, would be provided for that portion of the city.

For immediate consideration Dr. Chalmers suggests that the Welfare Committee of the Corporation—(1) Submit the proposal of the West Govan Committee to the Parks Committee, with special reference to Elder Park, but generally also ask them to consider whether some space in all the parks may be set apart for the purposes of an outdoor crèche and playground. (2) Proceed to consider in which of the districts mentioned sites may be obtained on which to erect welfare centres. (3) Bring the negotiations with the Directors of the Royal Hospital for Sick Children for the provision of beds for infants and the organisation of an infant and child consultation to a completion. (4) Authorise the provision of medical treatment as well as advice at the various consultations.

Through the generosity of the American Red Cross a grant of £1,000 has been paid over to a Voluntary Committee for the purpose of providing and equipping an infant welfare and

maternity centre in Tradeston, but the scheme is still under consideration.

Children's Country Home: Mount Vernon House.—All who work among women and children are faced with one great difficulty—that of keeping in the country for a period likely to do them permanent good those ailing children under school age who are not ill enough to be notified as suffering from a definite disease. The few homes which already exist are full to overflowing, and have waiting lists, which proves the need and the value of the work they do. A scheme has been suggested and a committee formed for developing this work. The committee has taken Mount Vernon House, which is well situated and has good accommodation for twenty to thirty children, and is in every respect admirably adapted for a children's country home. There the children will be kept for some weeks, or until their health is really restored, as in many cases it would be if only they were sent to the country soon enough and kept there long enough. The house will be under the charge of a matron, with trained nurse and a household staff, part of which may be supplied by voluntary helpers. The home is not intended for children suffering from disease. Children will be admitted on the recommendation of a health visitor and after being seen and passed by a doctor. The parents will be expected to pay something towards the board of the children, but it is hardly to be expected that their contributions will do more than cover a small part of the total expenses. An appeal is now being made for subscriptions and donations to enable the organisers to pay the rent, to meet the initial expenses of furnishing and equipment, and to supply a certain annual income to ensure the home being carried on efficiently. If successfully started this small beginning may later on be part of a much larger scheme, as a series of such homes would be of incalculable benefit to the children in the more crowded districts of the city. The need is urgent, and the generous interest and help of the citizens is asked in this effort to preserve the health of the rising generation. Subscriptions and donations to the amount of fully £400 have already been promised. Miss Helen Story, 30 Lilybank Gardens, is convener.

New Year's Day at the Royal Infirmary.—Lord Provost Stewart presided at the annual New Year's Day meeting of the managers of Glasgow Royal Infirmary with the nursing staff of the institution. The meeting was held in the hall of the Pathological Department, the balconies of which were decorated with the flags of the Allies. The nurses occupied seats in the area of the hall. Among the occupants of the front row seats were a number of wounded soldiers. The Lord Provost was accompanied to the platform by a representative company of friends of the institution. Among those present were Mr. James Macfarlane, chairman of the board of managers; Dr. J. Maxtone Thom, superintendent of the Infirmary; and Miss Melrose, matron. At the outset the Lord Provost read the telegram of greetings from the King. The Lord Provost, having wished the nurses a happy New Year, said that they were met under happier auspices than on the last similar occasion. The war had affected their activities in the Royal Infirmary during the past year. Yet it was with some feeling of pride that they were able to record that most of the members of the medical and surgical staff of the Infirmary and the Ophthalmic Institution had been engaged on military duties of some kind or another. Thirty-seven of them had held commissions in the R.A.M.C., eight had been engaged in hospital work under the Scottish Branch of the Red Cross Society, and 29 were on active service or on special hospital duty for the greater part of the year. These represented about 40 per cent of the whole membership of the acting visiting staff, and during the whole period of the year the drain upon the staff had been over 50 per cent of the membership. In addition to these, 35 of the male employees had been on military service, of whom, unfortunately, five had made the great sacrifice and one had been taken a prisoner of war. They had also during the year 58 of their nurses who had finished their training, the majority leaving to take up some form of war work. Of nurses who had received their training at the Infirmary one had received the Royal Red Cross (First Class), ten the Royal Red Cross (Second Class), seven had been mentioned in despatches, and one had been awarded the Croix de Guerre. That was a record which did credit to the Royal Infirmary. In order to encourage the nursing staff, the managers had provided

three medals as prizes. The first recipients were:—(1) Elizabeth Lorne (gold medal); (2) Evelyn Garvie (silver medal); (3) Jeanie Ritchie (bronze medal). In future each nurse would receive a badge with her certificate on finishing her training. These badges had been provided and presented by Mr. James S. Craig, and the managers were grateful to their colleague for this encouragement to the staff. After intimating that it was proposed to have a roll of honour of those members of the staff who had taken part in the war, the Lord Provost observed that owing to the depletion of the staff it was only by the cheerfulness with which the nurses and staff accepted the extra duties imposed upon them that the managers were able to carry on the work of the institution so successfully, and that that was accomplished without causing any discomfort or detriment to the patients, or without in any way impairing the reputation and the usefulness of the Infirmary. They were pleased to see the increasing support from all classes of the community, and not least from the working classes through their unions. After applying ordinary and extraordinary revenue as well towards maintenance the managers would be faced at the end of the financial year with a very substantial deficit. When so many other claims had been so urgently pressed upon the benevolence of the community they could not expect that a special appeal could be made now for a large sum in order to endow or in any other way provide a fund for the permanent maintenance of institutions such as that. Now that claims arising out of the war were gradually diminishing there should be a new interest taken in institutions such as that. They could not hope in the near future to have any substantial reduction in expenditure. The only hope was that the income should be increased materially, and that that increase would come in the ordinary way through annual subscriptions.

Mr. James Macfarlane, on behalf of the managers, paid tribute to the devotion to duty of the staff. The work done by those who remained had been exceedingly heavy. As an earnest of the happiness they all wished to see in the new year, he would let them into a secret of the Board of Managers. The latter had been anxious, he might say for years, to improve the conditions of work among the nursing staff. They

recognised that the hours of the nurses were much too long. To reduce the hours they required more nurses, and to have more nurses they required additional accommodation. When the Armistice was signed they launched their plans, and accommodation was now in course of being provided, and would, he thought, be finished by another month. This would enable them to accommodate more nurses and to improve substantially the conditions of the nursing staff. The customary statistics relating to the work done in the infirmary during the year would, he added, be submitted to the annual meeting in February.

A programme of music followed.

Work of Western Infirmary.—Lord Glenarthur occupied the chair at the annual meeting of contributors to the Glasgow Western Infirmary, which was held on Thursday, 28th November, in the Merchants' House. In moving the adoption of the report, a synopsis of which has been published, the Chairman said that the work of the Infirmary had been carried on throughout the year without interruption but under great difficulty as regards administration. The average daily number of in-patients had been greater than in any previous year, 610 as compared with 547 in 1917. The indoor patients treated during the year numbered 9,270, as compared with 9,057 in the preceding year; and the outdoor patients 22,148, as compared with 23,877, making the total number of patients treated during the year 31,418, as compared with 32,934. The visits paid by outdoor patients numbered 98,183, as compared with 88,395 in the preceding year. The number of deaths in the hospital was 639, or 7·44 per cent of all the cases treated to a termination. Of the fatal cases, however, 199 were of such a hopeless character when brought to the hospital that the patient died within forty-eight hours after admission. Deducting this number, the death-rate is reduced to 5·12 per cent. It would not be a matter of great surprise, having regard to the larger daily number of patients, the increase in the price of all commodities, and a rise in salaries and wages, that the ordinary expenditure was nearly £10,000 more than in 1917. Fortunately there had been an increase in ordinary income of £13,740, so the deficit between ordinary income and ordinary expenditure

had been reduced this year, but it still stood at the high figure of £17,850. Of this growth in the ordinary revenue the sum of more than £5,000 was due to greater contributions from general subscribers, employees, and Churches, the employees alone having given nearly £2,500 more than in the previous year. In July, 1914, Lord and Lady Newlands, in commemoration of the visit of the King and Queen to Glasgow and Lanarkshire, gave the sum of £25,000 to complete the endowment of the Lady Hozier Convalescent Home. It was then expected that this might yield an annual income of £1,000, which was considered ample. As war broke out almost immediately and all securities fell greatly in value Lord and Lady Newlands arranged to pay interest on the capital sum until matters became more settled. They had now completed the gift by transferring £26,600 of 5 per Cent War Loan, which at the price of the day was the equivalent of the £25,000 so generously given. The Infirmary benefited greatly by the postponement of the actual payment. This amount of War Loan yielded an income of £1,330 a year, or a third more than was anticipated. In conclusion, the Chairman referred to the establishment of a school of massage, and also paid a tribute to the loyalty and devotion of the staff.

The Hon. Gideon Murray seconded, and the report was adopted.

Victoria Infirmary.—The Lord Provost, Mr. J. W. Stewart, presided at the annual meeting in connection with the Victoria Infirmary, Glasgow, held on 5th December, in the Merchants' House. The report by the governors was presented by Dr. Duncan, who referred to the difficulties under which hospital work was being carried on. They had been at the limit of their possibilities in providing proper treatment owing to the depletion of the staff. Under a Ministry of Health one of the questions would be the increase of accommodation in the large hospitals to do away with the scandal of people waiting for admission. He also suggested that steps should be taken to prevent hospital abuse which existed at present. Mr. D. M'Kechnie, the honorary treasurer, submitted the financial statement. The Lord Provost, who moved the adoption of the report, said that although there was a deficiency of some £9,000 other institutions were in many cases worse off. There were some gratifying features, such as

the increase of general subscriptions and those from employees. He hoped the time was far distant when it would be considered necessary to put aside Christian charity and substitute for it a rate assessing method to provide for such institutions. He thought a general appeal might be made to allow hospitals to resume after the war without a deficit burden, and such givings would be in the nature of a special thank-offering on the part of the people. Dr. Charles Robertson seconded and the report was adopted. Resolutions were also passed thanking donors and subscribers and the medical staff.

Glasgow Women's Hospital.—Bishop Campbell presided at the forty-first annual meeting of the Glasgow Women's Hospital held at the hospital, 29 Elmbank Crescent, on 4th December. The annual report showed that for the year ending June, 1918, the outdoor consultations and indoor treatments without operation numbered 4,482, an increase of 716 on the preceding year. The number of operations performed was 163. The total ordinary revenue for the year amounted to £812 and the expenditure to £809, while the extraordinary revenue was £2,108, making a surplus of £2,111 odds carried to the capital account, which amounted to over £4,654. In moving the adoption of the reports Bishop Campbell said the country was realising as never before what it owed to the extraordinary devotion of its women and girls during the past four years. It was therefore no wonder to find the Women's Hospital in so flourishing a condition. Ex-Bailie Malcolm Campbell seconded the reports, which were adopted.

Record of Erskine Hospital.—A record of noble work accomplished on behalf of limbless sailors and soldiers was submitted to the second annual meeting of subscribers to the Princess Louise Scottish Hospital (at Erskine) held in the City Chambers, Glasgow, on 10th December. The Lord Provost, Mr. J. W. Stewart, in moving the adoption of the report, stated that since the opening of the hospital 3,454 patients had been admitted to the hospital, which now contains 400 beds. There were 2,697 patients fitted with new limbs and 530 pensioners fitted with parts of new limbs, and about as many more were supplied with repairs or renewals of parts. The purpose of the

hospital was to restore those who had the misfortune of suffering severe wounds to civilian life with the minimum of physical disability. The hospital was the only limbless institution in the country which combined both a preparatory and a fitting department, and that enabled much greater supervision of cases on the part of the surgeons. After speaking of the progress made through the research department of the hospital in reducing the weight of the artificial limbs, he said that the provisional limb evolved at Erskine had dispensed with the need for crutches in the earlier stages, and so much favour had this development obtained in official circles that the Ministry of Pensions, he understood, had adopted it as a standard. During last year, without any special appeal having to be made, there had been given in spontaneous contributions to the committee the handsome sum of £67,981. As the vocational training at the hospital workshops would not be sufficient to enable the men to enter trades of which hitherto they had no experience, he expected that very shortly there would be an appeal for funds to organise Lord Roberts workshops in Glasgow, which would enable the men to carry on their training until they qualified for employment alongside of other workmen.

Sir William Macewen, in supporting the adoption of the report, spoke of the strenuous work of the surgeons and physicians during the year, and of the benefit to the men of continuity of treatment afforded by the fact that both preparatory and fitting treatment were given under the one roof by the same surgeons. If workshops were established in Glasgow he hoped there would be continuity of training between them and the workshops at the hospital. For ordinary sizes they did not allow limbs to go out of the workshops that weighed over 6lb., and the advice of both surgeons and engineers was taken on the construction and improvement of the limbs. They had now been able to make arrangements whereby the hospital was nearly full. There were 380 resident patients at the present time.

The report was adopted.

Mr. David M'Cowan, in moving approval of the accounts, said that there were now named and endowed 84 beds with a money value from the donors of £58,500.

REVIEWS.

Applied Bacteriology: Studies and Reviews of Some Present-day Problems for the Laboratory Worker, the Clinician, and the Administrator. Edited by C. H. Browning, M.D., D.P.H. With Contributions also by W. Gilmour, R. Gulbransen, T. J. Mackie, S. Russ, J. F. Smith, and L. H. D. Thornton. London: Henry Frowde and Hodder & Stoughton. 1918. (7s. 6d net.)

Whilst primarily a record of highly technical original research on some of the bacteriological problems of to-day, this volume, edited by Dr. Browning, also forms an admirable review of the present state of knowledge regarding the subjects investigated.

The introduction outlines the scope of the work, and calls for more intimate collaboration between the clinician and the laboratory worker. A reciprocal appreciation of difficulties and limitations would materially assist this collaboration.

The diagnosis of "enterica" infections by bacteriological and serological methods is discussed at length. This is of special value at the present time, when so many individuals have been vaccinated against one or several of the typhoid-paratyphoid group of organisms. In such cases the Widal reaction retains its value only under certain circumstances. By employing the "absorption of agglutinin" method paratyphoid infections may be recognised in the presence of typhoid agglutinins produced by vaccination. Other applications of the method are mentioned. The isolation of the infecting organism from the blood, urine, or fæces, which alone affords conclusive evidence of infection, is of greater importance than the Widal reaction, and should be an earlier step in the investigation of the disease than is usually the case. The basis of the identification of the organisms recovered is described in full. A further chapter deals with the brilliant-green-telluric-acid method of

isolating organisms of the typhoid-paratyphoid group. The value of the method has now been established by many independent workers. The technique is detailed, and experiments are cited to demonstrate its advantages. An actual enrichment of enterica organisms occurs in the presence of brilliant green whilst ordinary colon bacilli are inhibited. The addition of telluric acid inhibits the inosite-fermenting group of fæcal bacteria.

The use of calibrated pipettes for measuring small quantities of fluids is recommended. Volumes as small as 0·01 c.cm., and differing by 0·005 c.cm. can be measured accurately. Once the slight dexterity necessary for the manipulation of the pipettes is acquired the method will be found to be rapid and accurate. It deserves to be more widely known.

The studies on the relationship of the chemical constitution of antiseptics to their bactericidal action are of great interest and value, and open up a wide field for further investigation. Serum diminishes the efficacy of most antiseptics, hence their usefulness is limited. Proflavine and acriflavine are non-toxic, and their potency is in no way impaired, but, for many organisms, is actually enhanced by the presence of serum. The usual phenol co-efficient of antiseptic potency is deprecated, in that the time of exposure of the organisms to the antiseptic is brief, and the effect of progressive action is ignored. There are some very suggestive observations on the use of selective antiseptics for the isolation of pathogenic bacteria and the suppression of common contaminations.

The bactericidal effect of ultra-violet radiation is found to have no value as a means of differentiating organisms.

Immunity reactions are extremely complex, and, as a high degree of resistance to virulent organisms may exist without the presence of demonstrable antibodies, it is possible that many of the immunity phenomena with which we are familiar may only be side issues which do not represent the actual underlying process. The specificity of individual strains of colon bacilli is proved by agglutination reactions, forming an experimental confirmation of the clinical observation that it is necessary to use autogenous vaccines to obtain satisfactory results in the vaccine treatment of colon bacillus infections.

The chapter on tetanus deals very fully with the prophylaxis,

diagnosis, and treatment of the disease. Experimental and clinical observations are freely quoted. Combined intrathecal and intravenous injections of anti-tetanic serum should be given immediately the diagnosis is established. Absorption by the subcutaneous route is too slow. The chances of grave anaphylactic symptoms following repeated subcutaneous injection of serum are not serious, and, in view of the gravity of the disease, the use of serum should on no account be withheld, even under circumstances where anaphylaxis is possible. The measures which may be employed to produce an anti-anaphylactic condition in such cases are described.

The book will be read with much profit by bacteriologists, and, though the experimental details may be rather beyond such clinicians and administrators as are not quite up to date in their bacteriology, the conclusions drawn from the investigations, and the critical reviews of the subjects dealt with, will be of value to all those to whom the volume is inscribed.

The Treatment of Tuberculosis by means of Spengler's Immune Bodies (I.K. Therapy). By Niven Robertson, M.D.Edin., D.P.H.Cantab. London: Baillière, Tindall & Cox. 1917. (5s. net.)

The principles of I.K. therapy are now well known, and the present volume deals with the subject both from the clinical and from the theoretical standpoint. Instructions are given in a clear and practical manner, and the book can be recommended as a good guide to any one desirous of giving this method of treating a case of tuberculosis a trial. Concise summaries of cases treated are given, but the author's conclusions from general results are not optimistic. Thus, he states that in thirty-six cases out of forty-one, I.K. had no appreciable effect on the disease. One case became worse and only two cases improved. A summary of cases treated by other observers is given. Twelve obtained very good results, sixteen good results, eleven obtained indifferent effects, and eight authorities report definitely bad results. The author, from a broad survey of the whole question, concludes that I.K. is of value in the treatment of pulmonary

tuberculosis as the majority who have used it speak in its favour, but he places himself amongst those who regard it as of doubtful value as a specific remedy.

Rules for Recovery from Tuberculosis: A Layman's Handbook of Treatment. By LAWRASON BROWN, M.D. Second Edition. Philadelphia and New York: Lea & Febiger. ($1·25.)

THE object of this book is to guard against relapse in the period of "after-care" after leaving the sanatorium. For this purpose it seems likely to be of great use. The whys and wherefores of treatment are given in clear language, and with a commendable avoidance of superfluous medical detail. The chapter on rest is particularly good. Every sanatorium patient would be well advised to have this little work constantly beside him and make constant reference to it, and not, as the author says, read it like a novel, and then lay it aside.

Eye, Ear, Nose, and Throat: A Manual for Students and Practitioners. By HOWARD CHARLES BALLENGER, M.D., and A. G. WHIPPERN, M.D. New Second Edition, thoroughly Revised. Philadelphia and New York: Lea & Febiger. 1917. ($3·50.)

THIS is the second edition of the work, and the authors have re-written almost every chapter in the volume and brought it up to date.

Dr. Whippern has written the section on the eye, and Dr. Ballenger the sections on the ear, nose, pharynx and larynx. Each of these sections begins with a sketch of the anatomy of the part which should be helpful—that on the ear emphasising the structural peculiarities in the temporal bone which may lead to intracranial complications in purulent middle-ear disease. The functional tests of hearing are especially elaborated, and the symptoms of suppuration in the labyrinth and of cerebellar

abscess are compared and contrasted, attention being directed to the types of nystagmus and to the "pointing" test.

A feature of the *Manual* which will commend it to the general practitioner is the fullness with which the treatment of the various ailments is discussed.

We know of no book of its size which describes so fully and thoroughly the different operations. Major operations—such as the mastoid operations, Killian's frontal sinus operation —are clearly described and illustrated by numerous diagrams, so that there should be no difficulty in following the different steps in the operations. We think that this is right. The student must know them, and the practitioner, although he does not intend to operate, yet likes to know the details of the operation, and it is an immense help to him if he has to undertake the after-treatment of the patient.

In the chapter on foreign bodies in the larynx, trachea, and bronchi the indications for bronchoscopy are given. The success which has attended the use of the bronchoscope and œsophagoscope in the removal of foreign bodies is so marked that this method should be recommended in every suspected case.

There is an interesting chapter on ear disease as affecting longevity, which those interested in life insurance work will find helpful.

The book is well got up, is illustrated with 180 engravings and 8 coloured plates, and has a good index and formulary.

We heartily recommend the *Manual*, and feel sure that the student or practitioner who adds it to his library will find it of service for study and for reference.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

SURGERY.

Atlas and Axis Luxation. By Charles M. Jacobs (*Amer. Jour. Orth. Surgery*, October, 1918).—In bringing forward three cases of atlas and axis dislocation the author reviews present opinions on the subject. Dislocation of the atlas is not rare, although this fact is not generally recognised. Dislocation may take one of several forms, the most common being in a forward direction and unilateral. It is necessary for the production of antero-posterior dislocations that (1) the odontoid process be fractured, or (2) transverse ligament ruptured, or (3) the process slip beneath the ligament. The author shows that dislocations can occur with comparatively slight violence and also that they may be of a morbid or non-traumatic origin. These latter forms are referred to as distention luxations, and it is considered that they are due to distension of joints by effusion with resulting weakness of ligaments. Slight movements of the head might then suffice to produce separation and slipping of articular processes. Distension luxations are preceded by the fever, headache, and pain of the antecedent disease, but when the dislocation has occurred it has the same symptoms and signs as dislocation due to trauma. Curiously divergent views have been held by surgeons as to the nature of displacements likely or not to be followed by fatal results. Kelly considered that if the odontoid process was fractured and carried forward by the displaced atlas then there was less chance of compression of the cord, whereas when the atlas slipped forward leaving an intact odontoid process the cord was compressed between that process and the posterior part of atlas. On the other hand, Corner thought that the greater danger was fracture of the odontoid. The author does not agree with Kelly that death necessarily follows pressure by an intact odontoid, although he accepts most of the remainder of the opinion.

Treatment is on common lines without regard to etiology. After diagnosis, extension by weight and pulley will relieve pain and overcome muscle spasm, and in most cases will overcome the luxation. Manipulation without anæsthesia is valueless, although with anæsthesia there is considerable danger. When reduction has been accomplished the most important part of the treatment is immobilisation—usually by plaster of Paris—until the ligaments have had time to retract or unite, as the case may be. Operation is advisable when reposition of vertebræ has not been accomplished by other methods.—Charles Bennett.

Localisation of Ureteral Stones. By H. L. Kretschmer (*Surgery, Gynecology and Obstetrics*, November, 1918).—The author's new method of localisation of ureteral stones is an adaptation of a procedure used for foreign bodies in other parts. A shadowgraph catheter is passed into the ureter in the usual way and an *x*-ray photograph taken. A second exposure is then taken without moving patient or plate, but by moving the tube so that a double exposure is made on the one plate. If the shadow is due to an extra-ureteral body, then an interval will appear between one of the catheter photos and the foreign body. If there is a ureteral calculus a shadow will be close to each catheter photo.—CHARLES BENNETT.

Hæmorrhagic Osteomyelitis and Sarcoma in Bones. By George Barrie (*Amer. Jour. Orth. Surgery*, November, 1918).—Investigation and study demonstrate that the same type of scavenger giant-cell is frequently present in lesions of bone that are purely inflammatory in character, as well as in true sarcomata of bone. The term medullary giant-cell sarcoma should be abolished because it does not express the true underlying condition existing in bone lesions or neoplasms. The diagnosis of sarcoma in bone should be made from the predominating structure which the neoplasm contains, such as fibro-sarcoma, myxo-sarcoma, chondro-sarcoma, and osteo-sarcoma. The author quotes Mallory as deprecating the use of terms such as "round cell," "spindle cell," "oat cell," &c. Granulation tissue proliferation filling in bone cavities should be recognised as an inflammatory and not a neoplastic process. It may be regarded as Nature's effort at regeneration and repair.

The treatment of slow-growing bone sarcomata in the extremities should never be more conservative than resection, but hæmorrhagic osteomyelitis, so-called medullary giant-cell sarcoma, should only be curetted, unless it seems impossible for repair ever to displace destroyed bone.—CHARLES BENNETT.

Books, Pamphlets, &c., Received.

The Nation's Welfare: The Future of the Medical Profession. With Introduction and Folding Plan of Model Health Centre, by Major-General Sir Bertrand Dawson, G.C.V.O., C.B., M.D. London: Cassell & Co., Limited. 1918. (6d. net.)

The Operative Treatment of Chronic Intestinal Stasis, by Sir W. Arbuthnot Lane, Bart., C.B. Fourth edition, revised and enlarged. London: Henry Frowde and Hodder & Stoughton. 1918. (20s. net.)

The Early Treatment of War Wounds, by Colonel H. M. W. Gray, C.B., C.M.G., M.B.Aberd., F.R.C.S.E. London: Henry Frowde and Hodder & Stoughton. 1919. (10s. net.)

Lice and Their Menace to Man, by Lieutenant Ll. Lloyd, R.A.M.C.(T.). With a Chapter on Trench Fever, by Major W. Byam, R.A.M.C. London: Henry Frowde and Hodder & Stoughton. 1919. (7s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 25TH JANUARY, 1919.

	Week ending			
	Jan. 4.	Jan. 11.	Jan. 18.	Jan. 25.
Mean temperature,	35·9°	39·3°	39·6°	38·2°
Amount of rainfall, ins.	1·55	0·36	0·75	1·02
Deaths (corrected),	324	399	319	351
Death-rates,	15·1	18·6	14·9	16·4
Zymotic death-rates,	0·6	0·9	0·6	1·0
Pulmonary death-rates,	3·4	5·6	3·4	5·4
DEATHS—				
Under 1 year,	51	59	55	55
60 years and upwards,	91	99	78	80
DEATHS FROM—				
Typhus,	2	...	...	...
Measles,	1	...	...	3
Scarlet fever,	...	2	1	...
Diphtheria,	3	3	4	3
Whooping-cough,	6	9	6	13
Enteric fever,	...	1	...	...
Cerebro-spinal fever,	...	1	1	...
Diarrhœa (under 2 years of age),	3	5	2	2
Bronchitis, pneumonia, and pleurisy,	74	121	72	110
CASES REPORTED—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	2	1	4	1
Diphtheria and membranous croup,	37	30	39	35
Erysipelas,	18	12	13	14
Scarlet fever,	27	40	39	44
Typhus fever,	...	2	2	4
Enteric fever,	2	1	2	...
Phthisis,	30	38	49	55
Puerperal fever,	3	1	...	5
Measles,*	6	55	59	45
Ophthalmia neonatorum,	4	22	7	13

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 1*st February*, 1919.

THE

GLASGOW MEDICAL JOURNAL.

No. III MARCH, 1919.

ORIGINAL ARTICLES.

HERNIA ACROSS THE LESSER SAC OF THE PERITONEUM.

BY J. HOGARTH PRINGLE, F R.C.S.,
Surgeon, Royal Infirmary, Glasgow.

WITHIN a comparatively short time four patients were operated upon by me on account of well-marked gastric symptoms, and in each of them it was found that practically the whole of the small bowel had herniated into and across the lesser sac of peritoneum. The only portion that had not been herniated was the last 6 to 8 inches of the ileum which formed the emerging coil of bowel. In each of them the bowel had entered the lesser sac through that portion of the transverse mesocolon which is bounded by the vascular arch formed by the middle and left colic arteries, *i.e.*, through that part of the mesocolon where it is usually divided when one makes a posterior gastro-enterostomy. In two of the patients the bowel escaped from the lesser sac into the general peritoneal cavity again through the gastro-hepatic

omentum, and, in the other two, through the gastro-colic ligament.

I report the cases as this variety of internal hernia would appear to be one of very great rarity. I have only been able to find the records of five other cases which seem to have any bearing on the subject, and of these, only two were operation findings (W. J. Mayo).

Two cases of hernia across the lesser sac and through the gastro-hepatic omentum.

Case I.—A female patient, aged 55 years, was sent to me by Dr. Marshall, Rothesay, in December, 1911. She gave a history of gastric trouble since girlhood. Pain used to come shortly after taking food, and was frequently followed by vomiting, which gave relief. There had often been hæmatemesis, and on a good many occasions melæna. Several times these symptoms resulted in very severe illnesses. All her life she had been obliged to be extremely careful in her diet. She was of spare habit, and recently had become very thin.

It was believed that she had a chronic gastric ulcer. With Dr. Marshall's assistance I opened the abdomen by a mesial incision, and only small bowel presented. Neither the stomach nor the transverse colon could be seen, and they were only exposed after drawing the small bowel well over to the right side of the patient, when it was seen that the bowel lay on a plane anterior both to the stomach and the colon. The stomach was very low placed, and presented a deep, more or less vertical constriction across its anterior surface at almost the middle line of the body. This constriction was produced by a thick cord-like structure which, with a coil of bowel in close relation to it, passed over the anterior surface of the stomach from just above the small curvature to the right posterior abdominal wall, immediately below the transverse colon, where the cord-like structure became attached. The cord lay to the pyloric side of the accompanying bowel. It was possible to pass one's finger between this cord and the stomach, and it was recognised as being formed by the superior mesenteric artery and vein, but crossing the anterior surface of the stomach.

The cæcum was found in its normal position. The lowest ileum gave the impression that it, like the cæcum, was placed

behind the peritoneum of the posterior abdominal wall; but in what direction it ran it was impossible to determine, partly owing to the condition of the posterior parietal peritoneum, which as far as it could be examined was everywhere opaque, white in colour, and very thick and rigid, as if it had been subjected to prolonged irritation, and partly owing to the adherent mesentery already referred to, and which was attached between the ileum and ascending colon. This adherent mesentery was really the stumbling block, for at this, the first operation upon this patient, it was not recognised as being an adhesion; but it was believed that at this point the artery gave off its branches to the ileum and cæcum, and that this was the explanation of the attachment. The small bowel was drawn as far over to the patient's right side as possible, and as much of it as the numerous adhesions present would allow to come was taken out of the peritoneal cavity. The left half or so of the transverse colon was then lifted up, and in its mesocolon an opening was seen with the left colic artery forming its boundary, and through it the posterior wall of the stomach could be recognised.

Dr. Marshall and I spent a great deal of time in examining the various regions as far as we could, and the conclusion arrived at was that we were dealing with some abnormality in connection with the development of the bowel. Very dense adhesions existed in the neighbourhood of the pylorus and gall-bladder, and it was not possible to trace the bowel in its continuity; but it seemed as if the duodenum turned up towards the diaphragm and passed down again in front of the stomach along with the superior mesenteric vessels. As we could not make out anything suggestive of an ulcer in the stomach as far as its walls could be examined, and as it appeared that the mesenteric cord might well act as an obstructing agent to the passage of stomach contents, a gastro-enterostomy was not made. This, as it turned out, was a fortunate decision for the patient, for it is certain that the portion of bowel which lay anterior to the stomach, and which was supposed to be jejunum, would have been selected, to make an anterior stoma, whereas, at the second operation this piece of bowel was found to be the lower ileum.

The patient recovered well, and remained in fair health until October, 1912, when she had another serious illness from which

she recovered, and was well until February, 1913, when she again suffered from a recrudescence of the gastric symptoms. On 31st March, 1913, I saw her again as symptoms of intestinal obstruction had developed, and neither fæces nor flatus had been passed for forty-eight hours, and there had been a good deal of vomiting in the last twenty-four hours. The patient was very ill, but an operation was proceeded with immediately, and a strong solitary band compressing a loop of small bowel was found and divided.

During the interval that had elapsed since the first operation on this patient I had had the experience with the patient whose case will be described as No. 2 of this series, and after that experience I had always had the feeling that the two cases might really be similar. With this idea in view, and greatly assisted by the fact that the bowel proximal to the band was very much distended while that distal to it was completely contracted, I proceeded now to follow the bowel from the point where it had been constricted. The distended as well as the collapsed bowel both led to the small curvature of the stomach where the distended loop lay on the right lateral aspect of the contracted loop (which was the loop recognised at the first operation), the superior mesenteric vessels being placed between them. The nature of the condition was now clear. We had a hernia across the lesser sac.

Numerous adhesions existed between individual coils of bowel and between opposed mesenteric surfaces. The adhesion between the mesentery and posterior abdominal wall, which at the first operation had been thought to be the spot where the large branches of the artery passed to the ileum and cæcum, gave great trouble in its separation owing to the proximity of the main trunks. These vessels were also closely adherent at the small curve of the stomach; and the distended bowel (jejunum) was most intimately adherent to the anterior and superior surfaces of the first part of the duodenum as well as to the contracted portion, which itself became adherent to the posterior abdominal wall after it had passed through the small sac to run down towards the cæcum. When these adhesions were separated the small bowel could be passed backwards across the small sac and through the opening in the transverse mesocolon. The mesocolon was sutured to the stomach, which was small and low down

in the abdomen; but no ulcer could be detected, and the constriction on its anterior wall had quite disappeared by the time we had got to this stage of the operation. The patient, unfortunately, died, and permission for a *post-mortem* examination could not be obtained.

Case II.—In July, 1912, Dr. T. K. Monro asked me to see with him a young woman, aged 26 years, who was in his ward at the Royal Infirmary, on account of long-standing gastric symptoms. The patient had enjoyed good health up to the age of 17 years. At that time she began to suffer from epigastric pain coming on about one hour after taking food, and lasting for from one to two hours. Since then she had suffered severely from her gastric discomfort on several occasions. At three different times she had been treated as an in-patient in one of the large hospitals here, and had frequently been obliged to remain off work for as long as four or five months at a time. She had last been in hospital at the beginning of 1911, after which she remained well until September, but since November, 1911, she had not been able to work at all. The pain had always been epigastric, and thence passed through to her back; it was relieved by vomiting, which occurred frequently. On a great many occasions the vomited material was of the "coffee-ground" type. Constipation was a marked feature throughout. The patient was much emaciated. It was believed she was suffering from a chronic ulcer of the stomach, and as she was anxious now to have surgical treatment, she was transferred to my ward.

On 2nd August, 1912, the abdomen was opened by a mesial incision through the epigastric and umbilical regions. Small bowel presented everywhere below the anterior border of the liver. The transverse colon and omentum could not be seen, nor was the stomach visible until the small bowel had been drawn well over to the right side of the patient. When first seen, the stomach, which was decidedly prolapsed, presented a deep constriction, and the first impression was that an hour-glass contraction had to be dealt with. Then a loop of bowel was seen crossing the small curvature of the stomach, and the similarity to the condition of things found at the first operation in Case I was at once apparent. Closer examination showed that two coils of bowel turned over the small curvature of the stomach into the

space that represented the lesser sac of the peritoneum. The whole of the small bowel was then withdrawn from the abdominal cavity, exposing the stomach, gastro-colic ligament, and transverse colon. The anterior surface of the stomach presented a roughened shagreen-like surface, suggesting constant irritation and friction. The great omentum was only represented by a few tags of fat-containing tissue attached to the convexity of the colon.

When the transverse colon was lifted up, it was found that the mesocolon formed a crescentic structure arching over the spine, and having the loop formed by the middle and left colic arteries situated about one quarter of an inch from its free border. The transverse and ascending portions of the duodenum were readily recognised, and from the termination of the duodenum the jejunum passed upwards, beneath the colic arch, into the lesser sac behind the stomach, and escaped again from the lesser sac by passing over the small curvature of the stomach. Tracing the bowel from this point, it was seen that the re-entering coil lay on the medial aspect of the emerging jejunum and, after passing beneath the vascular arch in the mesocolon, ran directly to the cæcum, which was in its normal situation. The superior mesenteric artery formed a very well-marked cord lying over the anterior surface of the stomach between the two herniated coils of bowel, and the mesenteric veins presented a truly remarkable appearance in consequence of an extraordinarily high degree of varicosity. Both the emerging and re-entering coils were adherent to the peritoneum on the posterior wall of the abdomen in the lesser sac, and the jejunum was also adherent to the small curve of the stomach immediately medial to the pylorus; but these adhesions were separated without much trouble. Various mesenteric surfaces were slightly adherent to one another, and, when all these were freed, it was possible to pass the small bowel backwards through the hole in the mesocolon into its natural situation posterior to the transverse colon. It was then seen that the gastro-hepatic omentum was practically non-existent, being merely represented by a narrow band at the cardiac extremity of the small curvature, and a few small fatty tags along the latter. By the time the bowel had been returned, the constriction seen on the anterior wall of the stomach, and already referred to, had quite disappeared—it had

been caused by the cord formed by the mesenteric vessels. The small bowel appeared to be unusually short, and was measured by passing a strong silk thread along its convexity from the duodeno-jejunal junction to the cæcum; allowing very free measurement, and adding 10 inches for the duodenum, the whole length of the small bowel was not more than 13 feet 1 inch. It was possible to pass the distal phalanx of one's index finger behind the gall-bladder into a narrow cul-de-sac, which perhaps represented the foramen of Winslow, but the finger was shut off from the lesser sac by adhesions.

The operation was completed by suturing the omental tags along the small curve of the stomach to the posterior abdominal wall, and the free border of the arch in the mesocolon was sutured to the posterior surface of the stomach. No ulcer could be recognised in the stomach or duodenum. The patient made an uninterrupted recovery, and was last heard of in August, 1916, when she was very well, and had put on weight considerably. She stated that she occasionally had a little pain, but had never vomited since the operation.

Careful questioning of the patient and her mother failed to elicit any information regarding any sudden onset of pain in early life, which might probably indicate the formation of the hernia.

Two cases of hernia across the lesser sac from which the bowel escaped through the gastro-colic ligament.

Case III.—On 27th September, 1914, a man, aged 36 years, was sent as an urgent surgical case into the 4th Scottish General Hospital from one of the outlying depôts. He had been suffering for two days from severe pain in the epigastric region, and vomiting dark brown fluid which the M.O. reported as being altered blood.

When I saw him the patient was apparently in great pain, but the abdomen was neither rigid nor tender. There was a scar in the epigastric region, and the man stated he had undergone an operation for stomach disease twelve months previously. He had suffered from epigastric pain and vomiting for some three or four years. I found that his knee-jerks and pupil reflexes were absent, and he then volunteered the information that he had had an operation in April, 1913, for locomotor ataxia, the scar of

which was found in the dorsal region, and he had anæsthesia on both sides over the region supplied by the fifth to eleventh dorsal nerves inclusive. He stated that this operation had not benefited him at all, that the abdominal operation was carried out at another institution in November, 1913, and that his condition was not improved in any way by that one either. In addition to the acute attacks of pain to which he had been periodically subjected for some years, and which were real gastric crises, he complained of a constant dull pain in the upper abdomen which dates from an uncertain period after the last (abdominal) operation.

He was kept under observation for some time, and there was no doubt that he suffered a great deal of abdominal distress almost constantly. This was increased after taking food. He vomited frequently, and there was a high degree of constipation. It seemed probable that in addition to the gastric crises there might be some mechanical obstruction following upon the abdominal operation.

With this idea the abdomen was opened, solely as an exploratory measure, by a mesial incision on 23rd October, 1914, when, immediately below the greater curvature of the stomach, small bowel presented, and neither the transverse colon nor the omentum could be seen. This might have been the result of an anterior gastro-enterostomy, but further examination showed that a posterior operation had in fact been made, the stoma being immediately above the great curvature and of good size, but lying in a plane anterior to the transverse colon. Practically the whole of the small bowel lay upon the gastro-colic ligament, or its remains, and the transverse colon. On pulling up the small bowel and raising the transverse colon and omentum—the arch of the colon lay very low in the abdomen reaching to the sacral promontory—the mesocolon was seen to have a large opening in it. This opening corresponded almost precisely to the arch of the colic arteries; there was a mere fringe of tissue inside the vessels. Through the opening the first part of the jejunum passed up to the stoma so that a "no loop" posterior gastro-enterostomy had been made, and a second piece of bowel (ileum) descended to join the cæcum in the right iliac fossa. The mesocolon was entirely free from the stomach and from the jejunum, and it appeared that the small bowel must have

herniated into the lesser sac and have escaped into the general cavity of the peritoneum again through the gastro-colic ligament, immediately below the epiploic vessels. It was easy to return the bowel through these openings into its normal position behind the transverse colon. Many adhesions existed between opposed surfaces of the mesentery which were separated. A Meckel's diverticulum as well as the appendix vermiformis was removed. The lesser sac was quite patent, so that one's hand could be introduced down to the extremity of the omentum and up beneath the gastro-hepatic omentum to the liver. The opening in the gastro-colic ligament was stitched up, and that in the mesocolon was sutured to the stomach round the stoma. The small bowel appeared to be surprisingly short, and was measured by passing a strong silk thread along its convexity from the stoma to the ileo-colic junction; allowing full measurement, the maximum length was 6 feet 6 inches. The 2 or 3 feet of jejunum immediately distal to the stoma were much dilated and the walls much hypertrophied, possibly due to the kinking of the bowel caused by the adhesions already mentioned. Perhaps these adhesions afford an explanation of some of his discomfort after food, though most of the constant pain was probably due to dragging of the bowel in its new position. An ulcer was not found in the stomach or duodenum. He made an uninterrupted recovery, vomited on one occasion only after the operation, was allowed out of bed on 4th November, and went on convalescent leave on 9th November. He was last heard of in January, 1919, and says he has been much relieved by his last operation, being now free from the dragging pain, though still liable to have his typical gastric crises.

There can be little doubt that this hernia was the result of an operation for a posterior gastro-enterostomy. Hernia into the lesser sac after this operation, where the suturing of the mesocolon around the stoma has either not been made, or has given way after being made, has been recorded several times; but I do not know of any case in which the bowel has gone through the sac as in this one.

This case helps to explain the state of things found at the operation in the following:—

Case IV.—Dr. Marshall, of Rothesay, asked me to see a patient

(female) aged 35 years, who for fifteen years had suffered from pain coming, on an average, about half an hour after taking food, beginning in the epigastrium and going round her right side into the back, but never felt between the shoulders. This pain was very frequently followed by vomiting. The vomited material is very sour and has frequently been thick and black "like coffee." She was much troubled by constipation. She had been under treatment at various times, and had been on restricted diet with a certain amount of benefit for a time, but this period of relief was always followed by relapses. The patient was very thin. The stomach did not appear to be dilated. Pressure in the middle line, 2 inches above the umbilicus, always caused pain, which made the patient wince.

We believed the patient had a gastric ulcer, and on 7th December, 1911, the abdomen was opened by a mesial incision. Numerous thick, string-like adhesions passed between the small curvature of the stomach and the liver. The anterior surface of the stomach was very thick and roughened by small elevations, giving it the appearance of shagreen leather. About 4 inches proximal to the pylorus there was a chronic ulcer in the posterior wall of the stomach, reaching up to the small curvature and closely adherent to the pancreas. Immediately below the great curvature and the arch of the epiploic vessels the small bowel presented, so that neither the transverse colon nor the omentum was visible. The great curve of the stomach could be lifted up, and, when the bowel was pulled to the left side of the patient, a vascular arch, forming a sharp concave margin immediately to the right of the small bowel, was seen passing down to the transverse colon, which was exposed by drawing the whole of the small bowel outside the abdominal cavity. It was then seen that the entire arch of the transverse colon was firmly attached to the posterior abdominal wall, its right or descending limb lying in front of, or just medial to, the ascending colon and cæcum, the summit of the arch being at the level of the sacral promontory, whence the colon passed up and to the left to form the splenic flexure, which seemed to be placed unusually low down in the abdominal cavity. The first 3 inches, not more, of the transverse colon were attached to the right extremity of the great curvature of the stomach by a structure which represented all the gastro-colic ligament that existed. It was possible

to pass one's fingers into a small recess situated behind this structure and above the colon, below the stomach and in front of the peritoneum representing the mesocolon, which ended in the free vascular arch already mentioned, the vessels in which appeared to be the middle colic.

The whole of the transverse colon was so closely attached to the posterior abdominal wall and the peritoneum over it was so smooth, although considerably thickened and opaque, that it produced the impression that the transverse colon was lying completely behind the peritoneum. The distal extremity of the ileum, too, gave the same impression; its actual termination in the cæcum could not be made out as it was posterior to the fixed transverse colon.

A posterior gastro-enterostomy was made, and the abdomen closed.

At the time of the operation it was uncertain whether the condition was the result of an abnormal development of the bowel or of an internal hernia of long standing. I believe that the latter idea is substantiated by the findings at the operation in Case III.

The patient made an excellent recovery, and when last heard of was very well.

Remarks.—It is only quite recently that I have been able to find any records of similar cases, and none of the reporters give any reference to any cases other than their own.

W. J. Mayo[1] published the reports of two female patients on whom he operated for gastric ulcer. In one of the patients he found practically the whole of the small bowel herniated across the lesser sac escaping through the gastro-hepatic omentum. In the second patient 5 feet of small bowel had "passed behind the stomach carrying the peritoneum of the transverse mesocolon ahead as a sac" into the lesser sac and presented, as shown in his illustration, above the stomach and beneath the stretched, but not ruptured, gastro-hepatic omentum. Mayo concluded from the appearances that the hernia in each case was of old standing, and both were easily reduced. He makes no mention of any adhesions. Both the patients had a gastric ulcer as well as the hernia.

The other records are of *post-mortem* findings.

Chalmers,[2] in a female, aged 60 years, who had died of chronic nephritis, found a hernia presenting above the small curvature of the stomach and beneath the gastro-hepatic omentum. The herniated bowel consisted of 12 inches of jejunum which had escaped through an oval aperture 2 inches by $2\frac{1}{4}$ inches in the transverse mesocolon within the vascular arch.

Schwalbe[3] found in a female subject, aged 34 years, who died of nephritis, "the small bowel lay beneath the stomach and transverse colon under the gastro-colic ligament. It had entered the small sac by an opening fully 5 cm. wide in the transverse mesocolon, which, in its left posterior portion, was extremely cobweb-like in texture while its right portion was firmer."

Boettcher[4] found in a female subject, aged 30 years, "the great omentum formed a tumour the size of a man's head filled with coils of bowel. In the mesocolon just in front of the point where the jejunum enters the peritoneal sac, there was an opening larger than a man's fist . . . through which the bowels had escaped into the bursa omentalis . . . they had pushed down between the two layers of the omentum." "There was no strangulation of the bowel."

All these reports seem to relate to the same type of hernia. Boettcher and Schwalbe do not definitely state that the opening in the mesocolon in their cases was inside the colic arch, but Boettcher's must have been and Schwalbe's probably was.

How does this opening in this particular portion of the mesocolon come to exist? It cannot be congenital—a developmental error—because there must be two layers of peritoneum here as in the remainder of the mesocolon.

Mayo suggests the opening is an acquired one, and that the increased pressure associated with vomiting might produce it: but it is somewhat difficult to see why increased abdominal pressure should cause this part of the mesocolon to give way provided the transverse colon were free, *i.e.*, non-adherent, and if the mesocolon were normal in consistence.

In Chalmers' case the opening was an "oval aperture," and his drawing shows that there was still a good width of mesocolic tissue extending from the margin of the hole out to the colic arch. Chalmers suggests that in his case the first occurrence was a hernia into a recessus mesocolicus transversus (Brösike) followed by rupture of the peritoneal layer which forms the

dividing septum between that cavity and the lesser sac. It is, as it seems to me, possible, that this may be a correct explanation for this case. Chalmers states that, shortly after meeting with this hernia, he found at another *post-mortem* examination in a female a typical recessus of Brösike, and that he ruptured the septum and produced "exactly the same appearance as regards the aperture."

The following four personal observations may be of interest in this connection, and may perhaps throw some light on this opening in the mesocolon.

Case V.—On 21st June, 1913, I saw a female patient, aged 35 years, who had all the symptoms of a leaking gastric ulcer. The abdomen was opened as quickly as possible. An ulcer was not found on the anterior wall of stomach or in the duodenum. When the transverse colon was lifted up, a large gap was seen in the mesocolon, through which the posterior wall of the stomach directly presented. This gap was due to the absence of all mesocolic tissue within the arch formed by the middle and left colic arteries, except a fringe not more than a quarter of an inch wide on the inner side of the vessels. A minute perforation of the posterior wall of the stomach was found and was dealt with. The lesser sac of the peritoneum was then examined more carefully, and it was found that one could pass one's hand through the hole in the mesocolon down to the extremity of the great omentum, up to the liver, and out to the spleen. The inferior mesenteric vein was not seen, as the retro-peritoneal tissues were fairly well loaded with fat, and were also somewhat œdematous. The free border of the hole in the mesocolon was sutured to the posterior surface of the stomach. The patient made an excellent recovery.

Case VI.—A male patient, aged 56 years, with a long history of gastric disturbance, was operated on on 23rd January, 1913, and an inoperable pyloric carcinoma found. The colon was raised to make a posterior gastro-enterostomy, and the following appearances presented. At first sight the mesocolon looked as if there were a hole right through it, and as if the posterior wall of the stomach were presenting directly through the hole; the left margin of the "hole" was formed apparently by the left colic

artery, and the right margin by a small artery which ran from a point rather to the left of the centre of the arterial colic arch down to a mesentery passing between the first inch or two of the jejunum and the under surface of the mesocolon. This small vessel was, however, in the free edge of a mesentery of its own, which, like all the rest of the mesocolon, was thick and normal in appearance. On lifting up the vessel and therefore the free edge of its mesentery, a little pouch about half an inch deep, running the whole length of the vessel from the colic arch to the jejunum and open to the left side of the patient, was made evident. The traction put on the mesocolon by so doing brought tension to bear on an extremely thin and delicate layer of peritoneum, devoid of fat, in which no vessels were visible, and which filled in the apparent hole in the mesocolon. This thin peritoneum had up to that moment been lying so closely against the stomach as to make it appear that the latter organ was directly exposed through the supposed "hole;" but this thin layer was not adherent to the stomach, and in tearing through it the posterior surface of the latter came through the opening at once.

Case VII.—A girl, aged 5 years, was admitted to the Royal Infirmary on 2nd October, 1912, suffering from acute intestinal obstruction of at least thirty-six hours' duration. Immediate operation was carried out, and the lowest ileal loop was found completely gangrenous, having been snared by a solitary band. A resection of bowel was made. The child died. At the *post-mortem* examination it was found that an internal hernia existed. By the time I first saw it, part of the jejunum had already been withdrawn from the lesser sac of peritoneum, and only about 12 to 18 inches still remained in the small sac lying behind the stomach. It was found that the mesocolon terminated along the arch of the colic arteries (as shown in the illustration), and that a large opening existed in the mesocolon corresponding to the arch. Through this opening one's fingers could be passed up behind the stomach to present under the gastro-hepatic omentum and also out to the spleen, but not down in front of the colon. When the stomach and colon were dragged upon in an upward direction the pancreas was lifted off the abdominal wall, and the splenic vein, with the inferior mesenteric vein entering

it, became visible (see illustration). The transverse mesocolon terminated in two columns, that on the left side being very marked, while the one on the right side was rather less defined; they terminated at the origins of the middle and left colic arteries respectively.

Photograph from Case VII, showing the opening in the transverse mesocolon. Through this opening can be seen from above downwards—(1) Posterior wall of stomach; (2) posterior surface of pancreas; (3) splenic vein with inferior mesenteric vein entering it. The bowel medial to the mesenteric vein is the highest part of the jejunum.

Case VIII.—An infant male, aged 5 months, was admitted to the Royal Infirmary on 14th August, 1912, suffering from acute intussusception of about twenty-four hours' duration. An ileo-colic intussusception was reduced. The child died.

At the *post-mortem* examination the arch formed by the middle and left colic arteries was remarkably prominent, and lay in a fringe of peritoneum which hung down from the

transverse mesocolon in the form of a short mesentery. The mesocolon itself outside the arch was normal in texture and appearance; but the tissue bridging across the arch was of the thinnest possible character, being merely a thin, gossamer-like veil of membrane, entirely devoid of fat and without any visible vessel in it. It presented several small openings in it leading through into the lesser sac. When seen on lifting up the transverse colon, this thin membrane presented quite a depressed saucer-like cavity, obviously caused by the highest loop of the jejunum. The inferior mesenteric vein was not seen.

Unfortunately, the foramen of Winslow was not examined in these four cases.

It seems to me that Case VIII is specially interesting in considering the origin of these herniæ, because the two or three small openings in the extremely delicate membrane that filled in the arch bounded by the colic vessels would appear to offer a special predisposition to a hernia into the lesser sac. Supposing a portion of the bowel wall to have entered one of these openings after the fashion of a Richter's hernia, it is not difficult to see how it might worm its way through by its vermicular action, gradually widening the opening to allow more bowel to enter the small sac, and might thus easily cause "atrophy" of this attenuated membrane. On the other hand, we find the patient whose case is recorded as No. VI living to the age of 56 years, with this particular area of his transverse mesocolon in practically the same gossamer-like state as in Case VIII, with this difference—perhaps an important one—that his mesocolon had not any perforations. Although this man had had pyloric obstruction of some considerable duration with frequent vomiting, this thin membrane had held up against the increased abdominal tension thus occasioned. Yet the small artery which formed the right border of the "atrophic" area in this man's mesocolon lay in a small mesentery about half an inch in width, which, under certain circumstances, might have lodged a portion of bowel in its hollow. Such a lodgment of bowel must be considered a predisposing factor in the production of any internal hernia.

It does not appear to me that rupture of a normal mesocolon is likely to occur from vomiting as long as the transverse colon

remains a "floating" organ. I am not able to give any explanation regarding the "atrophy" or want of development of the mesocolon, which, as Cases VI and VIII show, may exist, but I suggest that it may be the result of a defective vascular supply to the part involved. In both these cases the thin peritoneal zone appeared to be absolutely avascular. Possibly the small openings present in the thin zone of mesocolic tissues in Case VIII are the result of "atrophy."

Cases V and VII exhibited complete mesocolic arches, in consequence, I believe, of atrophy of the zone of peritoneum surrounded by the colic arteries: and while in Case VII a hernia actually existed, in Case V it can only be said that a hernia was not present at the time the examination of the body was made.

The sex incidence (females 10, males 3), is interesting, but the paucity of the numbers diminishes its importance at present.

In the eleventh edition of Quain's *Anatomy* (vol. ii, part 2), Fig. 349 represents a condition very similar indeed to that found in Cases III and IV. It differs slightly from my Case III in so far that the transverse colon in the latter was quite free, and from Case IV, in that the colon there was more completely bound to the posterior abdominal wall. In the text it is suggested that the condition was either the result of rotation of the colon not having taken place or that it represented an internal hernia. It is my opinion that this also was a case of a hernia across the lesser sac from which the bowel had escaped through the gastro-colic ligament.

Hilgenreiner described in the *Prager med. Wochenschrift*, 1903, a case of hernia into the lesser sac of peritoneum. I have not access to the original paper, but to quote from the only abstract of it which I can find, the bowel had entered through "an opening situated in the posterior leaf of the omentum majus close to where it turns to become the anterior leaf: the hernial sac hanging down as a loose bag from the transverse colon." It would appear, therefore, that the bowel did not herniate through the mesocolon, and that this case does not fall into the same category as those which I have described; but it seems worthy of mention in this connection.

Taking the foregoing facts into consideration, one may say

that herniæ into the lesser sac of the peritoneum may be divided into two main types, viz.:—

1. Hernia through the foramen of Winslow, and
2. Hernia through an abnormal opening.

This abnormal opening may be situated (*a*) in the mesocolon, in which case it would appear to be most frequently placed within the vascular arch of the middle and left colic arteries, or (*b*) the opening may be in some part of the omentum.

If the bowel pass beneath the colic arch it may (*a*) remain in the lesser sac and present either above or below the stomach, or (*b*) may escape again into the general peritoneal sac above the stomach ("gastro-hepatic" type) or below the stomach ("gastro-colic" type).

In the majority of cases of hernia through the foramen of Winslow that are recorded, a comparatively short length of bowel was herniated. The larger herniæ seem to have presented beneath the gastro-hepatic omentum, and in one case (Treves) the cæcum and vermiform appendix had burst through that structure.

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[4] Boettcher, *Virchow's Archiv*, vol. lxxii, p. 642.

RICKETS: A HISTORICAL NOTE.

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Although in the words of Barlow,[1] "rickets was probably coeval with civilisation," it is credited by most authors with having made its appearance within comparatively modern times.

Whatever be the nature of the specific etiological factor, we appreciate to-day that this disease is engendered and fostered by bad social conditions, comprising bad housing, overcrowding, and deficient air and exercise, and consequently we would not be surprised to learn that it had existed in ancient times, if not when the older civilisations were at their zenith, at least when they were decadent.

The conditions of living were certainly not of the best, *e.g.*, in ancient Egypt, but there is no evidence that the disease was extant either in the heyday of this civilisation or later on during the Christian era. I have searched the translations of the available medical papyri (Eber's Papyrus, Brugsch Papyrus, and the London Papyrus),and can find no reference to anything suggesting the condition. The bulk of these works is devoted to prescriptions of remedies, though the symptoms of several maladies are described. One striking feature of the literature of the ancient Egyptians is the reticence regarding child life. In these times there was great specialisation of the practice of medicine, yet the branch of obstetrics was given over to women, and it is not improbable that child welfare was also neglected by the physician as, unfortunately, has been the case in our own time.

Elliot Smith,[2] in his work on the Nubian Survey, states that among the excavated skeletons of ancient Egypt "it is not uncommon to find peculiar though slight bending of all the long bones. The reason for hesitation in adopting such a view is that clear unmistakable evidence of rachitic changes has not been found in human bones in any ancient cemetery in Egypt or

Nubia." In a personal communication Professor Elliot Smith writes that he is "extremely doubtful whether rickets ever really occurred in ancient Egypt," and he considers "that Ruffer, not being aware of the extent to which the perfectly normal femur can be curved, imagined he had found rickets in ancient remains from the Soudan." Elliot Smith at the same time drew my attention to the fact that Lortet,[3] of Lyons, described rickets in the remains of apes which had been kept captive in one of the Theban temples. Should such, indeed, be the case, it would cause us no surprise, as in modern times young monkeys kept in captivity are liable to develop rickets. Hansemann[4] some years ago recorded that monkeys kept captive in Japan, where rickets at the time was unknown, developed the disease.

A further confirmation of the absence of rickets in the human subject in ancient Egypt is found in the work of Soranus Ephesius to be mentioned below. This physician studied at Alexandria, and though he had apparently observed the disease in Rome, he makes no mention of ever having seen it in Egypt, and specifically states that it did not affect Greek children.

Certain authors, nevertheless, have construed passages in Greek writings—medical and lay—as descriptions of the disease. Zesas in an article on the history of rickets draws attention to the following passage from Hippocrates' work, *De Articulis*:—"Et quibus supra septem gibbositas est, his et costæ in amplitudinem augeri non solent, sed in anteriorem partem et pectus acutum fit sed non latum, ipsique ei difficulter spirant," &c. [With regard to those who are hunchbacked after the age of seven, their ribs do not, as a rule, increase proportionately, but bend towards the back; their chest becomes sharp instead of broad and they themselves have difficulty in breathing.] To my mind this passage can hardly be taken as describing rickets—the whole description is more in keeping with tubercular disease of the spine.

Homer[5] in the "Iliad," which was written about 900 B.C., describes a court jester, Thersites, as "bandy-legged, lame of one foot, the shoulders rounded, arched down upon his chest and over them his head was warped and a scanty stubble sprouted on it," which Delpeuch considers a picture typical of rickets. Delpeuch,[6] Marfan,[7] and Bouchard all refer to the possibility of

the court jester of the ancients, and also of the middle ages, being rachitic, and draw attention to descriptions and bas-reliefs of deformed dwarfs, such as we find depicted above in Homer. I consider it doubtful, however, if these individuals were really rachitic. Mental deficiency, or at least mental aberration, was characteristic of the court jester, and they were adults, whereas rachitic individuals are not mentally deficient, and it is during childhood that the severe deformities are present, the majority being of fairly normal appearance by the time they reach adult life. It is more probable that these deformed court jesters were more akin to our "village naturals" and deformed from paralysis, osteogenesis imperfecta, and achondroplasia.

The first undoubted reference to a condition simulating rickets that I have been able to obtain dates from the first century of our era, and is to be found in the work on "Diseases of Women" by Soranus Ephesius, who lived between 98 and 138 A.D. According to Suidas, "Soranus Ephesius, the son of Menander and Phoebe, lived some time in Alexandria, practised as a physician at Rome in the reigns of Trojan and Hadrian and composed many beautiful works."[8] A German translation of Ephesius' "Diseases of Women" entitled "Die Gynäekologie" was published in 1894 at Munich by H. Lüneburg and J. Ch. Huber as the first of a series of a *Bibliothek medicinischer Klassiker*. That this author was referring to rickets would seem undoubted. His description of the condition is so perfect and his remarks regarding the distribution and probable cause of the disease so interesting that I will quote his words in full:—

πά. Πῶς δεῖ καθίζειν καὶ περιπάτησιν ἀσκεῖν.

Καθίζειν δὲ καὶ ἀνίστασθαι τοῦ βρέφους πειράζοντος, βοηθεῖν αὐτοῦ τοῖς κινήμασι δεῖ. Τάχιον μὲν γὰρ προθυμούμενον καθίζειν καὶ μέχρι πλείονος, εἰώθε κυρτοῦσθαι, καμπτομένης τῆς ῥάχεως διὰ τὸ μήπω τὰ σώματα τόνον ἔχειν. Προπετέστερον δὲ ἀνιστάμενον καὶ περιπατεῖν θέλοντα, στρέφεσθαι κατὰ τοὺς μηροὺς τὰ σκέλη.

πβ' Διὰ τί τὰ πλεῖστα τῶν ἐν Ῥώμῃ παίδων διαστρέφεται.

Τοῦτο δὲ καὶ μᾶλλον ἐπὶ Ῥώμης γινόμενον θεωρεῖται. Καθὼς μέν τινες ὑπολαμβάνουσιν, ὅτι ψυχροῖς ὕδασιν ἡ πόλις κάτωθεν

διαιρεῖται, καὶ τὰ σώματα περιψύχεται ῥαδίως. Καθὼς δέ τινες λέγουσι καὶ διὰ τὰς συχνὰς τῶν γυναικῶν συνουσίας, ἢ διὰ τὸ μετὰ μέθην ταῖς συμπλοκαῖς χρῆσθαι. Τὸ δ' ἀληθές, διὰ παιδοτροφίας ἀπειρίαν· οὐ γὰρ ἔγκειται τοσαύτη στοργὴ ταῖς ἐν τῇ πόλει γυναιξὶν ὡς τὸ καθ' ἕκαστον ἐπιβλέπειν, ὃν τρόπον πράττουσιν αἱ καθαρῶς Ἑλληνίδες. Μηδενὸς ἐπιθεωροῦντος τὰ κινήματα τῶν βρεφῶν, διαστρέφεται τὰ κῶλα τῶν πλείστων. ὅλον γὰρ τὸ βάρος τοῦ σώματος ἐπίκειται τοῖς σκέλεσι, στερεὸν δὲ καὶ ἀπόκροτον τὸ ἔδαφος ὡς ἂν κατὰ τὸ πλεῖστον λίθοις ἐστρωμένον. ὅταν δὴν ἀντίτυπον μὲν ᾖ, καθ' ὃν κλίνει, βαρὺ δὲ τὸ ἐπικείμενον, τρυφερὸν δὲ τὸ βαστάζον, κατ' ἀνάγκην τὰ κῶλα ὑπενδιδῶσι, μήπω τῶν ὀστέων τετονωμένων. Ἔνθεν ὅταν καθίζειν πρῶτον ἄρξηται, περιβολαῖς ἱματίων αὐτὸ οἱονεὶ παραθέσει τῶν ἀνακρατεῖν αὐτὸ δυναμένων διερειστέον καὶ οὐ μέχρι πολλοῦ τὸ πρῶτον. Προκόπτον δὲ μᾶλλον ἕως τοῦ ἕρπειν καὶ πρὸς μικρὸν ἐξανίστασθαι, παρὰ τοῖχον αὐτὸ διαστήσαντα καταλιπεῖν. Κατὰ πρόσβασιν δὲ καὶ πρὸς διφρον ὑπότροχον. Οὕτως ἐκ τῆς κατὰ βραχὺ συναυξήσεως μελετήσει τὴν ἐπίβασιν. Καὶ ταῦτα μὲν περὶ τῆς κινήσεως. ἐξῆς δὲ καὶ περὶ τροφῆς ὑποδεικτέον.

For the following English translation I am indebted to Miss Donaldson, M.A., B.A.Lond.:—

How should the child be trained in standing and walking?

When the infant makes attempts to sit down and stand up, one must assist his movements. For should he show eagerness to sit sooner than is right or too often, he becomes hunched, owing to the backbone bending while as yet the body has no sinews to resist the strain. If he continue to stand up with growing impetuosity, and wish to walk about, his legs commonly become twisted at the thighs.

Why the majority of Roman children are distorted.

This is observed to happen more in the neighbourhood of Rome than in other places. Some suggest as a reason that the city is undermined by cold waters and that their (*i.e.*, the children's) bodies are easily chilled. Others suggest the frequent sexual intercourse of women, or intercourse taking place after a drunken bout. The truth of the matter lies in inexperience with regard to the rearing of children; for women in the city have not so great a love for their children as to have regard to every particular as the women of purely Greek stock do. If

no one oversees the infant's movements his limbs do in the generality of cases become twisted, for the whole weight of the body rests on the legs, and the floor or pavement on which he walks is hard and unyielding, being for the most part laid with stones. When, therefore, he rests upon a hard substance, the weight pressing on the limbs is great, and the limbs which bear him up are frail; the limbs must then of necessity give way a little, since the bones are not yet stiff. Hence when he first begins to sit he must be propped up by swathings of bandages to counterbalance the ills that can gain the mastery over him, nor must he sit for long at first. As he advances farther to the stage of creeping and standing up for a little, then one should place him up against a wall and leave him alone. But for purposes of making him approach use a chair on wheels. Thus from a gradual common growth of all the members he will practise walking. So much for movement.

The chief interest of the work of Ephesius is that it shows, as one would have expected from one's knowledge of its etiology, that this disease is of very remote origin and not, as believed by Glisson and his contemporaries, and also by the majority of the writers of the present day, of comparatively recent date. His description, however, apparently lay buried in the archives of the ancients, and our own knowledge of the disease unhesitatingly dates from the time of Francis Glisson[9] of anatomical fame. It is to this great English pioneer that we are indebted for rediscovering it, establishing it as a clinical entity and bringing it to the notice of the medical profession. The disease was well known to the laity of his time, and was believed to have made its appearance some thirty years previously, which, however, probably means nothing more than that such a period is the duration of the average individual's memory.

It is quite apparent from Glisson's monograph that the disease was the subject of great interest to all active medical minds of his time, and that many had written concerning it. He, however, was selected by his *confrères* of the Royal College of Physicians to write a treatise on the subject, because he of them all had studied it most thoroughly and had personally discovered most of the chief points in connection with it. Thus it happens that he appears as the sole author of the 1650 edition (published in Latin), while the English edition of 1651 appears under the joint authorship of Glisson, Bate, and Regemorter.

Glisson's treatise is a monument to English medicine for all time, and one cannot study it without being impressed by the accuracy and thoroughness of his clinical and pathological descriptions. On these aspects of the subject there has been nothing to add, and very little to withdraw.

In a work of such scientific merit it is somewhat surprising and certainly amusing, but nevertheless interesting, to read the remarks on the origin of the disease and its name. In Chapter I of his monograph considerable attention is paid to these questions, and we believe that a short summary of the discussion will be appreciated by our readers.

He remarks that though the condition has something in common with slow fever, wasting, marasmus and hydrocephalus, it is entirely different from these, and although it may be accompanied by venereal disease or scurvy, or be present in the children of parents suffering from these maladies, it has nothing to do with them, and that it calls for quite different treatment. "But to what purpose," he concludes, "do we delay longer in this enquiry, since anyone who likes to study the signs of this disease to be set forth in their own place can easily persuade himself that the disease is entirely new and was never described by the ancients or the moderns in their books on children's diseases published till now." He says that the "disease was first noticed (so much, indeed, we can gather from the reports of others after diligent examination) in the western districts of England in the counties of Dorset and Somerset about thirty years ago. A little later it came to notice in other places also—London, Cambridge, Oxford—indeed, almost all the eastern and western districts of England."

Regarding the origin of the name, he writes "Now the name of the disease commonly accepted among those to whom it is familiar is *The Rickets*. But who first gave the disease this name is quite uncertain, as also on what occasion it was given, whether by chance or design. However the name was given it obtains among all, even in such a variety of places, not yet have we found it to have been called or to be called now by another name.

"But it is a matter for surprise that although the disease is

new, and was named not so long ago, and though it prevails in places which are not far apart or inaccessible, yet no one so far can be found who knows or can show who first was the author of the name or the sick person in the case of whom first the name of the disease was bestowed, or the particular place where it was given, or even the way in which it was spread among the people. The people having obtained the name of the disease acquiesce as though the matter were completely settled and do not wish to be further disturbed concerning the origination of the name or the thing itself.

"But seeing that those skilled in Latin and Greek perhaps await a name from us for which some reason can be given, we have applied to this disease a number which yet it will perhaps not be worth while to go over one by one. Nevertheless, it may not be useless to make a note of the rules which we imposed on ourselves in giving the name.

"The first, then, was that the name should describe some notable feature of the disease; secondly, that it should be sufficiently distinct from the names of other diseases and symptoms; thirdly, that it should be sufficiently familiar, easy to pronounce, convenient to remember, not too long nor too laboriously put together.

"While we were striving to satisfy these rules, one of us by chance happened upon a certain name which pleased him and, later, the others also. And this was '*νοσος ῥαχίτις*' or even '*ῥαχίτης*' 'spinal disease,' also '*νόσος τῆς ῥ᾽αχεως*' 'disease of the spine of the back.' For the spine is the chief of the parts first affected in this disease. Then also no other disease has forestalled it in this name. Besides, this name is familiar and easy. Lastly, we seem by this name to free from barbarism the English name—the Rickets—so unanimously accepted by the people. For without distortion of the word the name Rickets can readily be derived from *ῥαχίτις* or *ῥαχίτης*, only let the measure of the change be considered as that which usually occurs in words when they are translated from one language to another.

"You may say that those who first gave the English name—the Rickets—were perhaps entirely uncultivated and unskilled in

Greek, and that they did not think of the Greek word ῥαχίτις, or at all events did not perceive that the spine was the chief among the parts first affected in the disease. Our reply is that it does not concern us whether they were uncultivated, whether they did not think of the Greek word, whether they did not perceive what was the chief among the parts first affected, or otherwise. Yet these objections are brought forward gratuitously, for we know that at that time when the disease first appeared and received its name, many men truly learned and skilled in Greek lived in these places, who also would without difficulty observe the striking weakness of the spine in this disease, and thence give the name to it. And it may be that the people perverted that name, when given by some error of pronunciation, as often happens, and expressed it in the word now accepted—the Rickets.

"But this does not trouble us whether it was so, or otherwise; let it be either way. If it happened thus, the name proposed will be entirely suitable (as is plain), but if otherwise, it will perhaps suit no less well. For consider that you have happened upon a name, accepted not so much by chance, yet so after that it is scarcely possible to invent on purpose another more suitable or more in accord with reason."

Later authorities have taken a somewhat different view of the origin of the term *Rickets*. According to Skeat the term *Rickets* is probably derived from old English *wrick*, middle English *wrikken*, to twist—used in the phrase "to wrick one's ankle."

One other incident in the history of rickets calls for mention. In 1645 (five years before the publication of Glisson's monograph) Daniel Whistler, later a president of the Royal College of Physicians, published at Leyden an inaugural dissertation on rickets entitled "De morbo puerili Anglorum." Dr. Norman Moore[10] has subjected this work, and the available historical facts related thereto, to a critical examination, and has shown that it does not present any evidence of original observation, and was in all probability founded on knowledge gained from the writings or conversations of Glisson and others, since at that time "most active medical minds were discussing the subject." It is possible, however, that the appearance of

Whistler's treatise in Germany, under the title "Morbo puerili Anglorum" may have been responsible for the German appellation, "Die englische Krankheit."

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5 Homer, "Iliad," canto ii (translation by Andrew Lang, London, 1906, p. 28).
6 Delpeuch, "De l'ancienté du rachitisme," *La Presse Medicale*, No. 3, 1902, p. 27.
7 Marfan, *Maladies des Os*, Paris, 1912.
8 Quoted by Barbour, *Early Contributions of Anatomy to Obstetrics*, Edinburgh, 1888.
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Obituary.

ON SERVICE.

JOHN WILSON, L.R.F.P.S., L.R.C.P. & S.Ed., Captain, R.A.M.C.(Temp.), Burnhope, co. Durham.

We regret to have to record the death on service of Captain John Wilson, of Burnhope, on 30th December last.

Captain Wilson studied medicine at the University of Glasgow, and took the Triple Qualification in 1903. Soon after qualifying he entered into partnership with Dr. Ritson, of Burnhope, and rapidly gained the esteem of a large circle of patients. He entered the medical service of the army in 1917, with the temporary commission of Lieutenant, R.A.M.C., and was posted to Blackpool training centre. Here his previous military training—he held while a student the rank of Staff Sergeant in the Glasgow Companies R.A.M.C.(Vols.)—stood him in good stead, and he was posted as company officer. After a short stay at Blackpool he was sent to Egypt for duty with the E.E.F., and was posted to 78th General Hospital, Alexandria, where he was made company officer. The Hospital was a new one, not opened, and it fell to Mr. Wilson to superintend the erection of the canvas wards, which he accomplished in a very short space of time. He continued for some time in the post of company officer, and then was transferred to ward work.

In the spring of 1918 the Hospital moved to Deir-el-Belah, Palestine, and Mr. Wilson proceeded there in charge of the advance party. With the exception of an interval when he was laid aside with sciatica, and again with dysentery, he continued on the strength of the Hospital till his last illness.

About the middle of December he received orders to proceed to Kantara for embarkation to the United Kingdom, but before he could carry out these orders he was attacked with catarrh.

Broncho-pneumonia developed, to which he succumbed on 30th December.

Captain Wilson was a man of sterling uprightness and unflagging industry, and he took a strong personal interest in his patients. Besides medicine he had many interests, of which perhaps that for natural history was most in evidence during his stay in Palestine. He was no mean performer in water colour, and was a keen musician, both on the piano and on the pipes. His Celtic descent on his mother's side had a good deal to do with the last, and he was deeply interested in all that pertained to the Highlands.

A son of Mr. T. L. Wilson, of the Clydesdale Bank, Cowcaddens, he is survived by his parents, his widow, and his three brothers, to all of whom we offer respectful sympathy in their bereavement. Two of his brothers studied medicine in Glasgow, and are at present serving in the R.A.M.C.

ROBERT PARK, M.D. Glasg.,
Glasgow.

The death occurred at Bournemouth, on 13th January, of Dr. Robert Park, of 3 Royal Terrace, Glasgow. Dr. Park, who was 76 years of age, was the eldest son of the late Rev. Hugh Park, Cumbernauld.

Originally a veterinary surgeon—he took the diploma of M.R.C.V.S. in 1866—he soon directed his attention to the study of medicine, and became L.S.A. in 1869. In 1873 he obtained the Licence of the Faculty of Physicians and Surgeons, and became M.D.Glasg. in 1881.

For many years he was in practice in Glasgow, and was a well-known member of the medical profession, having held the post of physician to the Samaritan Hospital as well as other public appointments. Dr. Park was the author of several volumes, including *The Medical Education of Women*, *Mind and Form*, *The Case for Alcohol*, and a number of translations of French medical works. He was a brother of Sir Maitland Hall Park, editor of the *Cape Times*.

ALEXANDER KILPATRICK, M.B., C.M. Glasg., Govan.

Govan has just suffered the loss of one of her most senior medical practitioners by the death of Dr. Alexander Kilpatrick on 14th February. Deceased had just visited a patient, and was on his way home when he suddenly expired in the Govan Road.

Dr. Kilpatrick studied medicine in the University of Glasgow in the 'seventies, and graduated M.B., C.M. in 1880. Almost immediately thereafter he settled in Govan, and so had been in practice there for close on forty years. He had recently suffered from influenza, but was not, so far as is known, ailing at the time of his death.

CORNELIUS HOPE, M.B., C.M. Glasg., Govan.

Another well-known Govan practitioner has just passed away in the person of Dr. Cornelius Hope, who died suddenly while visiting a patient on the afternoon of 12th February.

Deceased, who was 72 years of age, was a native of Kirkintilloch. He studied medicine in the University of Glasgow, and graduated M.B., C.M. in 1889, having previously taken the Licence of the Faculty of Physicians and Surgeons in 1885. After qualifying he spent some time at Stockton and in Aberdeen, and about thirty years ago he settled in Govan, where he had since practised.

CURRENT TOPICS.

GLASGOW AND WEST OF SCOTLAND MEDICAL ASSOCIATION ("GLASGOW MEDICAL JOURNAL").—The annual meeting of the Association was held in the Faculty Hall, 242 St. Vincent Street, on 31st January, 1919. The President, Dr. Leonard Findlay, was in the chair. The Editors' and Treasurers' reports were submitted and approved. The office-bearers holding office during the past year were re-elected, viz.:—

President,	DR. LEONARD FINDLAY.
Vice-Presidents,	DR. GEO. A. ALLAN. DR. ARCH. W. HARRINGTON.
Editors,	MR. GEORGE HENRY EDINGTON. DR. WILLIAM ROBERT JACK.
Editor of "Abstracts,"	DR. ROY F. YOUNG.

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DR. J. M. COWAN.	DR. W. CAMPBELL MACKIE.
DR. WALKER DOWNIE.	DR. GEORGE M'INTYRE.
DR. G. B. FLEMING.	DR. ARCHIBALD YOUNG.

Auditors,	DR. W. WALLACE. DR. JOHN SHAW DUNN.

New Lectureships for Glasgow University on the Diseases of Children.—Announcement was made at the annual meeting of the subscribers to the Glasgow Royal Hospital for Sick Children of two gifts of £5,000 each to Glasgow University, for the foundation of new lectureships in connection with the diseases of infancy and childhood. The directors of the Hospital in their annual report stated that Mr. Leonard Gow, shipowner, Glasgow, had offered to give £5,000 to the Court of the University to found a lectureship, to be known as "The Leonard Gow Lectureship on the Medical Diseases of Infancy and Childhood, in memory of his father, Leonard Gow, LL.D., shipowner, Glasgow," and that their colleague, Mr. Robert Francis Barclay, who for twenty years had acted as honorary secretary of the Hospital, had offered to give the same amount to found a lectureship, to be known as "The Barclay Lectureship on Surgery and Orthopædics in relation to Infancy and Childhood, founded in memory of seven very pleasant years spent at the University and twenty years of work in connection with the Royal Hospital for Sick Children, Glasgow." The directors thanked Mr. Gow and Mr. Barclay most warmly for their generous and handsome gifts, and assured them that the benefit conferred on the medical men of the future, and thereby on the whole community, would be of the greatest value in years to come.

Mr. John M. MacLeod, M.P., who presided at the meeting, said Glasgow had always in the past been noted for its generosity and public-spirited and generous-hearted citizens, and it was delightful to find that the tradition had been carried out so nobly and so well. The gifts had been given in the best way they could be given, because one must learn before one could be of use in this world.

Principal Sir Donald MacAlister, who was present on the platform, said he hailed with unusual satisfaction the magnificent liberality of Mr. Gow and of Mr. Barclay in recognising the fact that the Hospital had a function deeper and wider than even that of care for the individual sick child. The gifts had been accepted very gratefully, in that they meant not only an addition to the teaching staff of the University, but that it brought the University into closer relation than hitherto with the Hospital.

War Trophy for Glasgow University.—Principal Sir Donald MacAlister has received the following intimation from the Director of Staff Duties:—

War Office,
London, S.W., *16th January, 1919.*

Officers' Training Corps, S.D.3a.

Sir,—I am directed to inform you that in consequence of the work of the Officers' Training Corps at the University of Glasgow during the war representations were submitted to the War Trophies Committee that a distribution should be made in order to recall to future generations the part played by both officers and cadets of the contingent in preparing candidates for commissions during the Great War.

I am to inform you that the War Trophies Committee, under the chairmanship of Mr. Macpherson, M.P., P.C., Under Secretary of State for War, has allotted a German field gun to your University, and I am to request you to inform me whether the trophy is acceptable.—I am, Sir, your obedient servant,

J. P. Boyd, Major,
For Director of Staff Duties.

The Vice-Chancellor, University of Glasgow.

The Principal has gratefully accepted the trophy on behalf of the University and the Corps.

Honour for Scottish Ambulance Convoy.—The Scottish Convoy of Motor Ambulances (Convoi de l'Ecosse No. 1), which the Scottish Branch British Red Cross Society presented for work with the French Army three years ago, and which was demobilised last month, has been cited in the Order of the Army carrying with it the Croix de Guerre with Palm. This is the highest distinction which an individual or unit can obtain, and is the third citation which the convoy has obtained, divisional and army corps citations having been previously granted to it.

Misadventure at Greenock: Two Medical Men Poisoned.—The deaths of two Greenock medical practitioners through evident misadventure have naturally excited universal feelings of painful regret and sympathy in the community. The circumstances under which the calamity happened can be stated simply.

Dr. John Blair Conner, whose consulting rooms are at 3 Mearns Street, had a very large panel practice, and was in general assisted by Dr. Thomas Mowat, who had a consulting room near him in the same street. It was their custom professionally to meet in the evenings in the rooms of Dr. Conner. They were on the friendliest of terms. On Monday night, 3rd February, Dr. Mowat called in the usual course. In the ensuing conversation he mentioned that he had prepared a specific pick-me-up, which, with the consent of Dr. Conner, he proceeded to test. Having poured the fluid into two glasses, he drank the contents of the one and Dr. Conner the other. The latter quickly realised that a fatal mistake had been made in the mixture. "My God, Mowat, what is this?" he said, and ran out of rooms to his residence immediately round the corner. His wife telephoned for medical aid, while he hurried back, took an emetic, and brought out a stomach pump. Four doctors—Lawrie, Nairn, Wardlaw, and Millar—were quickly on the premises. Dr. Mowat was dead before their arrival, and Dr. Conner was *in extremis*. For a time there was a hope of saving his life, and in this view arrangements were made for a transfer to the hospital, but after an hour of the utmost remedial application the poison had its way and Dr. Conner succumbed. The bodies were removed to the police mortuary, where a *post-mortem* examination was made. Both gentlemen were popular in the district. Dr. Conner, who was 47 years of age, was a native of Greenock, began practice in 1901, and resided at 46 Regent Street. He was on the School Board for a term, and two years ago was co-opted as a Town Councillor. Dr. Mowat, who was about 60 years of age, came to Greenock some years ago in the capacity of a partially retired practitioner, acted as locum tenens for a brother professional during the war, and assisted in the practice of Dr. Conner. He resided at Westbourne Terrace. Each is survived by a wife and family. At a special meeting of Greenock Corporation on 4th February, Provost M'Millan moved a resolution of condolence and sympathy. He said they must all have learned with horror of the tragedy that had occurred. On behalf of the community he expressed deep regret at the melancholy occurrence and their appreciation of the services both gentlemen had rendered to the community, especially during the past few

years owing to the shortage of medical men. Ex-Bailie Mitchell seconded. The Corporation thereafter adjourned.

Dr. Conner studied in Anderson's College and the University of Glasgow, and took the Triple Qualification in 1901. He settled in Greenock almost immediately after qualifying, and became visiting physician to the infirmary.

Dr. Mowat studied also at Anderson's College and the University of Glasgow, and obtained the Licence of the Faculty of Physicians and Surgeons in 1883.

Panel Doctors and Higher Fees.—The quarterly meeting of the Glasgow and West of Scotland Branch of the Panel Union was held in the Central Halls, Bath Street, on 30th January, Dr. Andrew Wauchope presiding. A discussion took place on the bonus recently granted to panel practitioners with small incomes. It was the unanimous opinion of the meeting that, while half a loaf was better than none, the bonus was a very slight recognition of the just demands of all panel practitioners for increased remuneration for work done. The present capitation fee was most inadequate, inasmuch as it was agreed upon when the cost of living and wages of insured persons was 100 per cent less than to-day. At such time, moreover, the health of insured persons was free from the deterioration caused by the war, and there was less work for medical men. Hence the present capitation fee should be doubled. It was ultimately resolved to demand from the Insurance Commissioners a capitation fee of not less than 10s. per annum per insured person.

The question of housing was discussed, and the urgent necessity of more commodious houses and the demolition of the single apartment was emphasised as a preventive of disease. Dr. A. Jamieson moved that "Municipalities, in providing more houses for the people, should give preference, for the first houses built, to soldiers and sailors whose health had been impaired in fighting for their country." The resolution was seconded by Dr. T. Colvin, and unanimously adopted, and it was resolved to forward it to the Ministry of Pensions.

Anthrax: A Trial Disinfecting Station.—The Home Secretary has appointed a Committee—

1. To advise as to the arrangements to be made for the establishment of a trial disinfecting station as recommended in the report of the Departmental Committee on Anthrax;

2. To carry out therein the disinfection of such infected materials as may be directed by the Home Office, and subject to any instructions which may be given by the Home Office to control the working of the station;

3. To make recommendations as to the construction, equipment, and working of the stations to be erected for carrying out completely the disinfection of infected material as recommended by the Departmental Committee; and

4. To advise on any other matters which may be referred to them from time to time in connection with the scheme.

The members of the Committee are—Sir William Middlebrook, M.P. (chairman); Mr. Walter Barber, Mr. G. Elmhirst Duckering (one of H.M. Inspectors of Factories); Mr. George H. Feather, Lieutenant-Commander E. H. Foster, R.N.V.R.; Mr. W. Morton Jackson, Mr. William Mackinder, Dr G. W. Monier-Williams, F.I.C., representing the Local Government Board; and Mr. Samuel Walker. The secretary to the Committee is Mr. G. E. Duckering, and any communications on the subject should be addressed to him at 72 Bridge Street, Manchester.

Medical Branch of Pensions Ministry.—The Minister of Pensions has decided to effect certain changes in the administration of the medical branch of the Ministry of Pensions. In the transfer of hospital accommodation and medical personnel for disabled men from the military authorites to the Pensions Ministry, it is essential to ensure the closest co-operation between the Navy, Army, Air Force, and the Ministry. With that end in view Sir Laming Worthington-Evans has appointed Colonel Webb, at present Assistant Director of Medical Services, War Office, to be Director-General, subordinate to whom there will be three Directors of Medical Service, each at the head of a definite branch of the work of the Department. Sir John Collie, C.M.G., who is about to resume his position at the London County Council, from which he was temporarily released, has been invited and has consented to act as consulting medical officer to the Ministry on resigning his appointment as Director of Medical Services.

The Territorial Decoration.—In special recognition of the meritorious service of Territorial Force officers during the recent war, His Majesty has been graciously pleased by royal warrant to authorise the following additions to the conditions of qualifying service for the award of the Territorial Decoration to officers belonging to that force as follows:—(*a*) An officer of the Territorial Force (including the Territorial Force Reserve) will be allowed to reckon as double qualifying service all embodied service during the present war as an officer on the active list or as an actively employed officer of the Territorial Force Reserve (including service as an officer of the Royal Navy, Regular Army, Special Reserve, or Royal Air Force), provided (1) that he was serving in the Territorial Force or the Territorial Force Reserve on 4th August, 1914; and (2) that he served overseas or signed the Imperial Service obligation prior to 11th November, 1918. (*b*) An officer of the Territorial Force (including the Territorial Force Reserve) will be allowed to reckon as full (not double) qualifying service all embodied service during the present war on the active list in the ranks (including such service in the Royal Navy, Regular Army, Special Reserve, or Royal Air Force), provided (1) that he was serving in the Territorial Force or Territorial Force Reserve on 4th August, 1914; and (2) that he served overseas or signed the Imperial Service obligations prior to 11th November, 1918.

Medical Parliamentary Committee.—A meeting of the Executive Sub-committee of the Medical Parliamentary Committee was held at the College of Ambulance on 24th January, when the resignation of Sir Henry Morris from the chairmanship was announced and the election to the post of Sir W. Watson Cheyne was unanimously welcomed.

Sir Watson Cheyne, on taking the chair, pointed out how necessary it was that the objects of the Committee should be well defined, as well as its constitution representative, and he indicated very clearly to the meeting the main functions of such a consultative body as he believed would be most valuable. He would regard, he said, the Medical Parliamentary Committee, though one of its objects might be to promote the election of medical men to Parliament, as primarily a body to which the medical men in the House of Commons might turn for detailed

information upon medical points as they arose in the course of Parliamentary work, whether in the discussion of Bills in the House or in Committee work. An interesting debate took place, at which it was decided that the following should be adopted as definitely the programme of the Medical Parliamentary Committee:—

"*Origin and Objects of the Medical Parliamentary Committee.*

"A large meeting open to the whole medical profession was held at Steinway Hall on 1st October, 1918. The object of those who called this meeting was to give the profession the opportunity of emphasising the fact that it is the duty of medical men to make every endeavour in the interests of the community, to assist the State in all matters which promote the health of the nation.

"It was agreed that for this purpose unity of the profession is essential, and that in order that the considered views of responsible medical men and medical organisations may be adequately placed before the public it is necessary that a greater number of medical men should sit in the House of Commons. Consequently it was decided to take all steps to effect this increase.

"With these ends in view a committee was appointed with power to add to its numbers. This committee is now known as the Medical Parliamentary Committee. Its present composition makes it representative of all types of medical practitioner, and it is hoped that in time the Committee will represent every organisation in the profession.

"Thus the main object of the Medical Parliamentary Committee is to endeavour to assist in placing the knowledge and experience of the medical profession at the disposal of the Government and of medical Members of Parliament for the purpose of guiding legislation on preventive and curative medicine in such a way that the health of the community may be safeguarded and placed in the position to which modern science entitles it.

"While reserving the right to express opinions on matters affecting the national health, the Committee has no politics, and recognises that individuals must be left quite free to hold

and pursue their personal convictions on general political questions.

"In order to achieve the objects set out above the Committee proposes—(*a*) To keep in touch with the Government for the purpose of urging the need for medical representation. (*b*) To keep in touch with the Party Whips with a view to introducing the names of suitable medical candidates. (*c*) To keep in touch with the various medical bodies which are pursuing medico-political activities. (*d*) To keep in touch with medical Members of Parliament. (*e*) To keep in touch with possible medical candidates. (*f*) To bring together members of the profession interested in national health legislation and the medical Members of the House of Commons for the exchange of views."

Maternity and Child Welfare.—The annual meeting of the General Court of contributors and subscribers to the Glasgow Royal Maternity and Women's Hospital was held on 20th ult. in the Hospital. Mr. M. Pearce Campbell presided.

In their report the directors stated that while there had been a gratifying increase in subscriptions during the past four years, the deficiency for 1915, 1916, and 1917 amounted to £8,442, and last year the excess of expenditure over income was £4,649. Although the directors were grateful to generous friends who had responded to the appeal they made for £15,000 to wipe off the deficit, they were not satisfied with the response of the general public, and they hoped the public would see that the work of the Hospital, so vital to the interests of humanity, was not hampered by want of funds. The increase in the cost of wages, food, fuel, lighting, medicine, and medical appliances amounted to £2,055 over the preceding year. A pleasing feature was that employees' subscriptions were better by £315, subscriptions from the Ladies' Auxiliary by £146, and general subscriptions by £117 compared with 1917. The contributions of employees in shipyards, factories, workshops, &c., had risen from £266 in 1911 to £1,742 last year.

Mr. John M. MacLeod, M.P., in submitting the financial statement, urged the need of greater public support of the Hospital.

Professor Bryce, speaking with reference to the medical report, said the expense of the Hospital had been in a measure

increased by the growth of indoor cases. On the other hand, the diminution of outdoor cases was a rather serious factor for the Hospital as an institution for the training of nurses and students.

The Chairman expressed regret that Lady Frances Balfour had not been able to take part in the meeting, and mentioned that in a letter of apology for absence Lady Frances had stated that if she had come she would have had to fulminate against that hospital, above all others, being entirely controlled by men. Lady Frances was entirely mistaken, and in case of any misapprehension on that score he pointed out that out of fifteen directors five were ladies, and the efficiency of the institution was greatly due to the guiding influence of the lady directors and the members of the ladies' committee.

Lady Leslie Mackenzie, who moved the adoption of the reports, delivered an address on the importance of the work done in the hospital and the great need for its extension in the interests not only of mothers and infant life, but of the State itself. So far, she said, we had touched only the edge of the problem. In 1917 there were born alive in Scotland 97,482 children (the lowest birth-rate since registration was instituted in 1855), and of that number 10,472 died before they were a year old; in addition, probably another 10,000 died at or before birth. In Glasgow she estimated that in 1917 nearly 6,000 babies' lives were lost. Glasgow's problem in child welfare was to prevent the death of little children born alive and to ensure that the mother would be able to bring every child to full and complete birth. An institution like the Maternity Hospital should not have to beg for its money. Child life must be saved, no matter what it cost. There was nothing so costly to a country as manufacturing unfit people, and we were doing that every day. She thought the directors of that institution would be well advised to go to the local authority and ask to be subsidised to whatever extent was necessary to carry on that essential work of the city, for the city and the country could not afford to lose infant life.

The Rev. Professor Reid seconded the adoption of the report, which was agreed to.

On the motion of Principal Sir Donald MacAlister, the directors were re-elected and vacancies filled.

Royal Hospital for Sick Children.—Mr. John M. MacLeod, M.P., presided at the 36th annual meeting of the subscribers to the Royal Hospital for Sick Children, Glasgow, held on 31st January in the Conservatory of the Hospital, Yorkhill.

The annual report stated that in the four wards requisitioned by the military authorities and under their control and management 939 sick and wounded officers had been treated throughout the year. By increasing the number of cots in the other wards an average of over 130 children, all under 12 years of age, had been resident in the Hospital every day of the year. During 1918 the children treated in the wards numbered 2,194, as compared with 2,248 in 1917; officers treated in the military wards numbered 939, as compared with 846; 661 emergency out-patients had been treated at the Hospital as compared with 648; and former in-patients attending as out-patients for dressings and treatment numbered 3,248, as compared with 2,545. The abstract of the hon. treasurer's accounts showed that the ordinary income amounted to £14,530 and the expenditure £27,391, which left a gross deficit of £12,861. The amount now charged to the military authorities in respect of occupation for the year was £4,608, leaving a net deficiency of £8,252. This showed a material existing deficiency, and a very much larger deficit would inevitably emerge whenever the military occupation terminated—probably in the course of the next few months. It was surely unthinkable that part of the Hospital should have to remain empty and useless on account of the lack of funds.

The Chairman moved the adoption of the report, and also that thanks be accorded the various donors and subscribers for their contributions. Calling attention to the deficiency, he said it was the same in every one of our public and charitable institutions in Glasgow. One of the first things the citizens must do was to set that right.

Principal Sir Donald MacAlister, who seconded, said that all over the country, he might say all over the world, a new sense of sympathetic concern for the welfare of workers and children had made itself acutely felt in the consciousness of the people. He alluded to the work which had recently been done by the Carnegie Trustees, and remarked that Glasgow was big enough

to act for itself. It did not need help from the Carnegie Fund or any other fund.

On the motion of Professor J. Munro Kerr, seconded by Mr. T. Cuthbert Stewart, a resolution was adopted cordially commending to the generosity of the public an appeal by the directors for an increase of £7,000 in the annual income.

Glasgow Eye Infirmary.—The annual meeting of the Glasgow Eye Infirmary was held on 31st January in the Merchants' House. Sir Hector Cameron presided, and moved the adoption of the annual report.

In their report the directors state that the number of patients admitted at Berkeley Street for indoor treatment was 1,177, and that 26,126 outdoor patients were treated. In consequence of the continued difficulty of carrying on the work of the institution owing to the absence on military duty of so many of the medical staff, it was found necessary to close the Charlotte Street Dispensary in April last. The number of students was 35.

Mr. William Gillies, hon. treasurer, submitting the financial statement, said the gratifying feature of the accounts was that the contributions from the employees in public works had increased by £803.

The reports were approved.

Mr. D. Harvie raised the question of the representation of the workers on the board, and was informed that it had been arranged to appoint a nominee of the working-men subscribers.

Sir Hector Cameron was re-elected president, and Mr. John Edwards vice-president; Mr. R. G. Paterson, Mr. J. Albert Black, and Mr. James Butler were appointed directors in room of those retiring. The last-mentioned, it was stated, was the nominee of the working-men subscribers.

War and Insanity: Mental Diseases among Soldiers.—The effect of war conditions on mental disorders was dealt with at some length by Dr. L. R. Oswald, physician-superintendent, Glasgow Royal Asylum, Gartnavel, at the hundred and fifth annual meeting of subscribers held in the Religious Institution Rooms on 22nd ult. There had been no increase of insanity, he said, during the last four and a half years. The war was not

productive of insanity in the civilian population, but its incidence in the British Expeditionary Force and among troops training at home was considerable. Dr. Oswald indicated some of the methods of treatment carried on at the institution, and expressed the opinion that the experience of the war was certain to lead to better lunacy laws.

Mr. Richard H. Hunter (Dean of Guild) presided. The directors' annual report showed that during 1918 225 patients were admitted to the Asylum, and that the total number under treatment during the year was 648. Of these 304 were males and 344 females. The average number resident during the year was 470.

Dr. Oswald said that the large number of admissions (225), as compared with 104 in the previous year, was not to be taken as indicating an increase of insanity. It was due to special causes, namely, the admission of patients from Larbert Asylum when it was taken over by the Navy, and the reception of about 60 Service or soldier patients. Excluding those, the admissions were about the average of former years. The cause of the illness among the admissions was attributed in 55 to some stress acting on the mind, some moral cause, worry, anxiety, or grief, in conjunction often with a history of mental illness in the family. This number included 27 soldiers whose illness had as one of its causes stress of campaign, war shock, &c. Twenty-five were due to syphilis, all resulting in the fatal disease, general paralysis of the insane. This preventable disease was the cause of 10 per cent of the admissions and of 20 per cent of the deaths, and all were in the prime of life. Eleven were due to influenza, and something would be said about the mental depression and lowering of vital resistance following an attack of that illness. It was a comfort to know that during the war there was no increase of insanity. The war was not productive of insanity in the civilian population, and it were well if the opposite could be said, that insanity had not produced the war. The incidence of insanity in the British Expeditionary Force and among troops training at home was considerable, and very soon after the outbreak of war arrangements were made to deal with it. Such cases arriving from overseas were passed through Netley Hospital, and then distributed to special hospitals in all parts of the country, those in

Scotland being at Dykebar, near Paisley, and at Murthly, near Perth. They were received and treated there without certificates or legal formalities of any kind for so long a time as recovery seemed possible, the maximum residence being nine months. At the end of that time, or sooner if their malady was of an unfavourable type, they were discharged from the Army, taken over by the Ministry of Pensions, and boarded as private Service patients in the mental hospital or asylum nearest their home. It was such patients belonging to Glasgow whom they had received at Gartnavel to the number during the year of 58. In all those cases the war was not the only cause of their illness. It was one of the causes, but a number had been previously in asylums, and a larger number had what was called a bad mental "make up," and were predisposed to such an illness by heredity, by epilepsy, and other nervous disorders. A more careful examination at the time of enlistment would have saved the country much money and some of those men their health, but till late in the war the importance and magnitude of the problem of how to care for soldiers invalided on account of mental and nervous states was not recognised.

Soldiers were received without certification of any kind into the military mental hospitals. That was as it should be, and the public would not have tolerated it otherwise. When, however, they are transferred to civil asylums they are certified as dangerous lunatics (so ran the phraseology of the indictment in the Army Act), a procedure as cruel as in the majority of cases it was untrue. Much of the stigma attached to mental disorder was, in his opinion, due to the association in the public mind of the condition with some offence for which before a remedy could be found the sanction of the law had to be invoked; but the experience gathered as the result of the treatment of insane soldiers had opened the eyes of the public, who would, he hoped, insist that legal formalities in the treatment of the insane be abolished, and that every facility be given and provision made for the treatment of mental disorders without certification. The woman who became depressed and melancholic from the death in battle of her son was as much entitled to consideration as the soldier who became insane in the service of his country. This could only be brought about by the pressure of public opinion. Facilities must be

provided similar in character and equal in completeness to those available for purely physical ailments; there must be clinics, outdoor and indoor, for early cases, and there must be amendments and revision of the existing lunacy laws. The words lunatic, pauper, and much of the wording of the document on which patients were received were obsolete, and a relic of the time when mental disorders were looked upon as a "possession" and not as a disease. The experience of the war was certain to lead to better lunacy laws. Public opinion must demand for the civilian what was granted to the soldier, and the attitude of the public to insanity was still a strange mixture of superstition, curiosity, and exaggerated fear.

The magnitude of the struggle through which we had passed had been such that no parallel to it could be found; but history told us that all great wars were invariably followed during the era of reconstruction by efforts to dissolve the social order, and by an increase in mental disorders. A proof of the first part of that contention was seen in the present social and industrial unrest, and we were entering on a time when the suppressed emotions of multitudes would show their effects in an increase of mental illnesses. As contributory causes to this increase of emotional—rather than intellectual—disorders there were the lowering of the national health by the repeated influenza epidemics, and the diminished resistance to disease due to the necessary food restrictions. The spirit of the nation—*mens æqua in arduis*—in the darkest days of the war had been followed by the inevitable reaction, characterised in the mental sphere by emotional instability, by impulsiveness, and by a diminution of power for collected reasoning. This was specially marked among those of adolescent years, and was indeed only an accentuation of symptoms occurring at that period, always one of marked mental instability and emotionalism. Till it passed we had—and he spoke only as regards the mentality of the nation—an anxious period ahead, during which we would want all the steadying influences possible, and the help of the best brains in the country. The methods of treatment carried on at the hospital in former years were continued with an average amount of success. Occupation and amusements were encouraged and made as varied as possible. The former was the best mental stimulus; it lessened introspectiveness, diminished

restlessness, and led to a saner appreciation by the patient of his own condition, often the beginning of recovery. Psychotherapy —treatment by suggestion, by therapeutic conversations—was often of great value, as was the frank discussion with the patient of his own symptoms as they presented themselves to a skilled observer. After all, the treatment—medical or moral—must be individual, and suited to the special circumstances of the case. Such psychical treatment—the giving of one's personality to the patient—was often most exhausting to the physician. The institution was fulfilling one of the objects of its foundation in providing a supply of trained mental nurses for private work, for the general hospital trained nurse had no knowledge of morbid mental states, or of their management. The vocation of a nurse for the mentally affected offered a field for doing good that was almost unrivalled, and it also called for higher qualities of mind than were demanded from a nurse for general bodily ailments. The work was trying, and often disappointing, but to the right person it was absorbing to a degree not, he believed, found in any other branch of nursing. The general conditions of training and work had of late years been much improved, and many women of average education now released from war work might find in it scope for their energies and talents, no longer directly required in the service of their country.

On the motion of the Chairman, the report was adopted.

Hospitals and the State: Civil *versus* Military Systems.—An address on "Hospitals and their Relationship to the State" was given on 20th ult. in the library of the Royal Victoria Infirmary at Newcastle, by Sir Edward Napier Burnett, M.D., an acknowledged authority on child welfare and economy in hospital administration.

The chair was taken, in the absence of the Right Hon. Edward Shortt, K.C., M.P. (Home Secretary), by Professor Rutherford Morrison; and there was a large attendance of members of the medical profession and others interested in hospital reform.

The Chairman, in opening, said that Lieutenant-Colonel D. Wells Patterson, the secretary of the gathering, had received a letter from the Home Secretary apologising for inability to be present, and they would all regret his absence. Many mistakes

had been made during the war, but one thing that had not been overlooked, much to the pleasure of the medical profession, was the recognition of Dr. Burnett's services to the nation by conferring upon him a knighthood of the British Empire.

Sir Edward Napier Burnett opened by saying that during the past three years his life had been spent entirely in the hospital world, and he welcomed that opportunity of presenting certain aspects of hospital questions for their serious consideration. Throughout the country at present there would appear to be a spirit of unrest and dissatisfaction with the position of the Voluntary Civil Hospital, and, while the Bill for the establishment of a Ministry of Health was now being drafted in London, it was surely their duty to offer to the Government the benefit of their considered views.

The Military Hospital was entirely a product of the State; it was financed, staffed and administered by the State; it existed for one purpose and one purpose only, namely, the care and treatment of the military patient, so as to restore him at the earliest possible moment to his military duties.

The number of military beds provided by the State was always in excess of the actual known requirements of the time, because of the uncertainties of the demand. When a military patient was wounded or became sick, he was immediately provided with a hospital bed. There was no such thing known in a military hospital as a "waiting list" of patients; it would be a much too expensive document, for the State realised the important value of the soldier. The statistics of disease were carefully collected and studied under the military system, and one of the most entrancing chapters of the war to be published would outline the large field of research work that was undertaken, culminating in far-reaching results in the prevention of such diseases as trench fever, trench feet, tetanus, typhoid fever, &c.

The military system was not limited to the consideration of the various forms of treatment of the fully developed or end products of disease, but was also concerned with the investigation of the causation and etiology of disease. While not claiming for the Military Hospital system that it was a perfect scheme, he submitted that it represented a co-ordinated and organised collection of individual hospital units.

As to the Voluntary Civil Hospital, the majority of such hospitals were formed, administered, and financed by local committees, nominated by the subscribing public. The machinery of a Civil Hospital, in the main, consisted of an executive or house committee possessing full powers over the management of the institution. This committee elected and appointed the medical and surgical staff, who, like the members of the committee, gave their services voluntarily, and were known as the Honorary Medical Staff. Further, that executive body retained full power of decision as to who should be admitted as patients; there was no legal enactment by which the hospital authorities were compelled to admit any patient; in other words, every person who received treatment either as an "in" or "out" patient at a Voluntary Civil Hospital received it as an act of charity.

Each Civil Hospital was a law unto itself, it had no relationship with any other hospital; there was little attempt made at co-ordinating the work done at the hundreds of scattered and isolated hospital units; in short, there was no system of organisation such as existed under the State.

The lecturer proceeded to lay stress on the inadequacy of the present system, and referred to the hospital waiting list.

The inadequacy of the present voluntary hospital system was again revealed, when it was called upon to deal with an emergency condition such as the country had recently experienced during the influenza epidemic. It was not suggested that the Civil Hospitals should possess such accommodation as to be able to cope with the rush of patients during any such epidemic, but he submitted that the barrenness of the hospital situation was surely laid bare when they considered the following figures:—

During the six weeks from 19th October to 23rd November, 1918, there were in the 96 great towns of England and Wales over 32,000 deaths from influenza and its complications, or a total for the whole country of over 40,000 deaths during the six weeks' period. Scores of cases of pneumonia could not be admitted into the Civil Hospitals, owing to lack of accommodation! The observation recently made at the annual meeting of the Victoria Infirmary in Glasgow by the chairman of that institution will be readily agreed to, namely, that had there

been a more abundant hospital accommodation in the country, very many of the lives recently lost might have been saved.

I recognise, commented Sir Edward, that the recent epidemic was an extreme case, and I don't hesitate to utilise the extreme illustration to enforce my argument, that from the point of view of the State, we cannot afford to lose 100,000 of our young adult lives in twelve weeks, because of the absence of provision of a reasonable amount of hospital accommodation. I sometimes wonder if the importance of these figures is realised by the general public of the country. In four and a half years of active warfare we lost by death something like 760,000 soldiers, whereas during the brief period of twelve weeks approximately 100,000 people were killed in this country by influenza and its complications.

It was not a system of absolute State hospitals that this country required for the immediate future, but the present voluntary system required to be emancipated from its present cramped limitations by the State coming forward to finance the Civil Hospitals by subsidy, and exercising a co-ordinating control over the whole system by the establishment of a State Hospital Department or "Clearing House." By this means all data, scientific and administrative, could be collected, analysed, and distributed, leaving the management and administration under the supervision of local health boards, thus making the most use of local knowledge and voluntary talent.

Dr. J. Hudson submitted the following propositions :—

1. That this meeting urges upon the Government the importance of holding a comprehensive inquiry into the present hospital accommodation throughout the country, and is of opinion that strong committees should be set up in each centre for the purpose of investigating and reporting to the central authority in London.

2. That a Northumberland, Durham and Newcastle-upon-Tyne Association be formed, and that this Association be asked to investigate the hospital needs of the area and draw up a report suggesting what developments are necessary in order to secure, for those who require it, immediate and adequate hospital treatment.

Both resolutions were agreed to.

The Chairman moved that Sir Edward Napier Burnett be

appointed chairman of the new association, and Dr. Hudson its honorary secretary, and this also was carried.

The meeting concluded with a vote of thanks to Sir Edward Burnett and to the Chairman, this being moved by Major-General Sir M. Russell.

Ministry of Health Bill.—Dr. Addison, in moving the second reading of the Ministry of Health Bill on 26th ult., said the House needed little persuasion to consider carefully any measure designed to safeguard and strengthen the life of the nation. During the war we had lost 700,000 of the pick of the nation, whilst during October, November, and December last there was as high a mortality on the average per month from influenza alone as the average monthly mortality during the war from causes connected with the war. Moreover, many of the men and women who died in that quarter were in the prime of life. We wanted to bring our practice into accord with our knowledge. At present our practice was far behind our knowledge. The moderate test of fitness for military service during the war revealed the fact that thousands of men were medically unfit. That was a source of national weakness at a time of grave national emergency. The physical, human, and industrial waste under the present system was wellnigh incalculable. He was getting tired of talking about reform, and the Bill indicated that the Government considered the time had arrived for action. He appealed to the House when they got into Committee to keep in view the main object of the measure, and to take care that no petty or parochial considerations were allowed to stand in the way of its passage into law. In the negotiations that he had been conducting in relation to it he had found that there were always plenty of people who agreed with his main objects, and then put in a "but." When he got to the bottom of the "but" he found that somebody was interested, or that some axe-grinding was going on. He was tired of that, and he hoped that the House would see that whatever organisation were established it was done regardless of every interest, and with the sole object of promoting the health of the people by the most practical and most sensible means that could be devised. The main proposal of the Bill was to fix the responsibility in a central authority, to unify

control, to have a common direction and a common policy. If their organisation were better they could take better measures for the protection of people from influenza. Then, during demobilisation the country ran risks of the introduction into it of a number of tropical diseases of a dangerous kind hitherto foreign to this country. All the Departments concerned were endeavouring by joint action to prevent this taking place.

The Bill related only to the setting up of a central organisation which would have transferred to it the powers and duties of the Local Government Board in regard to public health, the duties of the Insurance Commissioners, the powers of the Board of Education with respect to mothers and nursery children, the powers of the Privy Council under the Midwives Act, and the administration of Part I of the Children Act, relating to infant life protection. There was another group of matters in regard to which it was proposed to take powers later on—duties relating to the treatment of mental defectives, duties of the Ministry of Pensions in regard to disabled soldiers, and the services of the Board of Education in respect of medical inspection. The reason why this group was put in a second category was that it was considered the first group of subjects was quite enough to tackle at the beginning of the Ministry. There was another reason. The medical questions relating to the second category had to be disentangled from other questions. There was a point which might arouse some surprise. The Ministry did not propose to take over the Central Research Organisation, but transferred it to the Privy Council. The reason was because it was the common servant of all Departments. The work of the Ministry would be not only remedial but preventive, and their preventive measures must cover a very wide field. In regard to other parts of the United Kingdom, he entirely shared Sir E. Carson's views in regard to Ireland. The reason why the Bill did not apply in many respects to Ireland was because the system in Ireland was very different from and very far behind what it was in England. He was quite prepared in Committee to make it applicable to Ireland as far as he could. The measure also showed the necessity for devolution in these matters. It was drawn within the limits of their present form of Government. That was why the Secretary for Scotland had agreed that it must be applied to

Scotland separately. A feature of the Bill was the constitution of a number of Advisory Committees to the Minister. That suggestion had been criticised, but he was a whole-hearted believer in it, because he thought it would lead to the Minister being kept up to the mark. In conclusion, he emphasised the fact that the Bill provided only a central instrument for the development of the public service which must come later on.

Sir D. Maclean (Peebles, Southern—Lib.) congratulated the Government on dropping Scotland out of the Bill. They had saved themselves and the House a large number of speeches of vigour and length. Everybody would agree with the general grounds on which the Bill was based. No measures of cure would meet the case; there must be prevention. In regard to the terribly defective condition of housing, he pointed out that the Scottish Housing Commission reported that 45·1 per cent of the population in 1911 were living more than two in a room; 21·9 per cent more than three in a room; and 8·6 per cent more than four in a room. The union of national interests must override particular interests, and that was a terribly difficult task. What surprised him was that the right hon. gentleman proposed practically to swallow the Local Government Board and reject such bits of it as he did not want. He (Sir D. Maclean) was all for wide, sweeping, and drastic changes; but those proposed would have to be examined very carefully in order to see if there was sufficient cause for them. He did not see why the medical side of the factory work of the Home Office should not come under the new Ministry. He heartily welcomed the proposals for co-ordinating the control of child welfare.

Mr. J. H. Thomas (Derby—Lab.) welcomed the Bill as the first instalment of the programme of registration promised by the Government.

Sir E. Carson, in thanking the right hon. gentleman for introducing the Bill, said he was well aware it dealt only with machinery, but the machinery was the most important foundation of the whole matter. When that was set up they would stand a better chance of getting something done. He entered a protest against the non-application of the Bill to Ireland.

Sir Watson Cheyne (Scottish Universities—C.U.) said he believed the Bill, when suitably amended, would form the basis for the erection of a great health organisation. His idea of a

Ministry of Health would be that they had a central brain thinking, investigating, correlating information from other sources. As a secondary thing there would be executive branches which carried out the information which emanated from the thinking body, and applied it according to the various local conditions. The central brain would be the Minister. He asked Dr. Addison to consider whether he should not have a board between the advisory bodies and himself—a board that could correlate the reports that came from the advisory bodies, and he could then digest it and decide. He (Sir W. Cheyne) could not see a Ministry of Health without a research department. The medical profession was in a state of great uneasiness and distress about the Bill, and it would go far to relieve their minds and get more cordial working if they could get an advisory body very carefully selected, and which could be trusted by the profession. So far as the medical men in the House, and he thought the greater part of the profession, were concerned, they were sincerely anxious that the Bill should be a great success, and they would do all they could to further it.

Subsequent debate was generally in favour of the Bill, but regret was expressed by several speakers at the leaving out of the Medical Research Committee.

Captain Elliott (Lanark—C.U.) said the cutting out of the Medical Research Committee from the functions of the Ministry was fundamentally wrong. To spend £60,000 for research work was a laughable sum. They ought to spend at least three-quarters of a million. The influenza wave was coming back again—a plague that was far more deadly than any of the historic plagues that had ravished the country.

Major Astor said the practically unanimous support of the measure which had come from all quarters of the House was a tribute in itself to the tact, energy, diligence, and practical manner in which Dr. Addison had carried out the extremely difficult negotiations he had been conducting for some time past in trying to secure general agreement on this great measure. By co-ordinating existing powers the Ministry would be able to do a great deal more than many people supposed. In regard to Wales, the Government proposed in Committee to amend Clause 5 so that the Ministry should be able to establish an office in Wales for the exercise, through such officers as might be

appointed, if any, of the powers and duties transferred to the Ministry under the Act. The Medical Research Committee would be put under the Privy Council.

The Bill was read a second time.

Captain Craig moved that the Committee on the Bill should have powers to apply it to Ireland.

This was agreed to.

THE MINISTRY OF HEALTH: GLASGOW TOWN CLERK'S VIEWS. —Sir John Lindsay, Town Clerk of Glasgow, submitted to a meeting of the Health Committee of the Corporation on 26th ult. a report which he had prepared on the Ministry of Health Bill, the object of which is to establish a Ministry of Health and a Board of Health to exercise in England and Wales and in Scotland respectively powers with respect to health and local government. His conclusions were that there were three main defects in the Bill from the point of view of the public health local authorities in Scotland—(1) There was no Minister of Health for Scotland as was proposed for England. It was proposed to set up instead a Scottish Board of Health, occupying much the same position as, and consisting of the members of, the present Local Government Board for Scotland, with the addition of Scottish Insurance Commissioners, &c., but under a new name. (2) The proposal to transfer all the powers of the Scottish Insurance Commissioners instead of the health functions only, was unnecessary. Insurance matters proper should continue to be dealt with by the Insurance Commissioners. (3) No provision was made for co-ordinating public health powers locally. Sir John Lindsay also referred to the scheme adopted at the conference of Scottish public health authorities held in Glasgow in March last.

In view of the statement in the London Letter of *The Glasgow Herald* that the Secretary for Scotland is to bring in a separate measure for Scotland, consideration of the matter was delayed until the committee have before them a copy of the Bill.

REVIEWS.

Lord Lister. By Sir Rickman John Godlee, Bart., K.C.V.O., M.S., F.R.C.S. London: Macmillan & Co., Limited. 1917. (18s. net.)

In his life of Lord Lister, Sir Rickman Godlee expresses fears that as the biographer of the famous surgeon he labours under certain disadvantages, the greatest of which is that he is Lister's nephew, and lived in close personal contact with him for many years. Such an intimate relationship, he says, obscures the true sense of proportion. Sir Astley Cooper's biographer, also a nephew, suffered severely at the hands of critics for allowing kinship to distort his perspective, and if the present biographer had this bitter lesson in mind when performing his labour of love it must at once be conceded that he has learnt his lesson well and profited by it to the utmost. More to the purpose, and unquestionably true, is his belief that the same near relationship has given him qualifications for his office and peculiar advantages in the discharge of its duties, since his personal knowledge of his subject has enabled him to present details from which we of another generation can construct a living image of one of the greatest figures in our profession.

Like a few other notable scientists, Lister had a very distinguished father, and it would not be too much to say that the son owed much, if not most, of his success to the training and the inspiration he received from this parent. These two (father and son) seem to have been more to each other than is usually implied by the relationship, for, in addition to the natural affection subsisting between them, their mutual confidence and sense of comradeship were abnormally strong, and such as are seldom found between members of different generations. The son took no step of even secondary importance without laying the matter before his father, and truly he could not have sought

a better adviser. Withal, Lister was reared in conformity with the stern discipline which is so prominent a feature in the lives of the Quaker sect to which his family belonged.

Joseph Jackson Lister, the father, was a successful wine merchant in London, and the owner of Upton House, a beautiful Queen Anne property in Essex. At this house on 5th April, 1827, his fourth child and second son, Joseph, destined to be Baron Lister, was born.

At very tender years the boy exhibited a taste for natural history, spending many of his leisure hours in dissecting small animals and articulating their skeletons. In this pursuit he was amply encouraged by his father, whose own bent for natural science was no less pronounced.

The young man's decision to become a surgeon evoked no great enthusiasm in the minds of his parents, but the project was not discouraged. In those days the older seats of learning imposed religious tests upon their entrants, and so University College, being non-sectarian in character, became the *Alma Mater* of Lister. By his father's advice he took out a degree in Arts before approaching his professional studies, which delayed his entry upon the medical curriculum until 1848. He graduated M.B. of London University and was admitted to the Fellowship of the Royal College of Surgeons in 1852. It is interesting to learn that he who was to set up one of the two props of modern surgery witnessed the initiation of the other—he was present at Liston's first operation on a patient anæsthetised with ether. Notwithstanding disappointments, his career as a medical student was brilliant. Not only did he absorb with avidity what was offered by his teachers, but he found time to carry on original work, for which he showed great capacity. Kolliker's views on the musculature of the iris were confirmed by him. He demonstrated for the first time the existence of two distinct muscles, the dilator and the sphincter, and made observations on the functions of involuntary muscle fibre.

The outlook in surgery at the period of his graduation was not encouraging. Suppuration, erysipelas and gangrene were rife, and only the very courageous, or the very reckless, attempted operations other than those of clamant necessity. Yet this was the side of the profession that Joseph Lister elected to follow. Perhaps he felt that work so dangerous

and, in results, so disappointing, offered the widest field for development.

1853 was the determining year of his life. In September he visited Edinburgh with the intention of undergoing a short course of post-graduate study under Syme. He remained in Scotland for twenty-four years!

During the period of the Crimean War he was house-surgeon to Syme. In 1855 he took over the extra-mural lectureship vacated by Mackenzie, and in the same year married Syme's daughter. About this time also he ceased to be a member of the Quaker denomination.

As a brilliant investigator Lister now came rapidly to the front, his notable work on the early stages of inflammation, the basis of our present views, as well as his researches into the coagulation of the blood and spontaneous gangrene having attracted marked attention. In his capacity of assistant surgeon at the Edinburgh Royal Infirmary he was known as a skilful operator, yet for a long time this did not greatly influence his private practice. His reputation carried him successfully through the candidature for the Regius Professorship of Surgery at Glasgow University, to which post he was appointed in 1860.

Lister found the surgical hygiene of the old Glasgow Royal Infirmary in the defective condition which has been so often described as to be now perfectly familiar, but his recognition of the defects at the time, instead of leading to immediate remedial measures being taken, procured for him only personal animosity.

Much of his attention about this time was devoted to the dressing of wounds, and his article on amputation for Holmes' *System of Surgery* contained a long description of his methods, greatest stress being laid upon drainage. For this purpose he advocated the use of silk or waxed thread. He also described a new method of amputating in the neighbourhood of the knee, and was, besides, responsible for the article on anæsthetics in the same publication. In this, much of the matter was new, and was obviously the fruit of minute observation.

In Lister the comforts of a University Chair did not induce repose, and he had, in addition, outside stimuli to progress. In 1863, when he was but thirty-five, and had been a Professor for

three years, his father took occasion to remind him of the advancing years!

For the Edinburgh Chair of Systematic Surgery Lister was a candidate in 1864, but he was unsuccessful, and Glasgow thus became the home of the antiseptic system. During the second year of his Glasgow professorship he began to teach that "the occurrence of suppuration in a wound under ordinary circumstances and its continuance on a healthy granulating sore treated with water-dressing, are determined simply by the influence of decomposition." In 1865 Thomas Anderson, Professor of Chemistry in Glasgow, drew Lister's attention to the work of Pasteur. Learning from the investigations of that renowned scientist that putrefaction was a fermentation caused by the growth of minute organisms, carried far and wide by the dust of the air, Lister concluded that putrefaction would not take place in wounds if the air were purified before it reached them. He found from experiments that heat, filtration and chemical action were methods available for destroying the organisms of putrefaction, and of these he chose the last. Chemical substances were to be used for cleansing the air and for destroying any organisms that might have entered the wound. At that time carbolic acid was being used with success as a disinfectant of sewage at Carlisle, and Lister obtained a supply from Anderson.

Most trouble of course was taken to deal with the air, and for this purpose Lister devised the carbolic acid spray, and although he used it consistently for twenty years, he had the courage not only to abandon it when he became convinced that it did not do, and never could have done, what he claimed for it, but to announce his decided change of opinion at a public meeting. As all the world now knows, the antiseptic system was not then received with enthusiasm by the medical profession at large. On the contrary, Lister had at first but few adherents, and it does not fall to the lot of many to suffer so severely as he did from misunderstanding and even misrepresentation. A dozen years were to elapse before his gift to the world was generally accepted. It is, however, some consolation to know that the distinguished originator lived until long after complete victory was secured.

The short space at our disposal has permitted us to refer only

to that part of Lister's work which deals with the antiseptic system, and we must pass in silence over his numerous other discoveries. These, though of great importance, are overshadowed by his *chef d'œuvre*. It is quite clear, however, that even had he not fully expounded the cause and treatment of wound-infection his other works would still have raised him to a position of enviable distinction.

No man coveted worldly honours less than did Lister, but, to the credit of our country, he was not allowed to pass on without receiving tokens of the nation's gratitude. In 1883 he was created a baronet, and in 1897, the Diamond Jubilee year, he was raised to the peerage. Seldom has the conferring of honours met with such universal acceptation.

The book gives much insight into Lord Lister's social life and family affairs, and abounds with delightful descriptions of travels and professional functions, on which many pages could be written, but we must close by offering Sir Rickman Godlee our heartiest thanks and congratulations. He has given us not only an intensely interesting book, but a great biography of a great man.

Anatomy, Descriptive and Applied. By Henry Gray, F.R.S., F.R.C.S. Twentieth Edition. Edited by Robert Howden, M.A., D.Sc., M.B., C.M. London: Longmans, Green & Co. 1918. (37s. 6d. net.)

With this issue Gray's *Anatomy* enters upon its twentieth edition and the sixty-first year of its existence. The new edition does not differ from its predecessor of eighteen months before, the reprinting being merely in reply to demand.

We are pleased to find that Professor Howden, the present editor, has written a short sketch of the career of the distinguished author, Henry Gray, a man whose book is everywhere known, but whose own life to the present generation is wrapped in obscurity.

Gray, who died in 1861 at the very early age of thirty-four, only lived to see his book enter the second edition, three years after its first appearance. All the evidence goes to show that in the untimely death of this genius medical science suffered a

grievous loss. Very fortunately for us, however, he left a heritage which in the hands of able executors has steadily increased in value over the years that have elapsed since it was bequeathed.

Injuries of the Face and Jaw, and their Repair. By P. Martinier and G. Lemerle. Translated by H. Lawson Whale, M.D., F.R.C.S. London: Baillière, Tindall & Cox. 1917. (5s. net.)

We agree with the translator of this small but important work on prosthesis of the face and jaw that during the war no branch of surgery has come to be of more insistent importance than that of facial restoration.

Dr. Lemerle and M. Martinier, the eminent Paris dentists, have given us a short treatise which is entirely worthy of the renewed importance of the subject. It would be impossible in a short review to make an analysis of the technical methods and appliances so clearly described, but it is obvious that ingenuity and commonsense have been the prominent guides in their inception and development.

The authors seize the opportunity to pay full homage to the memory of their master, "that genius among prosthesists," Claude Martin.

Captain Lawson Whale's accuracy of translation is never in doubt, but now and again the idiom betrays the language of origin.

Le Traitement des Plaies Infectées. Par A. Carrel et G. Dehelly. Paris: Masson et Cie. 1917. (5s. net.)

In this work Carrel and Dehelly describe in detail their now famous method of sterilising infected wounds.

It is pointed out in the publishers' note that the method is a resurrection, viz., the old antiseptic therapy of Lister transformed and passed through the mill of experimental proof.

The authors rigorously contest the view, shared by Burghard, Leishman, Moynihan and Wright, that the treatment of

suppurating wounds by antiseptic measures is illusory, and they select the last-named investigator for his allegation which they render thus:—"Si jamais un antiseptique sterilisait une blessure profondément infectée, il faudrait l'annoncer dans tous les journaux du matin et du soir." They indicate, moreover, that Wright's doctrine was based not upon observation and experience in the real conditions of wounds of war, but upon ingenious speculations and experience gained by experiments *in vitro*. Yet, they deplore, his views were accepted by the majority of surgeons.

Carrel and Dehelly undoubtedly present a strong case. They trace the development of their system from the beginning, and they pay full tribute to Dakin and the others who were among the prime movers. They lay down their theory, then, building on this, their practice, and lastly, their most telling argument, results.

The authors claim that their system, the outcome of labour, thought and experiment, cannot be applied, with hope of success, in part. All or none, if justice is to be done to it. In their opinion, their hostile critics are prejudiced by partial or incorrect use of the method. In this connection it may not be inappropriate to conclude by quoting the authors' caution:—"Le meilleur moyen d'apprendre la methode est de la voir appliquée."

A Text-Book for Midwives. By JOHN S. FAIRBAIRN, M.A., B.Ch.Oxon., F.R.C.P.Lond., F.R.C.S.Eng. Second Edition. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1918. (20s. net.)

THE standard of education for midwives is being gradually raised, and rightly so. As midwives are now legalised practitioners on a limited scale, they ought to have a very complete training, not only to enable them properly to perform the work which they are entitled to do, but what is of equal importance, to enable them to recognise abnormal conditions in which they are bound to send for medical assistance. Dr. Fairbairn's book, which has now reached its second edition, is written with a view of conveying a very full knowledge of pregnancy,

parturition, and the puerperium, both normal and abnormal. His aim is a high one, and to many midwives it will be too high, but to a fair proportion it will be of very great use.

This edition has been carefully revised, and a fresh chapter has been added on ante-natal care.

The book is very fully illustrated, and the rules of the Midwives' Board, both for England and Scotland, are referred to and explained where necessary,

Perhaps the author has attempted too much, and in some ways we think he has. The size of the book will tend to deter nurses from buying it. There is another point for which the author is not likely to be responsible, and that is the size of the pages and the large number of lines of comparatively small print on them. A page of some seventy lines of solid print is somewhat trying to one used to scientific study, and to the ordinary nurse we imagine it would be most trying.

We have pleasure in recommending the book to nurses who wish to gain a more extensive knowledge than is contained in the ordinary text-book for midwives.

A Short Practice of Midwifery for Nurses. By Henry Jellett, B.A., M.D.Dublin. London: J. & A. Churchill. 1918. (8s. 6d. net.)

This work, which has now reached its fifth edition, and embodies the teaching at the Rotunda Hospital, Dublin, can be thoroughly recommended to those entering a maternity hospital as pupil midwives. To medical students "taking out" their cases it should prove of great assistance, as the book contains many little points which, somehow or another, are not mentioned by teachers in their lectures. The various chapters on anatomy, mechanism of labour, &c., are concisely written, the diagrams are good and the printing clear. There is a chapter on infantile disorders and one on infant feeding, also a good glossary. Dr. Jellett is to be congratulated on this volume.

Books, Pamphlets, &c., Received.

Intravenous Injection in Wound Shock, being the Oliver-Sharpey Lectures delivered before the Royal College of Physicians of London in May, 1918, by W. M. Bayliss, M.A., D.Sc., F.R.S. London: Longmans, Green & Co. 1918. (9s. net.)

A Manual on Elementary Zoology, by L. A. Borradaile, M.A. Second edition. London: Henry Frowde and Hodder & Stoughton. 1918. (16s. net.)

Manual of Bacteriology, by Robert Muir, M.A., M.D., Sc.D., F.R.S., and James Ritchie, M.A., M.D., F.R.C.P. Seventh edition. With 200 illustrations in the text and 6 coloured plates. London: Henry Frowde and Hodder & Stoughton. 1919. (16s. net.)

The Intensive Treatment of Syphilis and Locomotor Ataxia by Aachen Methods (with Notes on Salvarsan), by Reginald Hayes, M.R.C.S. Third edition, revised. London: Baillière, Tindall & Cox. 1919. (4s. 6d. net).

Leçons de Chirurgie de Guerre. Publiées sous la direction de Cl. Regaud. Paris: Masson et Cie. 1918. (9 fr.)

Trench Fever: Report of Commission, Medical Research Committee, American Red Cross. Prepared for Publication by Richard P. Strong. London: Henry Frowde and Hodder & Stoughton. 1918. (21s. net.)

Field Sanitation, by Major R. St. J. Macdonald, M.D. London: Henry Frowde and Hodder & Stoughton. 1918. (6s. net.)

Surgery at a Casualty Clearing Station, by Cuthbert Wallace, C.M.G., R.R.C.S., and John Fraser, M.C., F.R.C.S.E. With 63 illustrations. London: A. & C. Black, Limited. 1918. (10s. 6d. net.)

Gun-Shot Fractures of the Extremities, by Joseph A. Blake. Paris: Masson et Cie. 1918. (4 fr.)

Orthopædic Effects of Gun-Shot Wounds and their Treatment, by S. W. Daw, M.B., B.S. With a Foreword by Major-General Sir Robert Jones, C.B., and Appendix on Functional Disabilities, by Dr. W. Cuthbert Morton, M.A. Oxford War Primers. London: Henry Frowde and Hodder & Stoughton. 1919. (7s. 6d net.)

Technic of the Irrigation Treatment of Wounds by the Carrel Method, by J. Dumas and Anne Carrel. Authorised translation by Adrian V. S. Lambert, M.D., with an Introduction by W. W. Keen, M.D., LL.D., F.R.C.S. London: William Heinemann, Limited. 1918. (6s. net.)

Surgical Aspects of Typhoid and Para-Typhoid Fevers, founded on the Hunterian Lecture for 1917. Amplified and revised by A. E. Webb-Johnson, D.S.O. With Foreword by Lieut.-General T. H. Goodwin, C.B., C.M.G., D.S.O. London: Henry Frowde and Hodder & Stoughton. 1919. (10s. 6d. net.)

Hughes' Nerves of the Human Body. With Plates by Charles R. Whittaker, F.R.C.S.Ed., F.R.S.E. Second edition, revised and enlarged. Edinburgh: E. & S. Livingstone. 1918. (3s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 22ND FEBRUARY, 1919.

	Week ending			
	Feb. 1.	Feb. 8.	Feb. 15.	Feb. 22.
Mean temperature,	35·2	34·2°	33·1°	35·7°
Amount of rainfall, ins.	0·31	0·05	0·45	0·41
Deaths (corrected),	362	449	677	906
Death-rates,	16·9	20·9	31·6	42·2
Zymotic death-rates,	1·0	1·1	1·8	3·1
Pulmonary death-rates,	4·7	5·6	9·1	11·4
Deaths—				
Under 1 year,	47	62	80	95
60 years and upwards,	75	111	162	199
Deaths from—				
Typhus,	1	...	...	...
Measles,	2	4	2	2
Scarlet fever,	1	...	...	2
Diphtheria,	4	3	9	6
Whooping-cough,	12	15	23	52
Enteric fever,	...	...	...	...
Cerebro-spinal fever,	...	2	...	1
Diarrhœa (under 2 years of age),	2	1	5	4
Bronchitis, pneumonia, and pleurisy,	121	159	309	490
Cases reported—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	2	...	2	1
Diphtheria and membranous croup,	38	35	42	41
Erysipelas,	10	13	19	11
Scarlet fever,	44	57	40	40
Typhus fever,	...	1	...	...
Enteric fever,	5	1	3	4
Phthisis,	37	56	40	46
Puerperal fever,	4	...	..	...
Measles,*	83	108	145	164
Ophthalmia neonatorum,	20	8	8	17

* Measles not notifiable.

Sanitary Chambers,
Glasgow, *3rd March*, 1919.

THE

GLASGOW MEDICAL JOURNAL.

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ORIGINAL ARTICLES.

DIAGNOSTIC MECHANO-THERAPEUTICS.

BY EDGAR F. CYRIAX, M.D.EDIN., LONDON.

ALTHOUGH mechano-therapeutics, as their name implies, are essentially employed to combat disease, they may also be used as a diagnostic, as by their means it is sometimes possible to gain information when other methods fail. As very little on the subject from this point of view has appeared in print,[1] I venture to think that some details will prove of interest.

The following movements, passive and active, can be employed for diagnostic purposes:—

1. Vibrations.
2. Petrissage of muscles and joints.
3. Abdominal petrissage.
4. Traction.
5. Nerve frictions.
6. Passive movements of joints.
7. Resisted exercises.
8. Breathing exercises.

I. Vibrations.

By these are meant manual vibrations according to the methods of the late Henrik Kellgren.[2] They may be employed for the following tests:—

1. To determine whether a pain is direct or reflex. In the former, vibrations over the affected area are almost certain to relieve it, but in the latter case this will not ensue at all or only very little. For example, pain in the finger-tips due to brachial neuritis will in all probability be improved if vibrations are applied over the plexus itself, but not if they are administered over the fingers. Owing to the fact that the effect of vibrations is propagated for a considerable distance from their point of application, the diagnostic value of this method loses in proportion as the distance between the reflex pain and its source diminish: petrissage can then be employed instead, and will afford equally reliable information.

2. To detect foci of pus in septic wounds, sinuses, &c. If vibrations, specially if they be of the concentrating type, be applied over such septic sites, small hitherto unsuspected foci may evince themselves by a sudden discharge of pus:[3] this is found to be the result when mere pressure has failed.

3. To assist in the diagnosis of fracture or dislocation *v.* mere contusion. Vibrations can speedily reduce the muscular irritability, swelling, and pain that so readily ensue after traumatism, and thus enable the relative position of the bony points or the presence of abnormal mobility to be established with greater certainty.

II. Petrissage of Muscles and Joints.

Petrissage of muscles and joints may be employed for the same diagnostic purposes for which ordinary palpation is used, but with advantage, as it frequently gives a better idea of the relation of the underlying structures and any changes therein that may be present. It may also be employed for the following tests:—

1. To determine whether any given area is inflamed or merely affected by venous congestion. If the former, petrissage will at first cause pain, but if the latter be present this will not occur, a sense of relief being felt in its place.

2. To decide in fresh traumatisms whether paralysis is real or due to reflex inhibition. If the latter, petrissage applied for a few minutes will often immediately enable the subject to produce quite a good amount of contraction in the hitherto totally paralysed muscles: this will of course not ensue if one is dealing with genuine traumatic paralysis. One of the best examples of this is seen in falls on the shoulder with resultant complete inability to produce even the smallest amount of active contraction in the deltoid. After a short application of petrissage the patient may find himself able to perform abduction of the shoulder to considerably above the horizontal.

3. To assist in the diagnosis of fracture or dislocation *v.* mere contusion, as with vibrations (see above.)

4. To determine whether a pain is direct or reflex, as with vibrations (see above).

5. To determine the origin of the so-called "rheumatic nodules." If they are due to central nerve irritation, energetic petrissage will at first cause them to increase in size and new ones to appear, this being followed in a few minutes by a return to the original; but if they are due to peripheral causes, the manipulation will diminish their size.

6. To elicit moist sounds in apical tuberculosis. When the latter condition is suspected, but no crepitations are heard on auscultation, a few minutes petrissage over the supra-clavicular region will sometimes cause them to become audible. Some authors have considered this to be due to the manipulation affecting the phrenic nerve, but, personally, I regard it as being due to its removing muscular contractions over the apex, thus permitting of its greater excursion and improved air entry.[4]

III. Abdominal Petrissage.

This may be employed for the following tests:—

1. To ascertain the state of tonus of the muscles of the abdominal walls and the state of irritability of the abdominal intercostal nerves. If these are increased (they are usually affected similarly) abdominal petrissage will cause an immediate contraction of the muscles and tickling sensations of varying intensity; these may be transient, passing away during the actual continuation of the application of the manipulation, or may persist until it is discontinued.

2. To estimate the degree of tonus of the visceral muscles. Abdominal petrissage will often give more information on this point than ordinary palpation, and this is true of both normal and pathological states. In the latter case, energetic local petrissage can be employed in order to test whether such mechanical stimulation can or cannot induce peristaltic waves in various portions of the stomach and intestine.

3. To determine whether pain, &c., is in part due to reflexes from abdominal viscera. Thus abdominal petrissage will nearly always relieve headaches due to digestive disorders, and will improve "sciatica" due to overloading or distension of the rectum. Similarly, internal and external petrissage of the uterus or ovaries may cause the amelioration of obscure sensory phenomena at a distance.

4. To determine whether an over-excited cardiac action is due to the same cause as mentioned in 3. If this is the case abdominal petrissage will improve it, this being effected partly by Goltz's phenomenon and partly by causing vaso-dilatation of the splanchnic area.

5. To determine the state of functional activity of the abdominal sympathetic. This, however, is better tested for by means of nerve frictions (see below).

IV. Traction.

By this is meant simple passive elongation: the stretching of structures by movements of joints is not included in this section. Traction[5] may be employed for the following tests:—

1. To differentiate between nerve irritation (neuritis and neuralgia) and purely muscular conditions. A moderate amount of traction will stimulate a nerve, and if the latter be in a state of hyperexcitability, will cause marked sensations in its peripheral distribution. Thus, in a case of traumatic shoulder where injury to the brachial plexus is suspected, if the hand of the affected side be grasped and passively stretched away from the shoulder, pronounced tingling sensations in the fore-arm and fingers will readily result if the plexus has been injured, but not if it is undamaged. Similarly, in true sciatica elongation of the whole leg by pulling the foot away from the hip will increase the pain, but this will not ensue if purely muscular conditions of the hamstrings or glutei are simulating the sciatica.

2. To differentiate between true neuritis and nerve pain caused by local venous congestion. For example, if the supra-orbital nerve is painful, stretching the skin of the forehead in an upward direction, thus elongating the nerve, will at first increase the pain if true neuritis be present, but will have the opposite effect if one is merely dealing with venous congestion.

3. To differentiate between synovitis and adhesions. If a joint is affected by the former, passive elongation by diminishing the inter-articular tension and separating the opposing articular surfaces will reduce the amount of pain that is present. If one is dealing with adhesions the opposite will ensue, and will continue until the adhesions have been stretched to a sufficient degree or else broken down.

4. To estimate the degree of muscle tonus. Intermittent application and removal of traction will readily detect the presence of small degrees of spasticity, and will appreciate in its very earliest stages the return of muscular recoil after elongation (*i.e.*, re-establishment of tonus) in cases of atrophic paralysis.

V. Nerve Frictions.

By this is meant the manual mechanical stimulation of nerves (trunks and plexuses) according to the methods of the late Henrik Kellgren.[6] They may be employed on both cerebro-spinal and sympathetic nerves for the following tests:—

1. To estimate the degree of motor response, direct and reflex.

(*a*) Direct. (1) Cerebro-spinal nerves. Frictions applied to these nerves as a rule induce increase of tonus or actual contraction in the muscles supplied by them, the amount of this response being a very good indication as to the state of motor excitability of the nerve in question. Good examples of this are contraction of the muscles of the hand from frictions on the brachial plexus, of the glutei from frictions on the inferior gluteal nerve and of the anterior tibial muscles from frictions on the anterior tibial nerve.

(2) Sympathetic nerves. The effects of frictions on their motor elements are not easy to appreciate owing to the fact that every friction thus applied also stimulates the non-striped muscle in its vicinity, and thus a combined effect is produced.

Practically the only exception is the coccygeal ganglion, mechanical irritation of which normally produces contractions in certain portions of the intestinal muscle.[7]

(*b*) Reflex. A very large number of these may ensue; examples of normal ones are contractions in the rectus abdominis from frictions on the lower posterior dorsal nerves and contractions of the arm muscles from frictions on the posterior cervical nerves. These phenomena are much more readily obtained in irritable conditions or loss of control over the motor elements in the spinal cord, such as is found in crossed pyramidal tract sclerosis (in which cases abnormal reflex contractions may be elicited), and to a less extent in depressed conditions of the cord.

2. To estimate the degree of the sensory response, direct and reflex.

(1) Direct. Normally every nerve in the body, whether cerebro-spinal or sympathetic, that is accessible to friction gives a well-defined sensory response (the exact nature of which can only be acquired by experience) to this form of manipulation. Just as with the motor, so is this sensory response a very good index to the state of sensory excitability of the nerve thus stimulated. The following grades may be distinguished, between which, of course, no hard and fast line can be drawn:—

(*a*) Too great a response from a friction applied with moderate intensity.

(*b*) A normal response from such a friction.

(*c*) A normal response only when the friction is applied with much greater energy.

(*d*) No response, however energetically the friction is applied.

(2) Reflex. Normally a very large number of these can be elicited. As examples may be quoted sensations of cold shivers down the spine when the posterior cervical nerves are stimulated and sensations of a tight band round the skull when the superior laryngeal nerves have frictions applied to them. These sensations may be increased or diminished just as in the case of the motor ones (see above). The cervical nerve sensations are useful in clearing up the question of early locomotor ataxia *v.* peripheral neuritis, as they are nearly always greatly diminished in the former and increased in the latter.

(3) To test the vasomotor response. This is generally closely allied to the sensory one. If frictions are applied with moderate intensity to mixed nerves they cause contraction of the blood-vessels supplied by the latter: if this does not ensue diminution of vasomotor function can be inferred. Examples: The vasomotor activity of the second pair of cervical nerves can be tested by noting whether the application of frictions to them causes any improvement in congestive headache. If one is dealing with anæmic headache, no such improvement will ensue: indeed, in some cases it will be made temporarily worse. Nerve frictions can also be employed as a diagnostic between arterio-sclerosis and arterial hypertonus. In the former case, frictions applied to the brachial plexus or the posterior cervical nerves will cause little or no change in the blood-pressure in the brachial artery, but will cause a diminution, often quite marked, if the latter be present. This may be due to Bayliss' antidromic impulses being in abeyance in the former but not in the latter condition.

(4) To test certain secretory phenomena. The best example of this is the onset of perspiration in the hand from frictions on the brachial plexus; if this be excessive in amount and persists, increased excitability of the sweat fibres is present.

(5) To test some of the functions of the vagus nerve. For example, in cases of tachycardia, frictions on this nerve will probably cause slowing of the pulse: the intensity and duration of this result will give information as to the state of the cardio-inhibitory fibres. Similarly, the easy induction of vomiting by frictions points to increased excitability of the gastric fibres.

(6) To assist in the diagnosis of sympathicotonia *v.* vagotonia. This follows from what has been said above.

(7) To test whether a pain is direct or reflex, as with vibrations (see above).

(8) To assist in the palpation of many nerves. This I have described on a previous occasion.[8]

VI. Passive Movements of Joints.

Inasmuch as all such movements will shorten the structures on one side and elongate those on the other, much of what has been said when dealing with traction will apply to them.

Passive movements of joints can be used for the following tests:—

1. To estimate the range of movement, pain induced, presence of crepitus, &c.: these facts are, of course, well known. I must, however, say a few words about testing for these conditions by means of the so-called localised passive movements, as these are, in my opinion, not sufficiently understood. Almost every joint in the body can have its movements tested by themselves, no other joint participating, by the operator first fixing the bone on the proximal side of the joint with one hand and grasping the one on the distal side with the other before applying the passive movements. Thus, if it be desired to test the carpo-metacarpal joint of the thumb, the operator fixes the trapezium with one hand and the proximal part of the first metacarpal with the other. By performing flexion, extension, &c., of the latter bone, keeping the former immovable, the exact range and nature of all the particular movements of the joint in question can be ascertained. If, instead, the operator were to fix the radius and ulna and grasp the terminal phalanx, all subsequent movements would involve all the intervening joints, and thus those occurring at the carpo-metacarpal joint could not be accurately estimated. Specially in the case of the vertebral column, if such localised movements are not employed for diagnostic purposes, localised rigidity, inasmuch as it is frequently accompanied by compensatory increase of mobility elsewhere, may often remain undiscovered.

2. To test for the state of muscle tonus. In cases of apparently total paralysis of muscles, a few energetic passive movements may stimulate to such a degree that some power of voluntary contraction may be elicited immediately afterwards in the aforesaid muscles. And in those cases in which no power of concentric contraction is present, passive movements may be employed in order to test for static and excentric contraction, *i.e.*, let it be supposed that one is dealing with apparently total paralysis of the anterior tibial muscles and the patient is unable to perform even the smallest amount of flexion of the ankle-joint. On passively flexing the joint, however, the patient may be able to keep it in that position (static contraction), or to resist slightly when extension is performed (excentric contraction).[9]

3. To determine the presence of certain cardiac neuroses.

Sometimes in these cases passive movements will, to begin with, cause a considerable increase in the pulse-rate and even induce subjective cardiac phenomena, the amount and persistence of which will give information as to the excitability of the cardiac nerves.

VII. Resisted Exercises.

These may be employed for the following tests:—

1. To estimate the strength of individual muscles which in ordinary life cannot act alone but always in conjunction with others; the tests are performed by means of the so-called isolation exercises. The principle underlying their application is that the nearer fixation and resistance are applied respectively to the origin and insertion of any given muscle, the more will the subsequent movement against resistance be performed by that muscle alone to the exclusion of all others that normally would assist in that movement. For example, let it be assumed that it is desired to test the individual strength of the muscles that normally flex the elbow joint, namely, the biceps, brachialis anticus, and the flexors on the anterior surface of the fore-arm. If the operator fixes the shoulder with one hand and resists with the other hand just below the elbow while the patient performs flexion, the action of the fore-arm flexors will be eliminated, the elbow being moved solely by the biceps and the brachialis anticus. If now the fore-arm be pronated and the patient instructed to keep it so while he flexes the elbow against resistance applied over the front of the upper end of the ulna, the brachialis anticus will be the only muscle that he calls into play. To test the individual flexors on the front of the fore-arm, the operator fixes the fore-arm and resists over the proximal portion of the anterior surface of the metacarpus during palmar flexion of the wrist, over its ulnar aspect during ulnar flexion and over the radial aspect during radial flexion. Similarly with a knowledge of living anatomy and technique of resisted exercises nearly every muscle in the body can be isolated and have its actions studied. The importance of this method of investigation in the study of paralysis in order exactly to determine the strength of individual muscles cannot be too highly estimated.

2. To determine whether volition tremors or inco-ordination of movements are affected favourably or the opposite when more

muscular force is employed. I have seen cases of these where they were increased when the patient performed purely active movements, but were diminished when resisted ones were applied.

3. To test for the presence of excentric contraction, as with passive movements (see above). In spastic conditions where no power of concentric contraction is obtainable, a good deal of excentric contraction, evinced by the power to offer resistance during the reverse movement, is frequently encountered.

4. To test the degree of functional capacity of the heart. So much work has been done during recent years in connection with testing the degree of cardiac sufficiency by noting its reaction to given amounts of work (such as can be applied in accurate doses by resisted exercises) that it is unnecessary for me to do more than just refer to the point.

5. To test whether there is inflammation or venous congestion, as with petrissage of muscles (see above).

6. To determine whether a pain is direct or reflex, as with vibrations (see above).

VIII. Breathing Exercises.

The movements of respiration in normal and pathological conditions have, of course, been so largely studied by so many observers that it is only necessary for me to refer to a few minor points in connection with the same. Thus they may be employed for the following tests:—

1. To ascertain the cause of inability on the part of the patient to breathe deeply. One sometimes meets such cases in whom repeated efforts do not seem to give them this power. They can, however, gain it after having been given a few breathing exercises. Inasmuch as the latter, so to speak, mobilise the respiratory muscles, it can be argued that the previous inability to take a deep breath was merely due to reflex inhibition. (See also petrissage in apical tuberculosis, above.) This method is therefore of value in eliciting the cause of respiratory difficulties in asthma and localising them.

2. To test the power of the diaphragm in overcoming resistance. It is curious how seldom one finds this fact mentioned even in text-books on mechano-therapeutics. One of the

simplest ways is to place the patient in the semi-recumbent position, and for the operator to put one hand on the epigastrium. By pressing in an upward and backward direction while the patient attempts a deep inspiration, the amount of resistance that the diaphragm can overcome can be noted and thus the strength of the muscle gauged.

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CASES SIMULATING RENAL CALCULUS.

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In clinical experience it is curious and interesting to observe how rare conditions of disease, as presented to the individual observer, sometimes collect themselves in small groups. As an example, while I was assistant surgeon at the Western Infirmary, now many years ago, I had under observation at the same time three cases of cystinuria and one of cystine calculus. This was a very exceptional experience, which I did not recognise at the time, but I know now how very uncommon the disease is in this country, as since then I have come across in practice only two cases of cystinuria and one of cystine calculus. That is to say, of seven cases of cystinuria which have fallen to my lot, four presented themselves almost simultaneously.

Within the last year I have had a similar experience in private practice of three cases closely simulating renal calculus, a mimicry not only in symptoms but also in physical signs.

I am well aware of the intimate resemblance other conditions may bear to cases of renal calculus, and how the greatest care is necessary to avoid error. There being no safe short cut to diagnosis, it is necessary, even in those which may be looked upon as the simplest cases, to employ all our methods of investigation.

Previous experience, the following case, as well as other isolated instances, warned me of the danger of being led astray by conditions such as I am about to describe. It is, however, only lately that I have met with a group worthy of being brought forward to show the importance of the subject in dealing with renal calculus.

The following case so closely resembled some of those of reno-reflex renal pain that the symptoms, especially the occasional pyuria, the oxaluria, and the *x*-ray shadow, led me to make an exploratory incision, but in place of a stone a calcified gland was found:—

Case I.—*Calcified gland in front of renal pelvis—Shadow simulating renal calculus on left side—Pain on right increased on exercise, relieved by rest—Pyuria and oxaluria—Ureter openings normal—Exploration.*

The patient, who was in indifferent health, was admitted to the Regent Home suffering from pain in the *right* lumbar region. The attacks were never very severe, but were generally followed by the escape of a moderate amount of pus. The pain was increased by exercise and relieved by rest, but never associated with hæmaturia. These symptoms continued during three years at longer or shorter intervals, varying from a fortnight to four months. The urine was normal, with the exception that it occasionally deposited pus and oxalate of lime. Palpation of the lumbar region showed the left kidney to be a little larger than the right, but there was no tenderness on either side. Cystoscopic examination showed that there was slight catarrh of the bladder, with occasional escape of pus from both ureters, but always in small quantities, and that the orifices of the ureters were normal; but on an *x*-ray plate being taken a distinct shadow was found on the *left* side, just outside the point of the second lumbar transverse process. A second plate gave the same shadow: it was triangular in shape and covered about half an inch square, the square being divided by a line from the opposing angles. Exploration of the kidney failed to discover a stone, but the hilum was firmly adherent in front, and within the peritoneum there was a large calcified lymphatic gland.

In this case the only fact against the diagnosis of renal calculus was the absence of any change in the appearance of the orifice of the left ureter: the oxaluria, pyuria, and the *x*-ray shadow were all in favour of stone, while the fact that the patient referred the pain mostly to the right side was of no great significance, as not infrequently the pain is seated on the opposite side to the disease (reno-reflex pain).

The cardinal symptom of renal calculus is pain, and the physical signs are pyuria, hæmaturia, a crystalline deposit, an *x*-ray shadow, and at the orifice of the corresponding ureter

evidence of irritation, as well as an alteration in the character of the urinary shoots.

Radiography in the hands of the expert has become so perfect that there is a strong temptation to use it as an expeditious, although somewhat summary, way of gaining a diagnosis, when used without giving due weight to other methods of inquiry. No doubt in some cases a shadow on a well-taken *x*-ray plate may over-ride an opinion based on other symptoms, but on the other hand a shadow typical in respect to appearance and position of renal calculus may prove to be due to other causes. While there is no one symptom or physical sign pathognomonic of renal calculus, the combination of a well-marked shadow, with, at the orifice of the corresponding ureter, evidence of irritation as shown by changes in the appearance of the lips and an alteration in the character of the shoots, is a sure evidence of a stone in the kidney or the ureter. During the last ten years I have been paying special attention to this particular point, and the converse also, as far as my experience goes, may be asserted—that, even although a shadow is shown in the renal region, if the appearance of the ureter orifice and of the urinary shoots is normal, no calculus is present either in the kidney or ureter. The truth of this observation was slowly shown by the careful study of many suspected cases of calculus, but it was only five years ago, when the case I have narrated above came under my notice, that I was convinced of the significance of a healthy ureter opening in doubtful cases.

The combination of cystoscopy and radiography is the simplest and surest method of gaining a positive diagnosis. A clearly defined shadow is of much value, but for many years I have made it a rule never to operate for stone in the kidney or ureter without proper confirmation from other sources, and within the last five years I have only operated on cases where the cystoscopic appearances were indicative of calculus.

Suppose the radiogram shows a shadow which in appearance and situation might be looked upon as positive of stone, additional physical evidence might be employed—symptoms are of little value—to prove its true significance.

The methods employed are—

1. To define the relationship of the kidney and the ureter to

the shadow (*a*) by passing into the ureter and pelvis of the kidney a bougie charged with metallic salts, or a bougie made of fuse wire; (*b*) by the injection of innocuous solutions of metallic salts into the pelvis and ureter.

2. Sounding the ureters, and the use of wax-tipped bougies.

3. Observation by the cystoscope of the appearances of the orifices of the ureters, and the character of the shoots of urine which escape.

I have described in detail these special methods of examination,[1] so that it is unnecessary for me to repeat what was said. What I desire is to accentuate the practical importance of the last mentioned method. It can be used by any surgeon who is familiar with the use of the cystoscope, whereas sounding the ureter, the use of wax-tipped bougies, or the introduction of soft metal bougies into the ureter, to be *x*-rayed along with the stone, so as to establish the relationship of the shadow, are methods to be employed by the urologist only, and, even in the hands of an expert, often it is found that in the very cases where information is most required their employment is defeated by some complication. Under almost all circumstances the cystoscope can be used, while the most profitable service of the other methods is to provide selected illustrations to ornament text-books.

I shall now give a short account of the cases.

Case II. *Shadow simulating renal calculus on the right side, at the level of the last rib and two inches from the spine—Severe pain in right lumbar region—Occasional slight pyuria from right kidney—No tubercle bacilli discovered, only bacillus coli found—Deposits of uric acid frequent—Pyonephrosis developed later—Nephrotomy—Good result.*

A lady, aged 31 years, consulted me during a third attack of acute renal colic. The two previous attacks occurred while she was at home at Reading, and the doctor she consulted there came to the conclusion that she was suffering from a stone in the right kidney. Seeing she was in future to reside in Glasgow, he advised her to consult me if she had another attack. The abdomen was extremely lax and the patient

emaciated, so that the organs could be palpated easily. The right kidney was found to be slightly enlarged and unduly movable, while the left kidney was normal in size. On pressure over the right kidney considerable pain was induced, but on palpation fluctuation could not be made out. Passing the hand down the course of the ureter did not cause any discomfort. The other organs were found to be normal.

The urine varied very much in appearance, sometimes being clear, at other times throwing down a considerable deposit composed of mucus, a little pus, and a large amount of uric acid crystals. No tubercle bacilli discovered by microscopic examination or by inoculations. Bacillus coli present.

Cystoscopic examination showed the bladder to be normal, and the mouths of the ureters were strictly healthy, but on several occasions pus was seen escaping from the right ureter.

The urinary shoots were moderately large from both kidneys, but more frequent from the right kidney than from the left, in the proportion of 11 to 7. A distinct and well-defined shadow was found, oval in shape and about the size of a shilling, at the level of the last rib on the right side, and two inches from the spine.

This was the condition present when the first examination was made (5th January, 1918).

At the time I was disposed to confirm the diagnosis made by her family attendant; most of the physical signs and symptoms of stone being present, the only circumstance which led me to doubt was the absence of any indication of irritation at the mouth of the corresponding ureter. I therefore advised delay before coming to a conclusion.

On 9th July, 1918, I was called to see the patient, and found her suffering from very severe renal pain; there was a distinct swelling of the right kidney, and high temperature. The urine was small in quantity and concentrated, but did not contain pus, only mucus and urates. This attack followed on one of influenza. The pain continued and the swelling of the kidney steadily increased. By the 15th July I made out fluctuation in the right kidney, and the following day incised it, giving vent to 8 ounces of thick glairy pus, which was so viscid that it could not be drawn into a good sized pipette, and therefore could not easily

escape down the ureter. Immediately behind the kidney was found an enlarged gland, which I removed, and on section it was discovered to contain a calcified nodule (this accounted for the shadow), but on most careful examination no calculus could be found. The pyonephrosis was due to a pure bacillus coli infection.

The patient made a satisfactory recovery.

Case III.—*Shadow in renal region simulating calculus—Suspected stones in kidney—History of pain in lumbar region of four years' duration—Painful micturition—Rheumatism—Occasional slightly purulent urine—Oxaluria—Shadows increase in number, wide distribution—Ureter orifices normal—Ultimate diagnosis: rheumatism with calcareous deposits in tissues—No operation.*

The patient, a man aged 46 years, when he consulted me first brought with him an *x*-ray plate he had taken in London four years before. It showed four shadows, two of which might easily be taken for stones in the left kidney, and other two looked like calculi in the corresponding ureter. The symptoms, together with the presence of the shadows, naturally led his family doctor to suspect stone in the kidney and ureter, and he advised the patient to see me with a view to having something done to relieve him.

The first attack of pain occurred in the summer of 1914, immediately after running to catch a car. The pain, which was very severe and was limited to the left side of the back, came on suddenly, and crippled him, so that it was with difficulty he was able to get home. There was, as far as the patient knew, no hæmaturia or pyuria accompanying the attack. With rest in bed and the constant application of hot fomentations relief was obtained. The pain lasted for thirty-six hours. Three weeks later he had a second similar attack, and to relieve the suffering a subcutaneous injection of morphia was required. His medical attendant then advised him to consult a surgeon in London, who, suspecting renal calculus in the left kidney, arranged to have an *x*-ray plate taken. He advised the patient to have an exploration for stone, but this was declined.

Since 1914 the patient has suffered from many attacks of what he believed to be renal colic, and on many occasions the urine has been high coloured, with a deposit of uric acid. At these times, as well as under other circumstances, he experienced considerable pain during and after micturition, and I am told that traces of pus and numerous exalate of lime crystals were found in the urine.

I saw him first on 20th November, 1917, when he gave me the above history and showed me the plate taken in 1914; with these facts before me I certainly looked upon the case as one of renal calculus. Examination of the bladder showed a little hyperæmia around the neck, but elsewhere the mucous membrane appeared healthy, and the openings of the ureters were strictly normal. The shoots were good in size and regular. This contra-indicated stone, notwithstanding the symptoms and shadows, so I had another *x*-ray plate taken by Dr. Katharine M. Chapman, and the photograph taken showed not only the shadows seen in the London plate, but many others, in regions far away from the kidneys or the ureters. The patient was very stout, so that palpation of the abdominal organs was out of the question, but many rheumatic nodules could be felt in the parietes. The patient was handed over to the tender care of a physician, and I am told his suffering has abated under medicinal treatment.

I accepted the view of the physician that the acute attacks of pain were rheumatic in origin.

Case IV.—*Pyuria of three years' duration associated with pain in the right kidney—No hæmaturia—Testicular pain—Frequent and painful micturition—X-ray showed shadow in right renal region—Tuberculous disease—Pyonephrosis—Nephrotomy.*

The patient consulted me on 3rd April, 1918, complaining that during the previous month he had suffered from pain in the testicle (right). On enquiry I found that since the spring of 1915 he had been suffering from occasional attacks of severe pain in the right renal region. During the first onset of his illness he had repeated rigors, accompanied by high temperature, continuing

until a large quantity of pus was discharged in the urine. This was coincident with the relief of pain. Following recovery from this attack the patient enjoyed moderately good health, but, becoming anxious about the continuance of pus in the urine, he consulted a surgeon in Edinburgh, who examined him very carefully, and had an *x*-ray plate taken, with a negative result, and came to the conclusion that the patient was suffering from a pyelitis. There was no hæmaturia at any time, but often he had pain and trouble in passing urine. Since then things were simply allowed to drift, as the patient would not accept an operation. At the beginning of March, 1918, his left testicle became troublesome, and by the end of the month it had become enlarged and distinctly painful. This pulled him up, and he consulted me on account of the testicle. (It is the one organ that demands attention from some men, men who are willing to allow their other organs to look after themselves. This patient is one in point.)

I had an *x*-ray plate taken, when a shadow was found over the right kidney, which was enlarged and painful on pressure. The urine contained a small deposit of pus and oxalates of lime. Bacillus coli present: no tubercle bacilli found with the microscope. Cultures not made and no inoculations.

Cystoscopic examination found the bladder slightly inflamed, and cloudy urine was seen escaping from the right ureter. The lips of the opening were thickened and deeply injected, while the ridge formed by the right ureter was more prominent than that of the left, suggesting thickening of the walls of the duct. The appearance of the right ureter orifice was not suggestive of calculus, but rather of some septic infection. I advised an exploration of the kidney and evacuation of the pus, but this was refused for the time being.

This case looked like one of calculus with suppuration, and as far as the cystoscopic appearances went little help was obtained.

23rd October, 1918.—Ten days ago there was a sudden stoppage in the right ureter, a pyonephrosis developed, and immediate operation was demanded. The shadow was explained by a very old partly calcified tuberculous mass, which had become quite inert, at the lower pole of the kidney.

These cases illustrate three ways in which the symptoms and physical signs of renal calculus may be mimiced by other conditions—(1) By a septic gland calcified, (2) by rheumatic deposits, and (3) by a tuberculous calcified nodule at the lower pole of a kidney.

In forming a diagnosis we study (*a*) the appearance of the urinary shoots as regards size, form, and frequency; (*b*) the aspect of the ureteral orifices; (*c*) the composition of the efluxes—are they normal in appearance, or do they contain some morbid material?

In health the mucous membrane of the trigone is smooth but more deeply coloured than the rest of the bladder, and when the viscus is only moderately distended the limits of the trigone are clearly defined. In disease other aspects present themselves—changes in colour, in size, in shape, and in the appearance of the surrounding parts. In renal calculus sometimes the mouths of the ureters seem to be pushed towards the lumen of the bladder, in other cases they seem to be retracted. In describing the orifices of the ureters we may speak of the inner and outer lips and the upper and lower angles. In many cases the orifice of the ureter may be invisible, but it is not necessarily to be concluded that the orifice is absent or displaced: it merely may be hidden—at one examination easily seen, at another not to be found.

In cases where the stone in the kidney is sharp and ragged the mucous membrane covering the line of the corresponding ureter may be considerably injected, although elsewhere the membrane is normal in appearance. The orifice is often greatly dilated, oval in shape, and the lips of a dark red colour. Permanent dilatation with marked hyperæmia of the lips of the orifice is the most characteristic lesion indicative of a ragged stone in the kidney or ureter. In other instances the orifice has a punched-out look, the lips being very sharply defined, while the floor is of a bright red colour; or, again, the lips may be greatly swollen and œdematous and pouting, with overfolding edges, so as to present the aspect of a very minute mushroom, having a small central depression, with an opening in the middle through which the shoots of urine escape.*

* These appearances I have illustrated in an article in the *Lancet*, 2nd January, 1909, p. 8, by a coloured plate.

When a stone is situated close to the orifice of the ureter it may appear in the bladder as a distinct projection of the mucous membrane, or it may protrude, exposing its surface, through the mouth of the ureter.

In some instances the calculus may pass along the ureter through the muscular portion of the bladder wall, and become gripped only by the mucous membrane at the orifice of the duct, so in place of passing into the cavity of the bladder, the calculus, by obstructing the flow of urine, leads to the mucous membrane being pushed away from the muscular portion of the bladder, and a rounded tumour-like mass presents itself in the bladder which has been mistaken for a tumour.

In health the urine, collecting slowly in the ureters above the closed sphincters, at intervals is thrown by squirts with considerable force into the bladder. The length of the intervals between the shoots depends upon the activity of the kidney. The patient having been given a large drink ten minutes before, the examination should be made without an anæsthetic. In favourable circumstances every thirty or forty seconds from ten to fifteen drops are ejected alternately from each ureter. (It is a rather interesting physiological fact that in health, while one kidney may be secreting urine actively, the function of its neighbour may be completely in abeyance.) The number and character of the shoots are most accurately observed after a hypodermic injection of indigo-carmine or of aniline blue given the night before. By carefully watching the line of the ureter, the portion coursing through the wall of the bladder, the part immediately above the sphincter will be seen gradually to distend. Immediately before the urinary shoot appears the expanded duct is drawn slowly upwards and outwards. It gives a sudden wriggle, its muscular fibres contract, the sphincter is forced open, and the contents are ejected. If the number of shoots be counted within a given time as they occur from each side, and a marked difference be observed, the side on which most shoots are seen is either the site of considerable irritation or is the most active organ functionally. When due to morbid irritation the shoots not only succeed one another rapidly, but they are of

short duration, and the urine expelled is small in quantity; whereas in increased functional activity the shoots, in addition to being frequent, are prolonged, and the amount of the urine ejected is large. Instead of coming in regular and distinct jets the force of the shoots may be diminished. The manner in which the urine enters the bladder may be so slow as to be hardly perceptible. When its lumen is obstructed by a stone the urine may dribble into the bladder just as it dribbles out of it in enlarged prostate or in stricture of the urethra.

The composition of the effluxes has also to be considered.

In renal calculus the escape of blood or pus from one ureter only is of the greatest significance, and especially when the flow is increased by palpating the suspected kidney.

REFERENCE.

[1] "Ureteral Calculus," *British Medical Journal*, 16th and 23rd October, 1916.

THE INFLUENCE OF RESPIRATION ON INTRA-ABDOMINAL PRESSURE: A SURGICAL NOTE.

By G. H. EDINGTON, M.D., D.Sc.,
Surgeon, Western Infirmary, and Lecturer in Clinical Surgery, University of Glasgow.

In cases where laparotomy has been performed to relieve intestinal obstruction, the surgeon is familiar with the difficulty of returning into the abdomen such distended coils of bowel as have escaped, or have purposely been brought out, through the wound. I have usually been able to overcome this difficulty by the method recommended by Mr. Clubbe, of Sydney,[1] and also by Professor Pels-Leusden,[2] viz., lifting forward by retractors or forceps the edges of the wound. This being done, the bowel may be returned with ease; in some cases it would almost appear to fall back into the abdominal cavity.

For some years back I have observed that respiration has an effect on the reducibility of the bowel, in that the latter can be replaced during inspiration very much more easily than during expiration. On superficial consideration one would expect that the descent of the diaphragm which occurs during inspiration would diminish the capacity of the abdominal cavity, in a manner apparently comparable with the descent of the piston in the barrel of a syringe. This expectation would seem to be confirmed by the accompanying displacement downwards of the viscera which occupy the upper part of the abdomen. That a diminution in capacity does not, however, actually occur is shown by the above observation.

I have studied the effect of inspiration on the capacity of the abdominal cavity in many conditions other than intestinal obstruction. The following three are good examples:—

1. A large abscess in the right loin was opened from behind, and a tube placed in the cavity. It was seen that the flow of pus from the tube was under greater pressure during expiration, and that the pressure became noticeably less during inspiration.

2. In a case of suprapubic cystotomy, after the first rush of fluid with which the bladder had been distended, a tube placed in that viscus showed a rise of the column of fluid during expiration, and a corresponding fall during inspiration.

3. In a case of choledochotomy, with free flow of bile from the incised duct, the column of bile in a tube rose and fell in precisely the same way.

These facts show clearly, I think, that during inspiration the capacity of the abdomen is increased and the intra-abdominal pressure correspondingly diminished, the reverse occurring during expiration. And I would state here that there was no question of forced expiration. My observations have in all cases been made on patients in a condition of general anæsthesia.

Further, I have no reason to believe that during such anæsthesia diaphragmatic respiration necessarily ceases. On the contrary, the movements of the viscera—*e.g.*, liver and kidneys—are easily demonstrable through the abdominal wound; and, still further, when a patient has received a dose of anæsthetic sufficient to paralyse temporarily the respiratory centre, I find that the first signs of respiratory movement very often appear in the epigastric region.

I am indebted to Professor Noël Paton for a reference to the experiments made by Luciani,[3] in 1878, on the variation of intra-abdominal pressure in relation to the different phases of the respiratory cycle. Luciani found that the respiratory variations in the pressure within the cavities of the thorax and abdomen do not coincide, but overlap.

While the intra-thoracic pressure falls in inspiration and rises in expiration, the intra-abdominal pressure rises during the first part of the inspiratory phase, and falls during the second part of this phase and the first part of the expiratory phase, to rise again in the second part of expiration. To explain this, Luciani presumes that the diaphragm encroaches actively on the abdominal cavity in the first portion only of the inspiratory phase; and that the abdominal muscles come into action only in the second part of expiration.

It seems to me that while the descent of the diaphragm will *per se* lessen the capacity of the abdomen, this effect is at least counterbalanced, if not more than counterbalanced, by a relaxation of the muscles of the abdominal wall. Such relaxation will

obviate the compressing effect of the descending diaphragm on the abdominal viscera. As a matter of fact, the relaxation may go further and produce a negative pressure.

As evidence of the relaxation of the abdominal muscles during inspiration it is interesting to remember how when palpating the abdomen the hand sinks in during the inspiratory phase.

It would seem, then, that the manipulative procedure recommended by Clubbe, and by Pels-Leusden, is based on the physiology of the muscles of the anterior abdominal parietes, and acts either as a substitute for, or an adjuvant to, the normal relaxation of these muscles.

REFERENCES.

[1] C. P. B. Clubbe, *The Diagnosis and Treatment of Intussusception*, Edinburgh, 1907, p. 45.

[2] Pels-Leusden, *Surgical Operations* (translated by Gardner), London, 1912, p. 486.

[3] Luciani, *Physiologie des Menschen*, 1905, vol. i, p. 356.

Obituary.

ON SERVICE.

ROBERT AITKEN, M.B., Ch.B.,
Captain, Royal Army Medical Corps.

Captain Robert Aitken died at the age of 24, of pneumonia, on 17th January, at the Military Hospital, Baghdad. Residing with his parents in Cambuslang, he graduated M.B., Ch.B.Glasg. in 1917. His early death is but another sad instance of fatal illness occurring after the cessation of actual fighting.

DAVID SMITH, M.B., C.M.Glasg.,
Creetown.

We regret to have to announce the death of Dr. David Smith, of Creetown, who passed away on 15th March, amid the universal sorrow of the population among whom he laboured for so long. Dr. Smith was the youngest son of the late Mr. David Smith, Cumnock, and received his early education at Cumnock School, later going to Ayr Academy. He studied medicine at the University of Glasgow, where in 1891 he took the degrees of M.B., C.M., "with commendation." After serving as a resident in the Western Infirmary, he was for a short time at Dalry before coming to Creetown, where his cheerful disposition and his careful attention to his patients soon made him a general favourite. It was not expected that a man of such ability would be long in a country district, but on account of a serious illness, which left him physically unfit for active work, he was destined to end his days among the hills he loved so well. He underwent an operation, and was off duty for a considerable time, but, a vacancy occurring in the

parish, he was again prevailed upon to take up the work. On two occasions he retired, but, on account of the difficulty of securing a resident medical officer for the parish, he bravely returned to duty, though it was obvious that it was only his great spirit which enabled him to carry through the work. In 1914 he decided to retire finally, and a successor was appointed, but at the last moment was unable to come to Creetown on account of having to join the army. Once more Dr. Smith stepped into the breach, and throughout the whole period of the war carried on the work in a most unselfish and painstaking manner. He experienced considerable difficulty in walking, and invariably made his visits on a tricycle, and it was a testimony to his great popularity that from the youngest in the town to the oldest it was considered a great honour to "shove the doctor" up the hills or against strong winds.

At the beginning of this winter a severe attack of influenza visited the district, and despite his infirmity the doctor was out at all hours of the day and night and to all parts of the parish. He was looking forward to a rest when the epidemic ceased, but a second attack of the scourge came along and found him still willing but less fit to attend to the patients. Though he suffered himself he never neglected others, and the extreme pressure at length told on a frame which at its best was unable for the strenuous work which he had to do, and he was himself laid up. Though the body had failed him the spirit remained undaunted, and he never ceased to express anxiety as to how his people in the parish were faring. After slightly more than a week's illness he passed away on the evening of 15th March. His ambition for many years was that the people of the parish, which he had come to regard as his own, should never suffer if he could help it, and right worthily he carried out his resolve. In so doing, he sacrificed his own life in the interests of those he loved and who loved him. The day had long gone past when he was regarded as a medical officer only. He was looked upon by all as a friend, and his ready joke and cheery manner gave patients a confidence in him which was always justified. It was hoped by all that he would have been spared to enjoy at least a few years of leisure, which he had so well earned, but this was not to be. He is survived by a widow, to whom the sympathy of the community goes out on her loss. She had

been a faithful helpmeet to him during the years of his infirmity, and without her constant care and attention he could not possibly have carried on so long as he did.

The funeral, which was a public one, took place to Kirkmabreck Churchyard, and was very largely attended, many being present from considerable distances. All the places of business were closed, and all the window blinds in the town were drawn as a last mark of respect to one who had truly given his life for others.

ALEXANDER SCOTT, M.D.
(Formerly of Tollcross).

We regret to announce the death, which occurred on 3rd March, of Dr. Alexander Scott, at his residence, 4 Newton Terrace, W.

Deceased, who was in his seventy-sixth year, graduated M.B., C.M.Glasg. in 1875, and M.D. in 1887. Practising for long in the Tollcross district of the city, he removed westwards to the neighbourhood of Charing Cross some years ago. He was prominently associated with public practice, having been for many years a Certifying Factory Surgeon for different districts. He had a wide experience of industrial accidents and diseases, and was a medical referee under the Workmen's Compensation Act.

One of his sons who was on service with R.A.M.C. during the present war gained the M.C.

CURRENT TOPICS.

UNIVERSITY OF GLASGOW: MEDICAL ENROLMENTS.—Some weeks ago a notice appeared in the daily press, to the effect that in view of large numbers of students being demobilised from service with the naval and military forces, all fresh applications for enrolment in the medical classes would be subject to consideration. Unprecedentedly large numbers of applications have since been received; and we understand that it will be practically impossible to entertain all of them. Preference will, as is natural, be given to those from Service applicants. The enrolment of others will depend on the numbers already accepted for individual classes.

EMERGENCY POST-GRADUATE COURSE.—In order to help primarily such graduates as have been recently demobilised from service with the Navy and the Army, arrangements have been made by the various hospitals in Glasgow to give special courses of instruction during the months of May and June.

During this period the cliniques of most of the physicians and surgeons will be open to graduates, and they will have opportunities of investigating and reporting on cases in the wards. In addition, special cliniques, lecture-demonstrations, and laboratory courses will be given. A syllabus of the various classes is being prepared, and will shortly be ready.

For particulars, applications should be addressed to the acting Secretary, Dr. A. M. Kennedy, Pathological Institute, Royal Infirmary.

THE SUPPLY OF MEDICAL STUDENTS.—The number of students in the medical schools of the United Kingdom in January, 1919, was 9,490. Of these 2,135 were in the London district, 4,238 in England and Wales (including London), 3,093 in Scotland, and 2,159 in Ireland. In January, 1917, the number was 6,682, in

October of that year it had increased to 7,048, and in May last year the number was 7,630. In January last 2,692 of the students were women. Of the total number in January, 1,162—936 men and 226 women—were in the fifth year of their course and were due to qualify this year.

Royal Faculty of Physicians and Surgeons: Presidential Dinner.—At the very successful dinner given to the Fellows of the Royal Faculty of Physicians and Surgeons by its President, Dr. Freeland Fergus, in celebration of the conclusion of the armistice, the following poem, written for the occasion, was read by its author, Dr. John Fergus. It met with very hearty appreciation from the large audience, and we are sure our readers will thank us for introducing it to a still wider circle:—

MAISTER PETER REDIVIVUS.

If Maister Peter Lowe were here
Revisiting this earthly sphere,
What wondrous changes would he see
Within his famous Faculty.
No well-kept wigs would he behold,
Nor stout malaccas topped with gold,
No fine point lace nor trig knee breeches
Nor buckled shoon to deck our leeches.
The great "chirurgeon to King James"
Would hardly recognise the names
We moderns use for our diseases
(*He'd* talk of "vomit" not "emesis").
His shapely hands amazed he'd raise
At modes of treatment of our days.
Like unknown tongues would be our terms,
And he might ask, "Sir, what are germs?
And what is this appendicitis
That of the modern days the blight is?
Methinks 'tis but the Iliac Passion
That in my day was much the fashion."
Imagine Peter, as I say,
Meeting our President to-day,
How suave his greeting and how fervent,
"Good day to you, sir. Sir, your servant."

How courtly, too, his gracious bow,
" Your Faculty, how goes it now ?
Time doth not rust it, sir, I hope,
Nor usage circumscribe its scope.
And tell me, prithee, if to-day
The good old custom still holds sway,
That poor folk are attended gratis,
Or if that now quite out of date is ?"
And then most likely he'd inquire
How moderns treat diseases dire :
As thus—" Now tell me, sir, I pray,
Is bleeding still the rule to-day ?
In my time everyone was bled
Till he was cured or he was dead.
Not bleed at all ! Gadzooks, how strange !
Ah me, sir, what a dreadful change.
Podagra now, how do you treat it ?
You say you very seldom meet it—
But once or twice in twenty years.
Odds bodkins ! can I trust my ears ?
Podagra rare ! Why, who'd have thought it ?
When we old leeches daily fought it
With lohoch, julep, quilt or clyster,
Or bolus, apozeme or blister.
Now the King's Evil—doth your King
Touch daily for the monstrous thing ?
My Lord King James—God rest his soul—
Touched oft, and multitudes made whole.
You say your liege Lord never touches !
Grammercie, sir, but this too much is,
In scores the loathsome thing must kill 'ee—
Sir, do I hear you say bacilli ?
What *are* bacilli ? Are they humours ?
Or vapours, essences or tumours ?
Or have they aught of magic function ?
Must certain stars be in conjunction ?
Or doth the moon affect their power ?
Or are they garnered from a flower ?
The term, sir, is quite new to me :
'Tis not in my *Chirurgerie.*'

" The Falling sickness ! *There* I'm sure
We're both agreed upon the cure ;

Plaister of Orris-root lay on,
Two drachms of Diaphaenicon,
Open the Hæmorrhoidal Vein:
Give Guaiacum decoction plain;
Cups to the Occiput apply,
Which first you well should scarify;
Insert a seton near the ear;
Your patient will have naught to fear.
You 'treat with Bromides?' What are these?
Some notion new from overseas,
From Araby or far Cathay?
A passing fancy of the day.

"Do Virgins now—how scant their dress!
Still suffer from the green-sickness?
And do you still with mugwort treat it,
Though feverfew at times may beat it?
The 'Leucocytes you count' you say.
Most learned sir, pray, what are they?
You make my ancient senses reel
With neutro and with basophile.
I fear me much my day is past,
I know not what's a normoblast.
Of lymphocytes I never heard,
And polymorph's an unknown word—
Alack! it is the common fate
To flourish, then pass out of date—
'Mid terms so strange my mind meanders.
We never heard of them in Flanders,
Where I have served. Sir, do I hear
You say that of our Fellows dear
Many are serving there again?
Thank God, I have not lived in vain.
Thank God that still our noble Art
In righteous cause can bear its part,
And that, to keep earth's peoples free,
The Fellows of our Faculty
Count it a great and glorious thing
To serve their country and their King,
And, 'mid the fierce turmoil of steel,
The sick to soothe, the wounded heal.
Strengthened by grace from Heaven above,
And filled with pity and with love.

"But list ye, sir, the bells are ringing,
And in the streets are people singing,
Oh! God be thank'd, sweet Peace is here
Where may she rest for many a year,
And on our puissant well-loved isle
May Heaven be pleased for aye to smile;
And may we of our God get grace
To live in mirth and die in peace.

"Sir, it hath given great joy to me
To see my infant Faculty
Grown to so good and great estate.
The Fellows I congratulate,
And beg my parting compliments
To you and future Presidents."

And with those words our Founder's shade
Into thin air again would fade.

Doctors and the State: The Need of Organisation.—The future of the medical profession from the point of view of organisation was dealt with by Dr. Alfred Cox, medical secretary of the British Medical Association, in an address delivered to the members of the Glasgow and West of Scotland branch at a meeting on 18th March, in the Christian Institute, Bothwell Street. Dr. Lawrie, Greenock, presided over a large attendance.

In his address Dr. Cox asked—Why should the medical profession be organised, and how should it be done? It was for them to consider anxiously and soberly what could and ought to be done to make their profession more useful to the community and at the same time to make their calling more interesting and inspiring to those now, or in future to be, engaged in it. To do these things they must be organised. It was true they had a B.M.A., which from its birth in 1832 had steadily grown in membership, wealth, and influence, but until 1902 no attempt was made to organise it on a modern democratic footing. It must be apparent to all that the loose individual contract between doctor and patient was steadily becoming of less importance to the average doctor, because direct or indirect relations with the State had to a large extent supplanted it. Every section of their profession saw itself gradually being drawn into contractual relations with the

State, either centrally or locally, or both. Some of them liked it, many of them did not, but all saw it was inevitable. Under such circumstances the calling which did not organise was lost, and not only would its interests suffer, but also those of the community. Dr. Cox dealt with what he described as an outstanding and pressing example of the need for effective organisation—the Ministry of Health proposals. The Health Minister, once in the saddle and in possession of the power of initiative, would look around him and decide how far his new powers could be made effective in improving the medical service of the community. And the changes which would occur centrally must soon be followed by changes in local administration, and sooner or later by changes in the relation of every member of the profession to the community. There would be possibly a general Advisory Council, on which medical men would sit, and there certainly would be a Medical Council, composed of representatives of the various types of medical practice and experience. It would need careful organisation to get the right representatives on these councils. They would have in their hands the power of influencing the Minister, and on him and them would rest the great responsibility of moulding the future medical service of the country, and, along with that, the future of the medical profession so far as these could be influenced by legislation. It would be the business of medical organisation to look after the special interests of the profession and to press them on the Government. But to do that and to hold their own with other bodies all contending for their own interests needed organisation and the best energies the profession could put into it. If the profession refused to learn the lesson which was forced upon them by the everyday experience of the whole of the industrial world—to concentrate on the organisation they had got—they would fail not only to retain their position in the public estimation, but also to protect the interests of the profession. And the failure would be richly deserved.

Dr. Cox afterwards answered a number of questions.

Ministry of Health: A Scottish Medical Committee.—When the Ministry of Health Bill was made public in November, 1918, it was considered expedient to form in Scotland a

temporary Council or Committee drawn from the several recognised official medical bodies, which might collect and formulate the views of Scottish members of the medical profession on the proposals under discussion for the establishment of a Ministry of Health and on other important problems of medical reconstruction. The proposal was considered by the official bodies concerned and by the Scottish Committee, B.M.A., at a meeting in Edinburgh on Saturday, 4th January, 1919; and it was agreed by all to co-operate in the formation of such a Committee. At a conference in Edinburgh, held on the same date, to which were invited representatives of the Scottish branch of the General Medical Council, the Scottish Universities, the Scottish Royal Medical Corporations, the Scottish Committee of the B.M.A., and the Association of Medical Officers of Health, it was agreed to form a Committee—to be known as the Scottish Ministry of Health Committee—for the above purpose—namely, that of collecting and formulating the views of the Scottish members of the medical profession on the proposals under discussion for the establishment of a Ministry of Health and on other important problems of medical reconstruction.

It was decided that the Committee should consist of 44 members, made up as follows:—Scottish members of the Scottish Committee of the British Medical Association, 18; members of the Scottish Branch of the General Medical Council, 9; one representative from each of the medical faculties of the Scottish Universities, 4; two representatives from each of the other licencing bodies in Scotland, 6; two representatives from the Association of Medical Officers of Health, 2; one representative from the Scottish Association of Medical Women, 1; four members to be co-opted later, 4—44. At the first meeeting office-bearers were appointed as follows:—Chairman, Sir Donald MacAlister, K.C.B.; vice-chairmen—the presidents of the Royal Medical Corporations, the direct representative for Scotland on the General Medical Council, the chairman of the Scottish Committee of the B.M.A., and Dr. Goff, Bothwell; secretary, Dr. Frederick K. Smith, Aberdeen.

It was agreed that the office-bearers should form a Business Sub-Committee to prepare business for the full Committee. The Committee has met twice to consider the Ministry of Health bills as published in November, 1918, and February,

1919. Each clause in the bills was discussed, and various suggested amendments were considered. Ultimately it was resolved to communicate the following to the authorities concerned:—(1) That provision ought to be made by direct enactment in the Ministry of Health Bill for the transfer to the Minister of Health of the administration of the Anatomy Acts, and to the Scottish Board of Health of the administrative work of the Highlands and Islands Medical Service Board. (2) That with regard to the constitution of the Scottish Board of Health, the proposed minimum of medical representation—namely, one member—is totally inadequate; and that not less than one-third of the members of Board ought to be registered medical practitioners; and also that the special provision that a medical member of the Board should be the holder of a "diploma in Sanitary Science, Public Health, or State Medicine under Section 21 of the Medical Act, 1886," is unnecessary, and should be omitted.

Further meetings will be held to consider the provisions of the separate bill for Scotland which is now contemplated by the Government.

Insurance Committees and Ministry of Health Bill.—A deputation from the Scottish Association of Insurance Committees, consisting of Mrs. Ogilvie Gordon, President; Messrs. Joseph Johnstone, M.P.; John Taylor, M.P.; John Grieve, Wm. Jones (Glasgow), and W. M. Marshall (secretary), waited upon the Secretary for Scotland on 17th March, and placed before him the views of Scottish Insurance Committees with regard to the scope and terms of the new Ministry of Health Bill, which, it is understood, is in preparation. The deputation having been introduced by Mr. Johnstone, the views of the association were submitted by the president and secretary. They urged that the duties of the Parliamentary representative of the Board of Health, which is to be created, should not devolve upon the Secretary for Scotland, but that a separate Ministry should be appointed who will be responsible solely for the Board. They further supported the views, already strongly expressed by the local authorities, that in any arrangement made it should be clear that the new Board will not be under the control or supervision of the Scottish Office, that Scotland was ripe for a

comprehensive scheme, and that there should be brought under the control of the new Board, in addition to the functions of the Local Government Board for Scotland and the Scottish Insurance Commission, the whole health functions at present exercised by the Scottish Education Department, the Scottish Board of Control in Lunacy, the powers and duties of the Highlands and Islands Medical Service Board, and the Department of the Registrar-General for Scotland. It was also suggested that certain other matters of a health nature at present administered by the Scottish Office should also be transferred to the Board. It was further urged that specific provision should be made in the bill for the inclusion in the Board of persons of both sexes, and that the Board should be supported by strong consultative councils or advisory committees representative of all health interests.

In reply, Mr. Munro stated that he had no concluded opinions on the several points which had been put, but pointed out that if a separate Ministry were appointed for health purposes only it would lead to demands for separate representation of other interests (education, agriculture, and so on). Moreover, it could not be expected that a separate Minister would be elevated to Cabinet rank, as was the case already with the Secretary for Scotland, but if the latter were also Minister for Health, financial and other matters could be brought directly to the notice of the Treasury. It might also be advisable to appoint an Under-Secretary, either *ad hoc* or *ad omnia*. Mr. Munro undertook to give the views which had been expressed careful and sympathetic consideration, and, Mr. Johnstone having thanked him, the deputation withdrew.

Ministry of Health: Care of School Children.—The Standing Committee to which the Ministry of Health Bill has been referred met again on 18th March, Sir Archibald Williamson presiding. Dr. Addison (President) and Major A. Waldorf Astor (Parliamentary Secretary), with Sir Kingsley Wood, represented the Local Government Board.

Mr. Locker-Lampson moved to insert in Clause 3 the words—"So as to transfer all the powers and duties of the Board of Education with respect to the medical inspection and treatment of children and young persons."

Dr. Addison asked the President of the Board of Education to make a statement on the matter involved in the amendment.

Mr. Fisher said it would be very difficult and inconvenient from the administrative point of view, and also injurious from the educational point of view, if the school medical service were cut out of the educational machinery of the country and transferred *en bloc* to a New Ministry of Health. On the other hand, if would be equally injurious if the school medical service were not under the suzerainty and direction of the Ministry of Health.

Mr Locker-Lampson expressed disappointment. It was enormously important that children should come under the Ministry of Health. In the matter of teeth the Board of Education had done nothing—at least very little.

Mr. T. Thompson, Sir P. Magnus, and Sir S. Hoare supported the amendment. The last-named said he should like to see these services definitely transferred to the Ministry of Health.

Dr. Addison, replying, pointed out that there were two categories of services referred to in the bill—the first those that were to be tranferred forthwith, and secondly all or any of which it should be lawful to transfer hereafter. He would ask the Committee not to burden the Ministry at the outset with all these functions, and that was why they had the two categories. If they looked at it from the point of view of the future development of the health service, and particularly from the point of view of treatment, it was wise to put these services into the second category, because it was clear with respect to some of the services it would not be practical administratively to transfer them *en bloc*.

Mr. Fisher pointed out that the medical service had been most successful, and they were particularly anxious not to interfere with work which was now successfully going on, and which was to receive further encouragement by the Education Act of 1918. He submitted there was a case for the present to leave well alone. To meet the wishes of the Committee he was prepared to propose in substitution of the amendment the following:—"Subject to any exceptions which may be made by Order in Council, all the powers and duties of the Board of Education with respect to medical inspection and treatment of children and young persons."

Major Barnes expressed the view that if they allowed the President of the Board of Education to rescue his Department from the clutches of the Ministry of Health they would be establishing a precedent.

Dr. Addison pointed out that if the amendment were carried it would not be practicable for the Minister of Health to set up and devise and propose to Parliament a scheme for the general extension of the health of the country, and at the same time take over all these other powers, duties, and responsibilities. He thought the proposal of the Minister of Education was a practical way of meeting the difficulty.

The amendment was carried, and the Committee adjourned.

Child Welfare: Problem of the Mentally Defective.—The second annual meeting of the Scottish Federation of Mother and Child Welfare Associations was held on 12th March in the Council Chambers, Glasgow. The forenoon proceedings were in private. In the afternoon and evening public conferences were held, the subject under discussion being the mentally defective child. The chair was occupied in the afternoon by the Countess of Mar and Kellie. Lady Mar said that they were all looking forward to the Ministry of Health promised in recent legislation, and they hoped that the Government would see the advisability of having a separate Ministry for Scotland. The Federation hoped when this legislation took place that through affiliation, either by a watching committee or consultative councils, they would be in touch with the Ministry and be able to put their views directly to it. In regard to the subject before the conference, she said that the question of healthy parentage was involved, and she should like the Federation to urge that steps might be taken to prevent as far as possible the evils which must accrue from unhealthy parentage.

Dr. R. D. Clarkson, Larbert, speaking principally from the point of view of prevention, said that nothing was more striking than the large proportion of parents who were normal. Dr. Kate Fraser, Glasgow, who spoke on State provision for the mentally defective child, said that what was wanted was residential schools and farm colonies. Dr. W. B. Drummond, Baldovan, speaking on the future of the mentally defective

child, said that the feeble-minded were not capable of becoming good citizens. They had no proper provision for the permanent care of the feeble-minded in this country. Colonies for the feeble-minded should be in association with training schools. In the course of the discussion that followed, Dr. Oswald, Gartnavel, urged suitable teaching for medical students in this subject, and also the education of the teaching profession.

At the evening session Lady Leslie Mackenzie, Edinburgh, speaking on the mentally defective child at school, said that special schools were now the order of the day, and one hoped to see a great many more of them. In analysing the different classes of children, and speaking of the type of school which was essential, she said that, in certain cases, a permanent residential institution was a necessity. Miss Monteagle, Glasgow, gave interesting details of the work at Percy Street School, Maryhill. In the course of the discussion Dr. Clarkson said that the mentally defective were at least as common among the rich as among the poor. So far as he knew, bad feeding and bad housing had no influence in causing mental defects, although these might cause backwardness and dulness.

Care of the Mentally Defective.—The importance of greater provision for the care of the feeble-minded was urged by Dr. R. D. Clarkson, Medical Superintendent, the Royal Scottish National Institution, Larbert, at the annual meeting of subscribers in the Religious Institution Rooms, Glasgow, on 13th March. Sir Charles Chalmers presided. In submitting reports for the year ended 31st January, 1919, Dr. Clarkson said that there had been a large extension of the work at the institution. The average daily number of inmates during the year was 494. They were enabled to take in extra cases as the result of the opening of the nurses' home. There was great need, he continued, for more accommodation in Scotland for the treatment and care of mentally defective persons. The need for such accommodation for children was great, but it was still greater for adults. At Larbert they were under the necessity of turning the children out when they reached the age of 21. They were turned out at 21 in circumstances in which they could not be properly cared for, and they often heard terrible tragedies of girls going wrong. He hoped that in the

near future an endeavour to provide the necessary accommodation would be made by public authorities, acting in terms of the Mental Deficiency Act. The care of the really mentally defective must be lifelong. A number of boys from the institution had served in the army. One had been awarded the Military Medal. The right way to treat them on demobilisation was not easy to discover. None of them, in his opinion, should have been discharged from the institution. Their proper place was in a farm colony for life. On the motion of the Chairman, seconded by Mr. Wm. Wilson, the reports were approved. A resolution commending the institution to the generous support of the people of Scotland was proposed by Mr. R. H. Hunter (Dean of Guild), seconded by Mr. R. D. M'Ewan, and carried. Sir David Paulin also spoke. Retiring office-bearers were re-elected, and the name of the Marquis of Linlithgow was added to the list of Vice-Presidents.

Work of Glasgow Infant Health Visitors.—Councillor William Maclure presided at the annual meeting of the Glasgow Infant Health Visitors' Association on 3rd February in the M'Lellan Galleries. On the motion of the Chairman, seconded by Sir William Bilsland, the Executive Committee's report was adopted. Dr. A. K. Chalmers, Medical Officer of Health for Glasgow, emphasised the need for more ladies to undertake the work of visitation in the various districts of the city in which the Association's operations are carried on. The work was of the highest value to the community and to the nation, and it often occurred to him that in it many of the members of the V.A.D., for whose services as such there was now less urgent demand, might find scope for the energy and devotion which they had shown so conspicuously during the past four and a half years. In moving the re-election of the office-bearers of the Association, Councillor Davidson said he would like to say something about the Day Nursery which the Corporation were about to establish in Weir Street, Kingston. Although the formal opening of the nursery would not take place until April, the arrangements were so far advanced that it would be ready to begin its work almost immediately. Dr. Truby King, C.M.G., New Zealand, Medical Director of the Babies of Empire Society, also addressed the meeting. The

aspect of the Association's work which particularly appealed to him, he said, was the voluntary basis on which it was carried on. Other speakers included the Rev. John White and Dr. Elizabeth Smith.

Child Welfare in New Zealand.—Dr. Truby King addressed a public meeting in the M'Lellan Galleries, Glasgow, on 3rd February, on the subject of "Infant Welfare and the Rebuilding of the Race." The meeting, which was held under the auspices of the Corporation, was well attended. Councillor Maclure presided. Dr. King, referring to the infant welfare movement in New Zealand, said that they had tackled the problem in that country about twelve years ago. Their work had been essentially educational. They had tried by every means in their power — including lectures, cinematograph displays, demonstrations, and practical training—to educate the people in the work of caring for the children. A very successful method had been the publication of articles on the subject in the newspapers, and these articles had now been appearing regularly in the New Zealand press for twelve years. The Government had come to recognise the value of the movement,and had given it their support. At first a subsidy of 5s. was paid by the Government for every £1 subscribed. This subsidy had been increased, until now 24s. was paid for every £1 subscribed to the movement, which had the cordial support of the professional and business classes of the community. Dr. King afterwards described the details of the scheme, including the working of the hospitals in which mothers and children were cared for, and the mothers trained in the work, so that when they went back to their homes they were able to instruct others. He exhibited a number of lantern slides and diagrams illustrating the work.

Sphagnum Moss as a Surgical Dressing.—The story of the discovery and adaptation of sphagnum moss as a dressing for wounds received in the war was told to a large gathering which met in Edinburgh on the afternoon of 7th March to take part in the presentation of an illuminated address and testimonial to Lieutenant-Colonel Charles W. Cathcart, C.B.E., R.A.M.C. Lord Mackenzie presided, and read the address. It stated that it was Colonel Cathcart's scientific knowledge that first claimed in this

country for sphagnum moss war dressings that place which now by universal assent they rightfully possessed. In France and Belgium, in Italy, Egypt, and Palestine, among the mountains of Mesopotamia, and on the banks of the Euphrates dressings from moss gathered on the hills and moors of Scotland, and made by Scottish workers, had been welcomed in hospitals by surgeons and nurses alike. To Colonel Cathcart was due the credit of the initiative, and through his patient effort the triumphant success of the movement had been secured. Along with the address went a sum of £226 subscribed by workers and friends of the Edinburgh War Dressings Supply Organisation. Lord Mackenzie said that in the successful issue of the war the workers for the war dressings supply had borne their share. Professor Caird, in a letter of apology, described the discovery of sphagnum moss as a valuable and happy inspiration. Sir John Cowan having spoken, Colonel Cathcart, in reply, said it was 15 or 16 years before the war that he first became aware of the value of sphagnum moss. In the Royal Infirmary of Edinburgh an object of great importance had been to reduce expenditure on materials. Experiments had been made with sawdust, wood shavings, and many other things. When sphagnum moss was started on it was found to be of great absorbent quality, but there was the difficulty of obtaining it. When war broke out he formed a Committee to prepare sawdust dressings for the Army hospitals. These were issued, and very satisfactory reports of them came in. Then a specimen of moss arrived from a lady in Ireland, who asked him to try it. He replied asking the lady to send him as much of the material as she could. From that time the production of sphagnum moss war dressings increased. It had justified its existence. Colonel Cathcart mentioned that Sir John Cowan had set up special engineering plant which had compressed tons of moss, and that the collection of moss had been greatly expedited by means of a mechanical picket developed by Mr. Foreman, of Beattock. He said that in Edinburgh alone many of the well-known hospitals were anxious to get those dressings, and he held that there could be no better use made of moss that was no longer required for military patients than that it should be available for civilian patients. In acknowledging the money gift Colonel Cathcart said he would hand it over to the Edenhall Hostel to be applied

to its fund for experimenting on improvements in artificial limbs for maimed soldiers.

Influenza: High Death-rate.—The return of vital statistics for the last quarter of 1918, just published by the Registrar-General, indicates a decline in the population of England and Wales during the quarter dealt with. "Last quarter," the return states, "for the first time since the establishment of civil registration, the registered deaths exceeded the births, the natural decrease of population by excess of deaths over births being 79,443 against natural increases by excess of births over deaths of 46,452, 46,977, and 40,930 in the fourth quarters of 1915, 1916, and 1917 respectively." The births registered for the quarter correspond to an annual rate of 17·1, and the civilian deaths to a rate of 26·8 per 1,000 of the civil population in 1917. The highest death-rate recorded in England and Wales as a whole in any previous quarter was 25·5 per 1,000 in 1846.

Influenza was stated to be either a primary or contributory cause of death in 98,998 cases, or, in other words, was responsible for 41 per cent of the total deaths registered.

In the United Kingdom 215,737 births and 144,806 deaths were registered in the three months ended 30th September, 1918. The natural increase of population was therefore 70,931. Dealing with the figures for the whole of 1918, the return states:—"According to the quarterly returns furnished by local registrars, 662,773 births and 611,991 deaths were registered in England and Wales in 1918. The natural increase of population by excess of births over deaths was therefore 50,782, the average annual increase in the preceding five years having been 287,664. The number of persons married during the year was 573,614. The marriage-rate in England and Wales during 1918 was 15·3 per 1,000, the birth-rate 17·7 per 1,000, and the death-rate 17·6 per 1,000. Infant mortality was 97 per 1,000 registered births. The birth-rate is the lowest on record."

Influenza abating in Glasgow.—The position in Glasgow with regard to the epidemic of influenza has greatly improved, and a lower mortality falls to be recorded. The deaths due to influenza and pneumonia for week ending 15th March numbered 285—154 from the former and 131 from the latter.

During the preceding week there were 494 deaths from these diseases, 337 being caused by influenza and 157 by pneumonia; while in the week ended 1st March, when the outbreak reached its height, there took place 580 deaths, of which influenza caused 382 and pneumonia 198. The deaths from all causes registered in the city last week numbered 715, compared with 946 in the previous week, and 1,066 during the week ending 1st March, and showed an annual rate of mortality of 34 per 1,000 of the population, as against 44 on 8th March and 50 on 1st March.

The Glasgow Royal Infirmary: A Deficit of £38,010.—The report for 1918 of the managers of the Glasgow Royal Infirmary, submitted early in February to the annual general meeting of contributors in the Merchants' Hall, shows that while the work has been carried as as efficiently as ever, the ordinary income was £38,010 less than the ordinary expenditure, and that the extraordinary income was insufficient to meet the deficiency by £3,378, and this sum had to be taken from capital. The managers state that the support accorded them has been larger than in any previous year, but they appeal for a still more generous measure of assistance. The ordinary income of £51,866 shows an increase of £4,024, including the following increases on 1917:—Annual subscriptions, £859; employees in public works, £1,523; Church collections, £476; and donations under £60, £280. The ordinary expenditure of £89,876 was £12,664 more than in the previous year, and leaves a deficiency in ordinary income of £38,010. As regards extraordinary income, a sum of £33,032 was received in legacies and donations. Including one bed and one cot endowed during 1918, there are now 59 beds and two cots endowed. The average cost of each patient under treatment was £8, 5s. 5d., against £6, 18s. 1½d. in the previous year.

A great many members of the medical, surgical, and nursing staff have been engaged in war work, and are gradually being demobilised and becoming available for service at the infirmary. There were 10,454 civilians and 361 sailors and soldiers treated in the wards during the year. The daily average of patients resident was 69·643, with an average residence of 23·5 days. At the dispensary and out-patients' departments of the infirmary 38,813 patients attended for advice and treatment. There

were 812 in-patients and 13,115 out-patients treated at the Ophthalmic Institution, and 895 persons received as convalescent patients at the Schaw Home. Courses of instruction in electrical diagnosis and therapeutics and in massage were instituted during the year. The year was a most strenuous one, and special thanks are given to the nursing staff.

Red Cross Auxiliary Hospitals in Scotland. — Sir Hector Cameron, Glasgow, Commissioner for the West of Scotland of the Red Cross Society, spoke at the annual meeting on 13th March of the Dumbartonshire branch, presided over by Lady Inverclyde. He said that the whole of the auxiliary hospitals throughout the Western district of Scotland would be closed by the last day of the month. In all they had numbered 63, and had been housed in many and varied places. Eight of these 63 had been supported and maintained absolutely without charge to the State. The Dumbartonshire hospitals had been excellent, and he did not think the public sufficiently appreciated the generosity and kindness showered on the soldier in supplement to all the State could do for him. On the motion of Admiral Bearcroft, the office-bearers and Committee were re-elected. A special vote of thanks was accorded to Lady Inverclyde, on the motion of Mrs. Donaldson.

The Rhine Army: Health of the Troops.—We have received the following particulars as to the health of the troops on the Rhine from a reliable source:—

The health of the Army of Occupation has been the special care of the War Office during the past three months, and in particular steps have been taken to protect the younger members of the Forces from the risks to which in the relaxed conditions of self-control they have been exposed. From the first moment that our Armies moved to the Rhine General Headquarters were alive to the danger arising from the social evil, and took precautions accordingly. All brothels were placed out of bounds, and as regards the control of women suffering from infectious disease the German authorities, who have shown great anxiety to reduce venereal disease in Germany, are maintaining under British supervision a close surveillance of all suspected women in this respect, doing all in their power

to carry out the directions of our commanding officers. For some time past, too, an Inter-Departmental Committee has been giving close attention to the incidence of venereal disease in the occupied areas of France, and last January the War Office took the matter up with General Headquarters, France. Full reports have been presented by a specially qualified officer, who visited every large town in the areas occupied. Recommendations acompanying his report have already been adopted, and means have been taken to secure the earliest possible treatment. In addition to this all soldiers prior to leaving England are warned, by medical lectures, of the risks. It may be observed that, though there was a considerable increase of venereal disease from the time of the Armistice until the end of December, the January returns show a substantial decrease of cases as compared with the previous month.

Literary Beginnings of Glasgow.—Mr. George Neilson, LL.D., delivered an evening lecture on "The Literary Beginnings of Glasgow" in Balshagray Church, Broomhill Cross, Partick, on 13th March, in aid of the feu-duty redemption fund of the church. He said there had been developments of the legend of St. Kentigern, several versions of which were produced in the twelfth century. The earliest piece of secular literature was the remarkable Latin poem by a member of the household of Herbert, Bishop of Glasgow. This was a poem on the defeat of the Norsemen and others under the Islesman kinglet Somerled at Renfrew in 1164. It displayed a marked and confident familiarity with the metrical and rhyming structure of the Latin verse of the Middle Ages, and was noteworthy also because of the crude simplicity of the statement that a clerk of the Bishop cut off the head of Somerled and placed it in the hands of the Bishop himself. In contrast with this rather ferocious episode there was to be considered the very interesting fact of the bringing to Glasgow of the *Pontifical* of the Cathedral, one of the noblest products of penmanship of the Middle Ages, and, it is believed, the oldest existing book of Glasgow. Written about 1180, it was altered to suit the Diocese of Glasgow, and contained the forms for various ancient services, including the proceedings for benedictions, &c., necessary in trial by ordeal and wager of battle. The *Pontifical* was

now in the British Museum. In the thirteenth century the *Cartulary of Glasgow* was a further sign of the high organisation from a clerical standpoint of the Bishopric of Glasgow. After reference to the part played by Glasgow in the War of Independence, Dr. Neilson showed that, just as the great poem of Barbour on the life of Robert the Bruce marked the complete triumph of the Scottish kingdom under the house of Stuart, so, nearly twenty years later, Glasgow produced a poem on the battle of Otterburn—a battle gained over the Percys by the Earl of Douglas in 1388, which aroused extraordinary patriotic enthusiasm. This poem, written by Thomas of Barry, Canon of Glasgow, described eloquently and with spirit and wonderful literary art the various incidents of the battle. The lecture was illustrated with lantern slides.

Robert Burns's Prehistoric Ancestor.—According to Professor Arthur Keith, it is quite possible that Robert Burns had a pre-Neolithic ancestor residing in a cave at Oban. In his lecture at the Royal Institution in London on 13th March on "The Peoples of Scotland," Professor Keith said that excavations made in M'Arthur's Cave, Oban, brought to light two skulls and a number of ancient implements. Similar excavations were made in a cave near the Rhine, in the South of France, and similar implements were found. They belonged to the period between the Old and New Stone Ages.

A photograph of the Scotch skull was shown, and Professor Keith stated it was almost identical in length with the casts of Burns's skull, and exhibited the same facial characteristics—the long face so common to men in the South of Scotland. It was, therefore, no flight of fancy if one traces Burns's genealogical tree to connect him with this pre-Neolithic person, one of the first immigrants into Scotland.

Carnegie Trust: Five Years' Operations.—The annual meeting of the Carnegie Trust was held in Edinburgh on 24th February. Lord Balfour of Burleigh occupied the chair. The report, which was adopted on the motion of the Chairman, seconded by Sir David Train, was as follows:—

As the end of the academic year 1917-18 marks the close of the third quinquennium, both of their scheme of endowment of

post-graduate study and research and of their schemes of distribution of grants to the Universities and Colleges of Scotland, the Executive Committee think it well to include in their present annual report to the trustees some account of the operations of the Trust during the past five years.

Endowment of Research.—During the last quinquennium, as in the previous one, the Executive Committee were fortunate in retaining the services of Sir James J. Dobbie for the Physical and Chemical Sciences, of Professor James Ritchie for the Biological and Medical Sciences, and of Professor Hume Brown for the Historical, Economic, and Linguistic Sciences. They regret to record the death of Professor Hume Brown, which took place on 30th November last. He was associated with the scheme soon after its inception, and his services have been of the greatest value to the committee. He had all but completed his reports on the individual beneficiaries in his departments for the quinquennium. The general report, however, had to be prepared by the hand of another: for this the committee are indebted to Dr. George Macdonald. He bears testimony to the deceased Professor's satisfaction with what the scheme has already accomplished, and his firm belief in its future possibilities. The exceptional conditions due to the war, which practically coincided with the whole period under review, have seriously affected the work under the scheme in common with the activities of the Universities in general. The services of young men have not been available for research; further, the Executive Committee at an early stage adopted the policy of not granting awards where, in their opinion, applicants could reasonably be expected to devote their energies to work of more immediate national importance. The published output has also been adversely affected by the confidential nature of much of the work of Fellows and Scholars in Chemistry, while many grantees have been prevented from carrying out their proposed researches owing to military duties or the pressure of work due to depletion of staffs. Notwithstanding these hindrances, the reports of the experts afford convincing testimony to the continued success of the scheme as a whole, not only in the value of the actual work accomplished, but also in the assistance it has rendered to various public departments during the war, and in its stimulating effect upon academic life in general. The

committee desire to acknowledge the assistance rendered by the Universities in providing the scheme with so many able workers, and in affording accommodation and supervision in their various laboratories.

For the quinquennial period there were awarded 62 Fellowships, 86 Scholarships, and 173 grants, but owing to appointments obtained by some Fellows and Scholars before the academic year began, and owing to some of the grantees being unable to use their awards, there were actually at work only 54 Fellows, 68 Scholars, and 151 grantees—in all 273 researchers. The output has been 38 books and 286 contributions to the journals of learned societies—in all 324 publications. The cost of the scheme—including Fellowships, Scholarships, and grants—during the past five years has been £27,540, as compared with £27,754 and £35,698 for 1903-8 and 1908-13 respectively.

The Toll of War.—The Executive Committee regret to report that during the quinquennium three Fellows and six Scholars are among those who have given their lives for their country's cause. Their names are here recorded :—

Fellows—William Kennedy, M.A. Glasgow (Scholar 1908-10, Fellow 1912-14); Alexander Robertson, M.A. Edinburgh, B.Litt. Oxon. (Scholar 1910-12, Fellow 1912-14); Peter W. Thomson, M.A. St. Andrews, B. Litt. Oxon. (Scholar 1913-15, Fellow 1915-16).

Scholars—John Dawson, M.A., B.Phil. St. Andrews (Scholar 1914-15); William Henderson, M.A. Edinburgh (Scholar 1915-16); Norman C. Lucas, M.A., B.Sc. Edinburgh (Scholar 1915-16); James Mackay, B.Sc. St. Andrews (Scholar 1914-15); Lewis N. G. Ramsay, M.A., B.Sc. Aberdeen (Scholar 1913-14); Frederick A. Rose, M.A. Aberdeen, B.A. Oxon. (Scholar 1915-16).

At the time of preparing this report there were 5 Fellows and 12 Scholars on His Majesty's service; there were also 12 Fellows and 13 scholars who had accepted temporary appointments on work of national importance. The awards in these 42 cases are held over in the meantime, in the hope that the recipients may be able to resume their research work at a later date.

Grants to Universities and Colleges.—The year under review marks the close of the third quinquennial distribution of grants under Clause A of the trust deed. The first scheme of grants which

covered the period from 1st October, 1902, to 30th December, 1907, was continued for a further period of nine months by means of an interim distribution, and thus the second quinquennial scheme came into operation on 1st October, 1908, covering the period to 30th September, 1913. The third quinquennial scheme covers the period from 1st October, 1913, to 30th September, 1918. The total grants for these sixteen years amounted to £662,633, of which there were allocated towards providing books, etc., for libraries £64,775; towards the cost of new buildings and permanent equipment £338,513; and towards the endowment of professorships and lectureships and other general purposes £259,345. The assistance the Trust has been able to render the four Universities during the time has resulted in the complete or partial endowment—in St Andrews and Dundee of seven lectureships, in Glasgow of two chairs and five lectureships, in Aberdeen of one chair and six lectureships, and in Edinburgh of two professorships and eight lectureships. Further, besides an annual grant of £1,000 to each of the University libraries and considerable provisional assistance towards meeting annual expenditure of an urgent character, the Trust has assisted in providing new buildings—in Dundee for engineering, in Glasgow for natural philosophy, physiology, materia medica, forensic medicine, and public health; and in Edinburgh for natural philosophy, engineering, forestry, &c.—and this apart from grants for permanent equipment of buildings already in existence and grants for various purposes to the extra-mural colleges. Certain grants assigned to Glasgow and Aberdeen Universities for building purposes remain as yet unexpended owing to war restrictions upon labour and material. In view of the difficulties and uncertainties arising out of war conditions it was decided to postpone the adjustment of a fourth quinquennial distribution of grants, and, meantime, an interim distribution has been made for one year.

Assistance to Students.—During the period of seventeen academic years in which the scheme of payment of class fees has been in operation 17,435 students (men, 11,522; women, 5,913) have obtained assistance from the Trust, and the fees paid reach the total of £695,278, 14s. A further sum of £659 has been expended upon assistance to students who have shown exceptional merit. Two hundred and nine beneficiaries (men,

157 ; women, 52) have made voluntary repayment of fees paid on their behalf, amounting in all to £6,996, 11s 1d.

Statistics and Accounts for the Year 1917-18.—The final instalments of the grants awarded under the third quinquennial scheme of distribution, amounting to £40,275, have been paid over or set aside for payment hereafter. The expenditure upon the research scheme and upon the laboratory of the Royal College of Physicians was respectively £3,689, 5s. 2d. and £1,453, 0s. 4d., towards the latter of which the Royal Colleges of Physicians and of Surgeons and the University of Edinburgh contributed £800.

Statistics of the payment of class fees for the academic year 1917-18 give the total number of beneficiaries as 2,244, an increase of 132 as compared with the preceding year, and the total amount of fees paid as £29,353, 10s. 6d., an increase of £3,109, 4s. 6d. as compared with the preceding year. This total does not include £72, 7s. which was paid to beneficiaries for classes taken outwith the academic year.

During the year a sum of £959, 14s. 6d. was voluntarily repaid by or on behalf of twenty beneficiaries for whom class fees had been paid by the Trust.

REVIEWS.

Surgical Aspects of Typhoid and Paratyphoid Fevers, founded on the Hunterian Lecture for 1917. Amplified and Revised by A. E. Webb-Johnson, D.S.O., M.B., F.R.C.S.Eng., temporary Colonel, Army Medical Service, &c. With Foreword by Lt.-General T. H. Goodwin, C.B., C.M.G., D.S.O., Director-General, Army Medical Service. London: Henry Frowde and Hodder & Stoughton. 1919. (10s. 6d. net.)

In his "Foreword" to this volume, General Goodwin compares the condition of affairs as regards the typhoid group during the present war with the history of previous campaigns, and he refers to the adequate handling, by prophylaxis and otherwise, of this well-known scourge of armies. He further refers to the expansion of our knowledge of the paratyphoid group especially.

We have read the volume through with unflagging interest, and we cordially endorse the Director-General's appreciation of the author's work.

The author in his preface refers to Keen's classical work on the *Surgical Complications and Sequels of Typhoid Fever*, and later takes occasion to thank his colleagues at the hospital in France, whom he assures us were of a different kind from those of John Hunter on the Belleisle Expedition.

The first three chapters are more or less general, the first dealing with the history of typhoid fever, and how it came to be distinguished from other fevers. In this chapter a rapid review is given, finishing with the discovery of the bacilli of the typhoid group. Chapter II is headed "Introductory," and expounds the clinical characters of typhoid and paratyphoid fevers, also the means employed in their diagnosis.

In Chapter III we have a general review of surgical complications. When invasion has taken place, "inflammatory

reactions of a defensive character occur, and the typical lesions of the disease are produced." These are chiefly seen in the blood, intestinal lymphoid tissue, mesenteric glands, and spleen. There are many parts of the body which "are only rarely the seat of an inflammatory process, and these inflammatory conditions are generally described as complications." Reference is made to the occasional absence of typical lesions, and the disease may be only manifested by one or other of such complications.

The appearance of pyogenic cocci, or *B. coli*, in lesions is also referred to, and their relationship to period of onset of complications. The interesting fact is also referred to here, viz., that while surgical complications as a whole are common in typhoid, the tendency to suppuration is very distinct in paratyphoid B.

In this chapter the author refers to statistical tables as convincing on the point of the value of inoculation; but he goes on to say that the effect of inoculation in mitigating the disease is "considerably more striking when you are brought into actual contact with the patients." It is not always that statistics are supported in such an unmistakable fashion by clinical observation, and it is well that the widest publicity be given to the matter. We have not yet forgotten how in the early days of the war inoculation was advised, but was only to be employed if the soldier was willing to submit. It was then left to the medical officer to convince him that he should undergo inoculation, and failure in this direction was viewed with disfavour by the authorities, quite oblivious of the fact that such failure was the outcome of neglect to *order* the procedure. Let us hope that the lessons of the present war in this particular subject will be learned and acted on in future.

"The mortality was five times as great in the unprotected as in the protected. This result may well lead to some reflection." The reflection which we make on it is, "Why was any man unprotected?"

Subsequent chapters deal with surgical complications as they affect the various systems or tissues of the body. Naturally the alimentary tract comes first under consideration, and the figures submitted are very instructive. Take, for example, perforation of bowel. The incidence was 14 in 2,500 cases, a percentage of 0·56. Compare this with the usual figure of once in every 30 to

40 cases. That inoculation has something to do with the low percentage is very evident, and this is supported by details. Of the 14 cases of perforation 11 occurred in uninoculated. The pathology, diagnosis, and treatment of perforation are very fully gone into in this chapter.

The next chapter deals with the spleen. This organ, while important as regards the pathology of the disease, is seldom the seat of surgical complications. There were, however, 3 examples of splenic abscess in the present series (2,500 cases). Chapter VI deals with the highly interesting subject of the biliary passages. The author favours the view that the bile plays the part of an excretory medium for bacilli which have reached the liver from the spleen. In connection with infection of the biliary passages the use of urotropin is drawn attention to.

Affections of the urinary system and of the bones and joints are taken up in considerable detail. Those of other parts are also dealt with, and the volume closes with a chapter on the "Carrier" problem. The author considers that while "many tissues and organs may harbour the bacilli . . . the spleen is the most likely, and is under the greatest suspicion." This naturally leads to the question of splenectomy in cases of persistent typhoid or paratyphoid infection.

We have read the volume with pleasure, and can recommend it to all surgeons. This, however, does not exclude a recommendation to physicians, who must be prepared for the many complications and sequelæ to which typhoid patients are liable.

The get-up of the volume is admirable, and its appearance is a credit to the publishers.

Hughes' Nerves of the Human Body. With Plates. By Chas. R. Whittaker, F.R.C.S.Ed. Second Edition, Revised and Enlarged. Edinburgh: E. & S. Livingstone. 1918. (3s. 6d. net.)

Perhaps there are few, if any, of the subjects of the medical curriculum which need "refresher" courses more than that of anatomy. This is doubtless due to the multiplicity of detail which is inseparable from that subject. However that may be,

it is a fact that the number of small books on anatomy is almost legion.

The present volume differs from many of the others in that it confines itself to one definite part of the subject, viz., the Nerves. This has always been of importance to student and practitioner. At the present time, and for a considerable period, it will have an enhanced importance for the practitioner. This, it is hardly necessary to explain, is in view of the results of many of the wounds incurred in the fighting of the past four and a half years.

The work consists of plates and of letterpress. The former, twelve in number, are clear and diagrammatic. Two are additional to those in the first edition, and represent the cutaneous areas of supply of the various sensory nerves. The letterpress, which extends to 72 pages, is clear and succinct, and will prove, as is intended, of great service to all concerned. In the original edition, published in 1890, the author frankly declared that the work was an attempt to lighten the task of students preparing for examination, in acquiring a knowledge of the nerves. "Though the letterpress," he wrote, "contains all that is required for ordinary examination purposes, it is earnestly to be hoped that this work will be used as an adjunct only to the standard works on practical anatomy, and as a help to students in their practical work." Much has happened since then, and the practitioner of to-day finds that much of what used to be cast into the limbo of undergraduate "swotting" must of necessity be retained if he is to do his best for his patients. A book such as the present should therefore be more than a mere help towards getting through examinations: its second and not less important function is to serve as a handbook for the busy practitioner. That it is likely to succeed in this is, we believe, certain. The illustrations have been reduced in size very considerably—the pages are half the size of those in the original edition—and the result is a slim volume which will slip comfortably into the pocket. The information is set forth concisely and systematically, and those who consult the pages of the work will find at a glance the main points they desire to know.

Mr. Whittaker deserves the thanks of all for placing in their hands so much information in so convenient a form.

Orthopædic Effects of Gunshot Wounds, and their Treatment. By S. W. Daw, M.B., B.S.Lond., F.R.C.S.Eng. With a Foreword by Major-General Sir Robert Jones, C.B., and Appendix on Functional Disabilities, by Dr. W. Cuthbert Morton, M.A. Oxford War Primers. London: Henry Frowde and Hodder & Stoughton. 1919. (7s. 6d. net.)

Now that active hostilities would appear to have come to an end, the type of surgical cases in our military hospitals will change. No more will hospitals abroad receive recent gunshot wounds in all their endless variety, nor will those at home receive cases in a state of acute sepsis. The crop will consist of damaged men who will require in many instances prolonged and skilled treatment either for the removal of their disabilities, or the amelioration of the same. The restoration, as far as possible, of function, will be the object of the military surgeon, and, as is well-known, the military authorities are keeping this prominently in view, and establishing special hospitals for the purpose of treating such cases.

Captain Daw's little book comes therefore at an opportune time, and we may add that the book itself is opportune. Its size is convenient, and although for that reason it of necessity causes the author to condense the information he wishes to impart to the reader, still it has to be remembered that he is writing for readers who presumably have already had some experience of surgery, and who will be able to appreciate and find useful a work in which padding is conspicuous by its absence.

We have nothing but admiration for the "Introductory Notes," in which general principles are indicated, and which contain a vast amount of important information.

Regional injuries are then taken up in detail as they affect the upper limb, the trunk, and the lower limb.

The second part of the volume deals with injuries of the peripheral nerves, and upwards of thirty pages are given up to general considerations. This section is characterised by the same good points which we have already referred to in the "Introductory Notes," and is followed by a consideration of paralyses of upper and lower limbs.

Dr. Morton contributes an appendix on functional disabilities and on re-education.

This little work is unpretentious: but it is nevertheless good, and should be read by all whose work lies with cases requiring orthopædic treatment.

The publishers deserve a word of praise for the typography. The covers remind one forcibly that we are living in a khaki period.

Sanitation in War. By Lieut.-Colonel P. S. Lelean, C.B., F.R.C.S., R.A.M.C. With an Introduction by Surgeon-General Sir Alfred Keogh, G.C.B., M.D. With 68 Illustrations. Third Edition. London: J. & A. Churchill. 1919. (7s. 6d. net.)

We feel that we cannot do better than submit to our readers in its entirety the Preface to this edition:—

"Once again the public has followed the example of Oliver Twist, and once again the publishers have sent its mandate over-seas."

As we have indicated in reviewing previous editions of Colonel Lelean's excellent little book, he is an exponent of "cut the cackle," and new readers will quickly find that he loses no time in getting to work at the subject. If this war had done nothing else it has certainly brought a very large proportion of the medical profession face to face with the problems of field sanitation. These men will certainly appreciate the contents of the present volume. The future of the nation as regards military service has not yet been made known to the public; perhaps the authorities have not yet worked out a scheme. It is inconceivable, however, that we shall ever be allowed to drift back into that state of national unpreparedness which existed at the commencement of the war. If it be not too much to assume that some form of compulsory military service will be instituted, then we may be sure that the present work, which is a necessary field companion for all officers, combatant or medical, will have a very wide circulation indeed. It is concise, practical, and readable.

Technic of the Irrigation Treatment of Wounds by the Carrel Method. By J. Dumas and Anne Carrel. Authorisd Translation by Adrian V. S. Lambert, M.D. With an Introduction by W. W. Keen, M.D., LL.D., F.R.C.S. (Hon.). London: William Heinemann, Ltd. 1918. (6s. net.)

This little book is written by Madame Carrel, and was primarily intended for the information of nurses so that they might have a clear, short account of the various details of the technic, and an accurate description of the apparatus used in carrying it out. Its aim was to serve as a guide for those wishing to become efficient assistants.

The description of the apparatus is very simple, and the clearness of the text is enhanced by numerous plates.

The appendices give the technic of the preparation of Dakin's solution, and the microscopical examination of war wounds. The volume is, further, furnished with a glossary (English-French and French-English) of the terms used in the technic. This is intended for the use of English-speaking readers who may proceed to France.

The little volume is commendably concise and clear, and will be of inestimable value to those for whom it has been designed.

The authoress is, to use Dr. Keen's words, "truly a helpmate" to her talented husband.

Elements of Surgical Diagnosis. By Sir Alfred Pearce Gould, M.C.V.O., M.S.Lond., F.R.C.S.Eng., and Eric Pearce Gould, M.A., M.Ch.Oxon., F.R.C.S.Eng. Fifth Edition, Revised. London: Cassell & Co., Limited. 1919. (12s 6d. net.)

This volume, which has for some time been out of print, has been thoroughly brought up to date. It now embodies the advances that have been made in the diagnosis of surgical affections in connection with war surgery.

Much new matter has been added on such subjects as gas-gangrene and causalgia. At the same time the descriptions of diagnostic methods that have become obsolete owing to the

extended use of *x*-rays and laboratory processes have been omitted. The net result is that no increase has had to be made in the number of pages—a feature of a new edition which will not be unwelcome to medical students.

The growing importance of *x*-rays in surgical diagnosis is recognised by the addition of many new radiograms, there being 16 radiographic plates, all of them of considerable merit.

To students attending surgical cliniques this volume will be of great assistance, and it will doubtless maintain the popularity of the former editions of the work.

Our Baby: For Mothers and Nurses. By Mrs. J. Langton Hewer. Sixteenth Edition. Bristol: John Wright & Sons, Limited. 1918. (2s. 6d. net.)

This interesting and valuable little book has now reached its sixteenth edition. It has been thoroughly revised, and the chapter dealing with artificial feeding has been simplified and brought up to date. The advice given throughout the book is admirable, and we have great confidence in strongly recommending it to mothers.

Midwifery. Parts I and II. By R. Mary Barclay, M.A., M.B., Ch.B.Ed. Second Edition. Catechism Series. Edinburgh: E. & S. Livingstone. (1s. 6s. net.)

Books of this type are of use to students who are preparing for an examination, but that is about all that can be said in their favour. The present series has reached its second edition. It is a compilation pure and simple, and, on the whole, it has been well done. Short cuts to knowledge do not pay in the long run, and we would recommend students to stick to text-books written by well-known authorities, and to do their own compiling.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

SURGERY.

Gunshot Wounds of the Lung. By Pierre Duval (*Surgery, Gynecology, and Obstetrics*, January, 1919).—This is one of the papers prepared for the ninth annual congress of the American College of Surgeons. The author shows that the lung can be handled for surgical treatment with as little danger as the abdominal organs. He resects part of one rib, preferably the fourth, in the anterior axillary line, and opens the pleural cavity widely. Complete pneumothorax is not dangerous, and is necessary for manipulation. There is no respiratory trouble, no increase of arterial pressure, and less shock than in a laparotomy. The lung is seized with forceps and the lobes examined one by one. Treatment of the wound consists of complete removal of foreign bodies either through the gunshot wound or through a new incision into lung tissue. As much as possible of the damaged tissue is excised. Hæmorrhage is stopped by sutures. The lung is stitched in two layers—a superficial and a deep—then cleansing of the pleural cavity is carefully carried out with sponges on long handles. The thorax is closed completely. After operation the lung recovers its function. The chest is transparent to the *x*-rays. There is very little or no thickening of pleura, and the diaphragm functionates normally.

The lung is no longer an organ inaccessible to the surgeon. The chest can be opened widely and the lung exposed lobe by lobe, manipulated, resected, sutured; indeed, treated like a coil of intestine during an abdominal operation.

CHARLES BENNETT.

Acute Perforations of the Abdominal Viscera. By William J. Mayo (*Surgery, Gynecology, and Obstetrics*, January, 1919).—A considerable percentage of free perforations of the appendix are spontaneously closed, and the area of peritonitis is limited by natural processes. It may be said that 70 per cent of such patients recover from the attack without operation, but they are not cured. The close relationship which the author has observed between acute gall-bladder perforations and perforations of the appendix makes it necessary to examine both parts at operation. A well-planned incision enables the surgeon to examine appendix, gall-bladder, pancreas, duodenum, and stomach. So far as the peritoneum is concerned, acute perforations of viscera may be divided into three stages—(1) the stage of contamination, with more or less shock and localised pain and tenderness, followed by (2) the stage of reaction, and (3) the

stage of general peritonitis. The apparent improvement which takes place in the second stage leads to the belief that the patient is better, particularly when the presence of deposited fat behind the peritoneum renders the latter tissue anæsthetic. Free perforation of the gall-bladder is commonly limited by a rapid protective peritonitis, with plastic exudate confined to the immediate vicinity of the gall-bladder. With regard to the acute processes of the pancreas, which may be called acute perforations, the author points out that their danger depends almost entirely on whether or not infection co-exists. Spontaneous recovery is a not infrequent termination to aseptic fat necrosis. His experience leads him to take a conservative view in pancreatic cases, and content himself with the anterior abdominal approach to the pancreas and drainage of collections, septic or otherwise, as they occur, rather than to anticipate their occurrence by pancreatic incisions.

Perforations of the duodenum are the most common of acute perforations, but, fortunately, the duodenal content is more or less sterile. In this condition a high percentage of patients make a spontaneous recovery, because many are treated without operation on the mistaken diagnosis of appendicitis. Operation in the first eight or ten hours gives the best results. Between ten and thirty hours the results are much worse on account of the presence of spreading septic peritonitis. After forty-eight hours a number will be improved, and the operation can be done safely.

Free perforations of the stomach are the least common of all perforations. On the anterior wall they are much less favourably situated for the delimitation of peritonitis than duodenal conditions, and, in addition, the stomach contents may be considerable in amount and may be in a more or less septic condition.

Chronic ulcers of stomach and duodenum, after a reasonable attempt has been made at medical cure, should be looked upon as surgical maladies.

—Charles Bennett.

Duodenectomy: Its Effect upon the Life of an Animal. By Ernest G. Grey (*Surgery, Gynecology, and Obstetrics*, January, 1919).—Although Minkowski completely disproved Pflueger's theory that removal of the duodenum caused diabetes by destruction of the supposed nerve mechanism in the duodenum which governs the activity of the pancreas, yet we are not warranted by Minkowski's conclusions alone in thinking that there are no remote effects of duodenectomy. Accordingly, the author has carried out a number of experiments on dogs, the results of which would seem to be favourable to duodenectomy.

The results demonstrate that the major pancreatic duct can be successfully transplanted into the jejunum. The bile is conveyed to the jejunum by cholecystenterostomy. With regard to the blood-vessels of the pancreas, Minkowski had to excise a large portion of the pancreas because he sacrificed the pancreatico-duodenal vessels with the duodenum, but the author has found it possible to resect every trace of mucosa and approximately all of the muscular coats of the duodenum, when transplanting the pancreatic duct, without embarrassing the vascular supply of the pancreas. Success can only be looked for when the total operation is divided into a number of stages, leaving an interval of several weeks between stages. One of the author's dogs lived for nine and a half months after the operation. Sugar was never found in the urine, and death was due to a complication which had no relation to the loss of the duodenum.—Charles Bennett.

Books, Pamphlets, &c., Received.

Elements of Surgical Diagnosis, by Sir Alfred Pearce Gould, K.C.V.O., M.S.Lond., F.R.C.S.Eng., and Eric Pearce Gould, M.D., M.Ch.Oxon., F.R.C.S.Eng. Fifth edition, revised. With 16 Radiographic Plates. London: Cassell & Co., Limited. 1919. (12s. 6d. net.)

Aids to Surgery, by Joseph Cunning, M.B., B.S., F.R.C.S.Eng., and Cecil A. Joll, M.S.Lond., F.R.C.S.Eng. Fourth edition. London: Baillière, Tindall & Cox. 1919. (4s. 6d. net.)

Pye's Surgical Handicraft: A Manual of Surgical Manipulations, Minor Surgery, and other matters connected with the work of House Surgeons and Surgical Dressers, edited and largely re-written by W. H. Clayton-Greene, B.A., M.B., B.C.Camb., F.R.C.S.Eng. Eighth edition, fully revised, with some additional matter and illustrations. Bristol: John Wright & Son, Limited. 1919. (21s. net.)

The Official Year-Book of the Scientific and Learned Societies of Great Britain and Ireland, compiled from Official Sources. Thirty-fifth annual issue. London: Charles Griffin & Co., Limited. 1918. (9s. net.)

A Medical Field Service Handbook, by C. Max. Page, D.S.O., M.S., F.R.C.S., A/Lt.-Colonel R.A.M.C. With Foreword by Major-General Sir George Makins, G.C.M.G., C.B. Oxford War Primers. London: Henry Frowde and Hodder & Stoughton. 1919. (6s. net.)

Syphilis, Paludisme, Amibiase. Traitement initial et cure de blanchiment, par Paul Ravaut, Préface du Professeur Fernand Widal. Collection Précis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1918. (4 fr.)

Ambulance de L'Océan la Panne Travaux publiés, sons la Direction du Dr. A. Depage. Secretaires de la rédaction: Dr. A. P. Dustin, Dr. G. Debaisieux. Tome II, Fasc. I. Juillet, 1918. Paris: Masson et Cie.

The Forms of Alcoholism and their Treatment, by Hugh Wingfield, M.A., M.D., B.C.Cantab. London: Henry Frowde and Hodder & Stoughton. 1919. (5s. net.)

The Anatomy of the Peripheral Nerves, by A. Melville Paterson, M.D., F.R.C.S., Lieut.-Colonel R.A.M.C. London: Henry Frowde and Hodder & Stoughton. 1919. (12s. 6d. net.)

Typhoid Fever, considered as a problem of Scientific Medicine, by Frederick P. Gray. New York: The Macmillan Company. 1918.

Diabetes and its Dietetic Treatment, by D. D. Basu. Ninth edition, revised, enlarged. Allahabad: Published by The Panini Office. 1918. (R. 1-8.)

Guy's Hospital Reports, edited by F. J. Steward, M.S., and Herbert French, M.D. Vol. LXIX, being Vol. LIV of the Third Series. London: J. & A. Churchill.

The After-Treatment of Wounds and Injuries, by R. C. Elmslie, M.S., F.R.C.S. With 144 illustrations. London: J. & A. Churchill. 1919. (15s. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 22ND MARCH, 1919.

	Week ending			
	Mar. 1.	Mar. 8.	Mar. 15.	Mar. 22.
Mean temperature,	37·0°	35·7°	40·0°	36·2°
Amount of rainfall, ins.	0·09	0·47	0·62	1·56
Deaths (corrected),	1037	920	701	546
Death-rates,	48·3	42·9	32·7	25·5
Zymotic death-rates,	2·5	2·6	2 6	2 0
Pulmonary death-rates,	29·9	25·0	15·6	10·9
Deaths—				
Under 1 year,	131	118	122	80
60 years and upwards,	227	196	137	118
Deaths from—				
Small-pox	...	...	...	...
Measles,	9	9	12	7
Scarlet fever,	2	...	...	2
Diphtheria,	4	4	3	3
Whooping cough,	37	38	35	27
Enteric fever,	..	1	2	...
Cerebro-spinal fever,	..	...	1	2
Diarrhœa (under 2 years of age),	1	4	4	3
Bronchitis, pneumonia, and pleurisy,	638	533	333	233
Cases reported—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	1	1	2	2
Diphtheria and membranous croup,	35	25	39	38
Erysipelas,	11	9	8	14
Scarlet fever,	32	25	29	31
Typhus fever,	..	...	1	...
Enteric fever,	1	2	3	2
Phthisis,	47	50	41	50
Puerperal fever,	3	2	1	1
Measles,*	158	154	256	243
Ophthalmia neonatorum,	10	12	10	16

* Measles not notifiable.

Sanitary Chambers,
Glasgow, 1*st April*, 1919.

THE

GLASGOW MEDICAL JOURNAL.

No. V. MAY, 1919.

ORIGINAL ARTICLES.

A REVIEW OF THE COMPLICATIONS OF INFLUENZA: WITH NOTES ON THEIR TREATMENT.

BY JOHN HENDERSON, M.D., CH.B., F.R.F.P.S.G.,
Visiting Physician to Glasgow Royal Infirmary, &c.

ALSO NOTES ON THEIR BACTERIOLOGY.

BY S. G. BILLINGTON, M.B., B.S.LOND., F.R.C.S.ED.

DURING recent months much has been written on the subject of the influenza pandemic in its various phases. In these writings bacteriology has had a prominent place, as was most natural: but the findings even up to the present have shown considerable variations. Now, with a better understanding of the various organisms present and active in such cases, and with improved culture technique, there seems to be a gradual convergence towards agreement, at least in essentials. From the clinical side, also, a great deal has been said, though the numerous complications have not been collectively presented. During last summer and autumn in France we had considerable opportunity for observing them in the course of our duties as charge

physician and bacteriologist at a large base hospital. About five thousand influenzal cases passed through our hands, and, though we were at all times so short-handed, medically, that close research was impossible, a general survey of the complications met with, and their bacteriology, based simply on routine work, may prove a useful addition to what has already been recorded on the subject. Our experience resolves itself largely into two parts, the first during June, July, and August, and the second from end of September to December. In the former the infection was in large measure a mild one, with four or five days fever, few respiratory symptoms, little in the way of serious complications, and a low mortality-rate. Later we were visited by a much more severe type with serious respiratory disturbances, largely pneumonic, and a high mortality-rate.

I.—Respiratory Complications.

Respiratory Complications bulk most largely in the records. Catarrh of the upper respiratory tract was general, the naso-pharynx, larynx, and trachea all participating. The latter were often so severely affected as to rank as serious complications of themselves. *Epistaxis*, of varying degree, was present in about 70 per cent of all cases. In some it was persistent and severe, though largely beneficial, in so far that it relieved congestion and headache. Rarely did it call for special treatment, and in only one case had plugging of the posterior nares to be resorted to for its control.

The common finding in severe cases was a generalised *bronchitis*, of varying degree, which was present from the outset. Even without evidence of definite consolidation of lung, but only an acute basal congestion, cyanosis, with persistent and troublesome cough, accompanied by the spitting of frothy mucus, pink-tinged, or showing blood in quantity, and cardiac embarrassment, were the outstanding features. The condition might clear up at that stage, or cardiac failure occur with increasing cyanosis and death, or a definite broncho-pneumonia supervene.

Post-mortem records bear out these stages. When death occurred early, marked congestion and œdema at the bases were found in every case without definite consolidation. The

condition might best be described as that of "wet" or "sodden" lung, and one soon became familiar with its appearance. In later stages a varying degree of broncho-pneumonia was found, at times so diffuse as almost to appear lobar in character, both clinically and at *post-mortem*. A limited *pleurisy* was common, with frequently a small amount of blood-stained exudate. *Empyema* was uncommon in the fulminating type, but was found more often in these cases whose course was more prolonged.

A frankly *lobar pneumonia* was a rare finding.

The type of *broncho-pneumonia* which prevailed was somewhat peculiar. Some cases ran a very short course, with fever for 3 to 5 days, ending often by crisis. More often the course was more prolonged, the fever passing through an intermittent stage with a daily swing of several degrees, and gradually subsiding to normal. In such the duration was very variable, depending on the spread of the pulmonary lesion. The pulse was rarely rapid in proportion to the respiratory distress, running commonly about 90, even where the respiratory embarrassment and cyanosis were marked. The sputum in the early stages consisted simply of pinkish, frothy mucus, but later showed a considerable amount of blood, and even a free hæmoptysis in some cases. At all stages cardiac failure was an ever-present source of danger. A very acute, almost fulminating type of broncho-pneumonia was experienced in the early autumn, with a fatal issue in two or three days. In a few cases *gangrene of the lung* occurred, with its characteristic spit and odour, and was confirmed *post-mortem*. In one case *abscess of the lung* supervened, and this case is worthy of special mention because of the sequence of events, and his ultimate recovery.

The patient was admitted with an apparently simple influenza, without much toxæmia, but in a few days developed a diffuse broncho-pneumonia, and was critically ill, with marked cyanosis, respiratory distress, and delirium. He was freely stimulated both by mouth and subcutaneously, and had oxygen administered at frequent intervals. His pulse remained good, though unusually rapid. The pyrexia continued high, and began to show a marked daily swing, the spit became more profuse, very purulent, and had a distinctly fœtid odour. Abscess was suspected, but could not be localised for a few days

when a small area of dulness was discovered under the right nipple with signs of cavity formation. The bases of the lungs at this stage were clear to percussion, though obviously very congested and œdematous. The spit increased in quantity, and was associated with severe bouts of coughing, during or after which he would put up an ounce or two of stinking pus, blood-tinged. Rapid loss of flesh was manifest, he became markedly hectic in appearance, and had a quiet, muttering delirium almost continuously. By this time a vaccine had been prepared from his sputum, and after two doses he appeared to be improved. The spit lessened, there was diminished pyrexia, and delirium. On examination, however, a band of dulness, about 2 inches in depth, was discovered at the right base. This was explored, and was found to be due to pus in the pleural sac. The abscess had apparently burst into the pleura, thus relieving the cough and spit for the time being. About 5 oz. of pus were removed by operation, and the sac was washed out and drained. From that point recovery began, the temperature gradually subsided, cough lessened, and spit almost ceased. Thereafter his general condition rapidly improved, though convalescence was protracted. He was later evacuated to England, and made a good recovery.

II.—Circulatory.

Serious *cardiac* complications were few. Considering the place occupied by influenza in the etiology of malignant endocarditis, and the virulence of the infection in many cases, it was surprising that, during the epidemic, I did not meet with a single case of malignant endocarditis clinically or at *post-mortem*. Systolic murmurs were frequent over the apex region, but these were regarded as due in large measure to dilatation of the heart, and disappeared completely on recovery. In a few cases a mitral systolic murmur persisted after recovery, without any associated symptoms. As these were evacuated for convalescence they could not be followed up.

Three cases of *pericarditis* occurred under observation, in two of which there was a moderate effusion. All of these recovered. No case of pyopericardium was met with throughout. Myocardial affections were commonly found. A marked

degree of bradycardia was a feature of many cases during the stage of exhaustion following the subsidence of pyrexia. In one case—a lad of 19 years—the pulse, over a period of one week, never rose above 40 per minute, and at most counts was 32 to 36 per minute. Even at the end of three weeks' tonic treatment the pulse was rarely above 56 per minute, and still showed occasional periods under 50. He was a very phlegmatic youth, and never made any complaint save of general weakness. The bradycardia in this case followed broncho-pneumonia.

III.—Renal.

The urine showed traces of albumen in nearly every case during the febrile period, and in a high percentage of severe cases there was definite evidence of *nephritis*. Granular and hyaline casts were commonly seen in these cases, more rarely blood and epithelial varieties. Uræmic symptoms were rare, unless where there was a history of previous nephritis, which had apparently been reawakened by the influenzal infection. In such the complication proved very fatal. When there was no history of previous renal trouble, the nephritis of influenza usually proved to be a transitory one, and cleared up completely, though a few cases were evacuated to England still showing urinary evidences of kidney lesion.

A peculiar urinary condition was met with on several occasions during the late autumn. The urine showed a considerable deposit, which to the naked eye resembled pus, but microscopically was found to consist practically of streptococci with very few pus cells. In only two of these cases were any clinical symptoms pointing to pyelitis observed, while irritability of the bladder was not pronounced, and pain on micturition was uncommon. The condition of the urine pointed rather to a simple excretion of cocci than to a pyelitis, cystitis, or definite lesion of the urinary tract (*vide* bacteriological notes).

IV.—Cerebral.

Under this heading may rightly be included those cases with grave degree of toxæmia, often apparently out of all proportion to the severity of the symptoms. Many of these have, of course, pulmonary lesions, but usually the experience is that the

essential gravity of the case arises from the toxæmia and not from the actual extent of lesion in the lung. Such cases frequently came under observation in a state of collapse following their journey to hospital. As they revived, this was soon replaced by reaction, commonly with hyperpyrexia. Some showed *hyperpyrexia* throughout their illness.

In a number of cases *meningitis* was present, as proved by lumbar puncture: but in others, though the symptoms pointed strongly in that direction, the condition was one of *meningism*, with headache, vomiting, muscular rigidity, &c. Lumbar puncture in several of these cases resulted only in a few drops of clear fluid being obtained, and not under pressure. Three cases may be specially referred to in this connection.

Case 1 was admitted in an unconscious condition, with eyes wide open and staring, eyeballs jerky, pupils equal and medium in size, and no strabismus. Neck muscles were rather rigid, but there was no head retraction. There was a marked rigidity of the upper limbs, which were held close to the body, with the elbows tightly flexed and the hands clenched. The arms could be extended under pressure, and the fingers extended, but gradually again they returned to the rigid position described. Kernig's sign was negative, as also was lumbar puncture. The patient had a quiet broncho-pneumonia, with little respiratory distress. He never regained consciousness, and died in twenty-four hours. *Post-mortem.*—No brain lesion was discovered.

Case 2 was admitted to hospital on account of a small and quite superficial leg wound, which gave no trouble. He contracted influenza, and a few days later pulmonary symptoms appeared. It was then obvious that he had a limited broncho-pneumonia. Suddenly he was seized with what, to the eye of the experienced sister in charge, was an epileptic convulsion. When seen shortly thereafter he was quite unconscious, with little muscular rigidity, and equal but rather small pupils. Lumbar puncture gave a negative result. He was catheterised, and the urine was found to contain considerable albumen, and a few granular casts were seen in the deposit. On the ground that his seizure might be uræmic in character, he was packed, and free perspiration

resulted. He improved temporarily, and regained consciousness to some extent, but relapsed, and died thirty-six hours later, having had no further convulsion. *Post-mortem.*—A very limited broncho-pneumonia was found, and a moderate degree of parenchymatous nephritis, but no evidence of brain lesion beyond a general hyperæmia.

Case 3 was admitted with influenzal broncho-pneumonia. He complained of severe and persistent headache, which seemed to ease under one dose of aspirin (gr. x.). It recurred markedly three days later, this time with associated symptoms, viz., muscular rigidity, head retraction, and Kernig's sign. Lumbar puncture gave purulent fluid under pressure. *Post-mortem.*—A most extensive meningitis was found, both cerebral and spinal in distribution. The lungs showed a limited broncho-pneumonia.

Apart from the usual headache of influenza, a number of patients complained of severe pain over the frontal region, intensified by pressure over the frontal sinuses. In some of these the pain gradually subsided under local applications as blisters or iodine, but in others it persisted to the end. In this connection one case was especially noteworthy. He had a severe broncho-pneumonia, but his chief complaint throughout was of severe frontal pain, which kept him very restless and wakeful. On this occasion *frontal sinusitis* was diagnosed. He died from his lung lesion, and at *post-mortem* I had his frontal sinuses opened, and discovered a purulent exudate in both.

Sleeplessness was a very common complication in severe cases, especially, of course, in those with pulmonary lesions, offering great difficulty in the choice of a suitable remedy, and resisting ordinary treatment (*vide* remarks on treatment).

V.—Gastro-intestinal.

That an abdominal type of influenza exists has long been recognised, but the resultant sickness and or diarrhœa may prove so intractable as to become a complication, and a very troublesome one. In some such cases the stools resemble closely those of enteric fever. Commonly these cases begin with sore throat, which is followed by the gastro-intestinal disturbance.

The throat may be of the ordinary follicular type, or a membranous tonsillitis. In some cases the abdominal signs and symptoms are such as strongly to suggest an acute appendicitis, and quite a number of cases have been operated upon on this diagnosis. On the other hand, during the latter part of the epidemic, numbers of cases were sent into hospital with a provisional diagnosis of influenza of the abdominal type, in which the condition was actually one of acute appendicitis. In one week we had three such cases in which operation was necessary. One does not regard influenza in an ordinary sense as a cause of *appendicitis*, but it can readily be understood that, with such a catarrhal condition of the bowel as is often met with in abdominal influenzas, an acute appendix inflammation may readily be set up.

Jaundice was met with in a number of cases of the abdominal type, and at times it was very persistent.

VI.—Skin.

There is, of course, no rash which is peculiar to influenza, though accidental cutaneous rashes may be found. In quite a number of cases associated with constipation the usual rash arising from intestinal absorption was met with. *Urticaria* was present in a few cases, and in two of these was of a most violent type. *Herpes* was very constantly met with, chiefly on the face, circumoral and nasal.

Purpura hæmorrhagica was seen in quite a number of cases, in varying degree, usually of the ordinary petechial type, such as is met with in acute infections with high fever. In three cases large ecchymotic patches were observed on the abdominal wall, mostly over the recti muscles. (I have seen one such example, in very marked degree, since my return home.) In all these there was very violent coughing or vomiting, which accounted to some extent for the site of the hæmorrhages. In two cases a peculiar and rare condition was found, when there was hæmorrhage into the sheaths of the recti muscles, such as occurs at times in severe enteric fever.

In the first of these the man complained of pain in the abdomen below the umbilical level, well within the position of the classical point of M'Burney. He protested that he felt

something give way in that region while coughing. On examination a globular swelling, tense and elastic, was made out to the right of the middle line. It was very tender on pressure, and, though it felt too superficial to be intra-abdominal, I called for the opinion of my surgical colleague. On his advice the bladder was emptied by catheter, but only 4 oz. of urine were obtained. The man was desperately ill, having a diffuse bronchopneumonia, and in addition an old-standing nephritis, which had been awakened by his influenzal attack: thus no operation could be entertained. A further similar swelling, though smaller, appeared on the left side, at or about the same level. He died, and at *post-mortem* there was found to be extensive hæmorrhage into the rectal sheaths.

On the second occasion on which I met this condition, it was readily recognised in the light of the former experience. This case also came to *post-mortem*, and the observation was confirmed. In connection with skin lesions, one case with a very puzzling eruption is worthy of mention.

The man was admitted in the ordinary routine as a case of influenza. He complained of headache, backache, general soreness, and fever, and had had vomiting just before admission. Under ordinary treatment the fever subsided, with general easing of the pains, on the third day. On that evening a rash was observed on the face, forehead, and scalp, dull red and papular in character, and distinctly shotty to the feel, particularly so on the forehead. Next day a few similar papules were observed on the wrists. The fever recurred with the appearance of eruption, and the pains in head and back were more pronounced. The association of the initial fever with its accompanying symptoms, and the secondary fever as described, strongly suggested small-pox. The question was raised with the authorities, but no case of variola was known to exist, or to have occurred, in the neighbourhood from whence he came. The further progress of the case in isolation continued the resemblance, as the rash spread to the arms and trunk, and lastly to the lower limbs, though in this region it was much less marked. The buccal mucous membrane was, however, not obviously affected. The papules became vesicular, and later pustular, with severe oscillating pyrexia. Thereafter the eruption dried, with formation of scabs and desquamation. As

the scabs separated there was practically no pitting left. The temperature fell by lysis, and he made a good though slow recovery. He was seen at various times by the consulting physician for the area, and by the skin specialist, as well as by others interested, though no authoritative finding was arrived at which could explain the condition. The case was regarded by the skin specialist as one of infected seborrheic eczema. Thereafter the Wassermann reaction was tested, and was found strongly positive. In view of this he was put on mercurial treatment. The condition was probably a pustular syphilide with unusually severe constitutional disturbance.

VII. Various.

Neuritis was observed in a number of cases, particularly sciatic and intercostal in distribution. In one case of the latter type there was an associated herpes along part of the nerve course.

Neuralgia was a frequent accompaniment, but was particularly severe in three cases, with trigeminal distribution, in all of which it was unilateral.

Joint pains.—Pains specially referred to, or localised in, joints were noted in an unexpectedly large number of cases, though never associated with effusion.

Otitis media was also frequently met with where there was no history of previous ear trouble.

Hypothermia has been advanced as a complication, or at least a dangerous symptom in influenza.[1]

In a number of cases where pyrexia was severe there was a consequent period of subnormal temperatures, but this is common to all diseases in which fever has been severe or prolonged, and rarely calls for special notice, save perhaps as an indication for continued care or stimulation.

VIII. Treatment.

In this connection a few remarks based on experience may be helpful. The day of specific treatment for influenza, as for many other diseases, has not yet dawned, or is only just breaking. Routine treatment is impossible, as the cases are so variable,

though it naturally follows that, in treating large numbers of cases of any one disease, certain general principles are evolved leading to certain general lines of treatment. Aerotherapy is of primary importance, and to this end the room or ward should be airy, with free ventilation. As in other fevers, the room temperature should be kept at or near 60° F., and dieting should be on lines suitable for any febrile case. As there is no drug which has a specific, curative action in influenza, naturally many drugs have been tried, and each has its advocates. With such large numbers of cases to deal with simultaneously, abundant opportunity was afforded to test the relative value of drugs in relieving the symptoms. Antipyretic drugs, as aspirin, phenacetin, quinine, sodium salicylate, and salicin, were all tried separately, and in various combinations, and after a time it seemed to emerge that a combination of the first three gave most general relief. The drugs were employed in the dosage of six, four, and two grains respectively, and the combination was given four times daily at the outset, in most cases thereafter. The further treatment is expectant or symptomatic, but much may be done to relieve the troublesome symptoms and to combat the complications.

The distressing and troublesome cough always offers a serious problem for the physician. As this commonly arises from catarrh of the whole of the upper respiratory tract, local measures are often beneficial, and undoubtedly the application of antiphlogistine, or the homely poultice of linseed, alone or with mustard, to the upper chest or throat gives great relief in many cases. This, combined with the use of a spray of chloretone and menthol (of each 2 per cent) in liquid paraffin, to the pharynx, was very successful. This spray proved much more beneficial than the well-known combination of menthol, eucalyptus, and benzoin.

Vomiting may call for special treatment, and, indeed, may be so severe as to call for absolute rest to the stomach, and rectal feeding. Tincture of iodine (1 minim in 1 ounce of water) given every hour for six hours proved successful in some cases, but not in others. The combination of bismuth, soda, and dilute hydrocyanic acid (2 minim doses) was often useful. Blistering over the epigastrium was resorted to in some cases, but at times all these measures failed, and only ice by the mouth,

with rectal salines, or rectal alimentation was employed for a short period.

Sleeplessness is always difficult to deal with in febrile diseases, but in influenza it is particularly so. Ordinary general measures fail, and drugs are required to secure sleep, more especially in those cases with pulmonary complications. As most of the drugs at our disposal for such a purpose are depressant and prejudicial to the heart, a selection is difficult. In the earlier stages, even where pulmonary complications appear imminent, a small dose of morphia may often be tried without grave danger, but it should never be employed unless in the early stages. The members of the trional group are all too depressant, and hyoscine seems to give such variable results as to render it unreliable. Paraldehyde in drachm doses, repeated if necessary, is always useful, though unpleasant, but, as a standby in all cases, even in those with pulmonary complications, I used the ordinary combination of chloralhydrate (gr. xx) with ammonium bromide (gr. xxx). It certainly is less dangerous, can be repeated, if necessary, and on the whole proved most reliable.

Hyperpyrexia, when present, calls for prompt and efficient action. In this condition, antipyretic or febrifuge drugs should be avoided, and some form of hydrotherapy should be employed. Fortunately, thorough and systematic tepid sponging in many cases gives relief, but recourse to cold sponging, or even to cold pack, may be necessary. Cardiac failure is a special danger in such cases, and should be met by free stimulation (*vide* pulmonary complications).

In those cases with *pulmonary complications* we made it a routine to raise the patient's head and shoulders a little by an extra pillow from the outset, to give greater freedom in respiration. A fitted gamgee jacket was applied in all cases—a very useful adjunct, as by its aid one can keep patients in a free current of air without fear of chill. Local measures, as poulticing, are only valuable in the early stages, or for the relief of cough and pain. As a rule, owing to the prostrating effect of the original influenza infection, the physician finds himself face to face with an immediate call for stimulation. Cardiac failure threatens, and may occur very early, with but little warning. Any depressant drug must therefore be avoided. Stimulant expectorants may be useful, such as ammonium carbonate, but

its value is doubtful, as it does not control the cough, and is, indeed, apt to be irritating in any but small doses. Combined thus with squills and senega it often does good, and, if considered necessary, digitalis and nux vomica (one or both) may be included. One soon found, in dealing with large numbers of cases, that the call for alcoholic stimulation was urgent, and that small doses of brandy or whisky, given at regular intervals from the outset of pulmonary symptoms, were beneficial. These doses may be increased as occasion demands. For further degrees of heart failure hypodermic stimulation must be employed. The use of strychnine (gr. $\frac{1}{60}$ to $\frac{1}{30}$) and digitalin (gr. $\frac{1}{100}$) thus every four hours is valuable, and can still further be supplemented by the injection intramuscularly of camphor in oil (3 gr. in 15 minims) four-hourly. These injections can be made to alternate, so that something is given every two hours, and this was the course adopted in all severe cases throughout the second part of the epidemic. The cyanosis, which is in many cases such a marked feature, can be combated with oxygen, administered intermittently. This is best carried out by Haldane's apparatus, when it is obtainable, as the current can be easily and satisfactorily regulated, and considerable economy is secured where oxygen is being given over prolonged periods. The oxygen is warmed by passage through hot water or alcohol. By means of this apparatus, with the requisite number of tubes and masks, I have had as many as four cases in a broncho-pneumonia ward receiving oxygen from one cylinder simultaneously. Where cyanosis is marked, with obvious labouring of the right heart, great benefit may often follow from venesection to 12 or 20 oz.

It should be borne in mind that regular evacuation of the bowels should be secured in such cases. To accomplish this efficiently by drugs necessitates a great tax on the patient's already waning strength, and, further, is a matter of difficulty, as the bowel in most cases is in a state of paresis with atonic distension. For these reasons it is better to employ enemata every twenty-four or thirty-six hours, and so secure thorough evacuation of the bowel, with the minimum loss of strength to the patient. By this means the bowel is regularly freed of toxic materials. Small enemata should be employed. It is surprising how much relief an efficient enema can give to a patient with urgent dyspnœa or orthopnœa.

In cases with *meningeal symptoms* I have tried the administration of urotropine in 15-gr. doses four times daily on account of its qualities as a blood antiseptic. As is well known, formaldehyde is readily and rapidly set free, and can be demonstrated in the cerebro-spinal fluid within half an hour of its administration. I have found this drug of considerable service in meningitis cases in the past, but in the cases of this series there was little success to record. It may be of interest to add that, even in dosage as above, I have only on one occasion met with any irritant symptoms arising from the use of this drug.

The *nephritis* did not call for any special treatment unless in the presence of uræmia, and only in a few cases did convulsions occur. In such the most effective procedure is to perform venesection to 15 to 20 ounces under chloroform. The amount of blood withdrawn can be replaced forthwith by a pint of normal saline solution, if considered advisable. Hot packs may be employed, and the most convenient and easy method is to use the guaiacol pack. This is done by painting a mixture of equal parts of guaiacol and olive oil over an area of skin 2 inches square in one or both axillary regions. This area is then covered by oiled silk or jacconet, and the patient is rolled in hot blankets. In the great majority of cases free sweating occurs within a short time. Where the lungs are free from moisture, this may be advantageously supplemented by the hypodermic administration of pilocarpine (gr. $\frac{1}{6}$ to $\frac{1}{3}$). It should be added that guaiacol is said to be dangerously depressant in its action, but I have used this method of packing regularly over a period of six years, and have never seen any more depressant effects result than may arise from the use of the ordinary hot wet pack. Its advantages over the latter in convenience and ease of administration render it very useful in private practice.

Specific treatment.—In only one case was an autogenous vaccine employed, and to it reference has already been made. In a few cases, early in the epidemic, a stock pneumonic vaccine was tried, but with no appreciable success. This was not surprising when one considers the mixed infection with which one had to deal.

NOTES ON BACTERIOLGY.

A general survey of the bacteriology of the complications brought out the following two facts:—

1. Evidence that Pfeiffer's bacillus played an important role was scanty. It was never met with except in films and cultures from sputum or nasal swabs; and owing to its frequent presence in ordinary catarrhal conditions, little importance was attached to these findings.

2. The presence of an organism, particularly in the severe and fatal complications, which could only be termed a strepto-pneumococcus.

The organisms met with were:—(*a*) A diplo-streptococcus: (*b*) a strepto-pneumococcus: (*c*) Pfeiffer's bacillus: (*d*) diphtheroid bacilli.

In investigating the bacteriology of the complications, attention was in the first instance devoted entirely to the blood and urine. This procedure was adopted for the following reasons:—

1. The medium used for plating out sputum and nasal swabs may be quite unsuitable for the essential organism present, and it is very difficult to place much value upon findings unless particular organisms are being looked for.

2. Investigation of wound infection has demonstrated how difficult it may be to determine the essential organism by simply plating the pus from an ordinary mixed infection, and how results vary with the use of different technique.

3. When mixed infection is so pronounced as in the case of sputum, it is very difficult to make sure that the real organism has been isolated, and the following case is an example:—A severe broncho-pneumonia yielded by blood culture a pure growth of the strepto-pneumococcus mentioned. Later the patient developed a lung abscess, which burst into the air passages, and the abundant purulent expectoration in stained films revealed the strepto-pneumococcus as the undoubted predominating organism. Some of this expectorated pus was plated upon a suitable medium, but it was found that a hæmolytic long streptococcus had been isolated from the plate. To confirm the

error, the abscess a few days later burst also into one of the pleural cavities, and the exploration sample from this source gave a film and pure culture of the strepto-pneumococcus.

For the above-mentioned and other reasons, it was decided to obtain the organism from a responsible and uncontaminated source, and to work out its characteristics before seeking it in contaminated material. The conclusions arrived at were—"That the diplo-streptococcus and the strepto-pneumococcus were the essential organisms, and that the presence of Pfeiffer's bacillus and diptheroids was inconstant, and evidence of their pathogenic importance scanty."

I. The *diplo-streptococcus.*—Taking the autumn epidemic as a whole, this organism was the one most frequently met with. It was obtained in pure culture from the blood and the urine in cases of broncho-pneumonia. An apparently similar organism was then obtained from plates of sputum and nasal swabs. This organism apparently corresponded to the one described by Abrahams, Hallows, and French in the *Lancet* of 4th January, 1919, and no further description is needed.

II. The *strepto-pneumococcus.*—The only reference to this organism seen in the restricted literature available under existing conditions has been in a letter to the *Lancet* by Donaldson about December last, and as it appeared to be much the most virulent of the complicating organisms, a more detailed description is given.

It was first obtained in pure culture from the blood in five of a series of twelve severe broncho-pneumonias, no growth of any kind resulting from the other seven.

The method of culture was to take about 2 c.c. of blood into each of three tubes containing broth, trypsin broth, and ammonium carbonate glucose broth respectively. The trypsin broth gave the higher percentage of positive cultures, and in no case was any growth obtained in the simple bouillon.

Having obtained the organism in pure culture in this way, it was nearly a fortnight before a suitable medium was evolved.

The medium used was agar containing—

Ammonium carbonate, . .	0·2 per cent.
Glucose, ...	0·5 ,,
Citrated blood, ...	3 to 5 ,,

The citrated blood was obtained by taking normal blood into an equal quantity of sterile citrated saline.

On this medium the coccus is one of the most rapidly growing pathogenic organisms with which I am familiar, and a profuse growth occurs in six to eight hours.

Cultural characteristics.—On *solid media* no growth was ever obtained unless either blood or serum formed a constituent. Uncertain and feeble growth was obtained on blood and serum agar, more pronounced in agar of higher alkalinity than ordinarily used. The blood should be whole, and at least 3 to 5 per cent in amount. The coccus will also grow on inspissated serum and on Loeffler's serum. On all these media growth is uncertain and usually scanty, and the organism soon dies on subculture. The characters of the colonies are indefinite and variable.

On amm. carb. glucose blood agar there is a profuse growth in a few hours. The colonies are large and irregular, with a red centre and pink surrounding area, and considerable decolourisation of the medium generally. On this medium several cultures were kept alive for months, being subcultured every three or four days. The meningococcus also grows very profusely on the medium. The most striking characteristic of the colonies is that they grow into the substance of the medium, and when scraped off an exact impression of the size, shape, and colouring remains.

In *liquid media* blood or serum are also usually necessary constituents. The best medium was found to be broth containing 0·2 per cent amm. carb., 0·5 per cent glucose, and about 2 per cent serum or hydrocele fluid. There is a most profuse growth in a few hours, with general turbidity and later a copious deposit. There is considerable acid production, and this appears to kill the organism, or at anyrate prevents its growth on subculture.

Free growth occurs in glucose blood broth, and films show the cocci growing round the red cells, which are in large part ingested by the organisms in a 24-hour culture.

Morphological and staining characteristics.—The only term that could be applied to this organism was that of streptopneumococcus, and this term was also used by Donaldson. It is pleo-morphic, both in minor degrees in a film from a single

colony, and especially so in films compared from various culture media. It is variable in size, and elongated coccal or bacillary forms occur. The actual coccus usually resembles a pneumococcus, but is large, thick, and more oval than lanceolate. It may occur in pairs, short chains, or very long chains. There appears to be a definite capsule in many specimens, but time was not available to demonstrate this by requisite staining.

The coccus does not stain very deeply with the basic dyes, but gives a characteristic appearance with Gram. A high proportion of the cocci are Gram +, but Gram − cocci may be seen scattered throughout the film, and it is common to see one pair of red cocci in a chain of four or five pairs of black.

Mixed with the large oval cocci are small Gram-bodies resembling diplococci of the catarrhalis type, and they resemble diplococci so closely that at one time very strong suspicions were aroused that there were two organisms present. Cultures, however, were thinly plated out on different media, and films from single typical colonies showed the same appearance.

Effect on animals.—The organism is pathogenic to small animals, though it may soon lose its virulence on subculture.

Mice are the most susceptible, and die in from twenty-four to forty-eight hours after subcutaneous injection. There is a septicæmia with œdema or even cellulitis round the site of injection. Films from the heart's blood and œdematous exudate show numerous apparently typical encapsulated pneumococci, and the organism can be recovered in pure culture from these materials.

Rabbits are also susceptible, and die in about forty-eight hours with lesions similar to those described in mice.

Rats are less susceptible, but may die in twenty-four hours following intra-peritoneal injection. There is a sanio-purulent peritonitis with a septicæmia, and numerous diplococci may be seen in films.

Guinea pigs were unavailable, but apparently Donaldson found that the organism was pathogenic to these animals.

Placing the organism.—The question at once arose as to whether this organism belonged to the streptococcal or pneumococcal group.

In some media it shows a preponderance of diplococci, and

in glucose blood broth it may appear as a typical pneumococcus. In amm. carb. glucose serum broth, however, it grows almost entirely in chains, some of enormous length with no sign of a capsule, though the cocci are always elongated and not resembling streptococci in shape. Generally speaking, the more freely the organism grows the greater the tendency to occur in chain form, though the ordinary film shows a mixture of pairs and chains.

On the whole, the evidence would appear to be in favour of the organism belonging to the pneumococcal group, the chief points in favour being—

1. When once isolated from blood or urine the organism grows less readily on trypsinised than on non-trypsinised media, and this is unlike a streptococcus.

2. Although growing in very long chains in some liquid media, it gives rise to a general turbidity unlike a long streptococcus, and the shape of the cocci resembles the pneumococcus more closely than the streptococcus.

3. The effect of the coccus on animals strongly points to its pneumococcal nature, both in the order of their susceptibility to the organism and in the type of lesion produced. Films from exudates of animal lesions would appear to show typical pneumococci also.

The organism probably belongs to the type 4 pneumococcal group.

Agglutinin formation.—The organism was not agglutinated by polyvalent pneumococcal serum, but it forms agglutinins in rabbits in five or six days. It is difficult, however, to obtain a good agglutinating emulsion, and a blood agar slope was not found a satisfactory source, a carefully neutralised glucose broth culture being better.

Recognition of the organism—When the described characteristics had been worked out from pure cultures, the organism was readily recognised in sputum, nasal swabs, urine, &c., both by direct films and by culture.

Time for agglutinating the organism from various sources, however, was unavailable, and its identity was not checked in this way; nor was any investigation made as to the presence or not of two or more strains.

The points of distinction between the strepto-pneumococcus

and the diplo-streptococcus were the following characteristics of the latter organism:—

1. The rounded or flattened shape of the cocci with uniformity of Gram+staining, and absence of the typical pleomorphism.

2. The absence of the characteristic cultural appearances, and the fact that this organism will grow readily on all ordinary media, giving appearances intermediate between those of a streptococcus and a staphylococcus albus.

The following are the conditions in which the organisms mentioned were met with:—

The *diplo-streptococcus* was obtained in pure culture from the blood in a number of severe broncho-pneumonias of the more prolonged type. It appeared to be the predominating organism in the sputum from such cases both in direct films and on culture plates. It was also the most pronounced organism in some of the cases of laryngitis.

Tonsillitis swabs frequently yielded almost a pure culture as a rule from cases with little membrane and of the follicular type.

In nasal swabs the diplo-streptococcus was frequently the predominating organism, both in early acute stages of influenza or pneumonia, and in the subsequent chronic nasal catarrh.

The *urine* showed evidence of nephritis in a high percentage of the severe cases of influenza and pneumonia, and numerous streptococci were present in a considerable percentage. The experience was that the organism was more frequently present in the urine towards the decline of the autumn epidemic. In the peculiar urinary condition referred to in the clinical notes, the urine, when collected with aseptic precautions, gave a pure culture of a diplo-streptococcus.

The *strepto-pneumococcus* was first obtained in pure culture from the blood of cases of the acute, almost fulminating, broncho-pneumonia. The sputum from such cases in the early stages showed this characteristic organism in predominance, and plates of suitable medium planted with washed sputum yielded almost pure cultures of the organism.

Three cases of empyema were infected with this organism, the fluid having the characteristic pneumococcal greenish tint: this appearance was also noted in some of the positive blood cultures.

In the sputum from some of the severer forms of laryngitis this organism appeared to be the predominating one, and a number of throat swabs from cases with membranous tonsillitis yielded almost pure cultures.

In nasal swabs this organism was sometimes the predominating one in early acute influenzas, and in two cases in which it was noted the severe form of broncho-pneumonia developed a few days later.

The *urine* showed evidence of nephritis in most of the cases of pneumonia in which this organism appeared to be the essential one. In the more prolonged forms of the disease numerous granular casts were frequently noted, and the characteristic strepto-pneumococcus was frequently present, being obtained in pure culture on suitable medium from aseptically collected urine.

III. *Pfeiffer's bacillus* was never obtained from a blood or urine culture, and never met with in any uncontaminated material such as empyema fluid. It was found in about 50 per cent of a series of nasal swabs from early influenzas, and in about 25 per cent appeared to be the predominating organism.

IV. The *diphtheroid bacilli* were frequently met with comprising a considerable proportion of the colonies on plates from sputum and nasal swabs. In no case were they obtained from the blood, and in only one case was a diphtheroid grown from the urine. No evidence pointing to their importance as pathogenic entities was noted.

Since writing the foregoing outline of bacteriological findings a partial description of the organism described as the strepto-pneumococcus has been given by Hicks and Bray in the *Lancet* of 15th March. They apparently failed to grow the organism on subculture from blood cultures, and also did not meet with it in nasal swab culture plates, probably owing to the media employed.

REFERENCE.

[1] Palmer, *Lancet*, 8th March, 1919.

SOME CASES OF GUNSHOT INJURY TO THE HEAD.

By JAMES ALEXANDER WILSON, M.D.,
Resident Surgeon, The Lord Derby War Hospital, Warrington.

The following cases may serve to illustrate some of the results of gunshot injuries to various parts of the brain:—

A. Frontal Area.

Case I.—Pte. M. A piece of metal struck this man's forehead on 17th October, 1915, causing a small depressed fracture. He was trephined, but the dura mater was not opened.

On admission (3rd November, 1915) the soft trephine opening could be felt, its lower edge being 3 cm. above the left eyebrow. His only complaint was headache. Vision and the oculo-motor apparatus were normal.

Case II.—Pte. H. D. On 19th August, 1917, a piece of metal passed through his helmet and struck his forehead. His field medical card was inscribed "S. W. forehead, fracture of skull, outer table. No symptoms of compression or intracranial hæmorrhage."

On admission (26th August, 1917) there was a small wound three-quarters of an inch long near the middle line and at the edge of the hairy scalp. His only complaint was headache, and the scar was tender when touched. After six weeks' residence in hospital he was discharged to duty. On 29th May, 1918—nine months from the date on which he was wounded—he was readmitted, but now to the Mental side of the Hospital. His headache, it seems, had persisted, and thinking he was "not to be of any further service" he got depressed and suicidal. Five months later he was repatriated to Canada.

Case III.—Pte. A. On 8th September, 1917, a piece of shell

struck this man's right eye, fractured his supra-orbital plate, and entered the brain. The eye was enucleated, fragments of bone and a large piece of metal were removed from the frontal lobe. There was considerable loss of brain substance, and he was reported to have had some kind of "fits."

On admission (6th October, 1917) there was a small hernia cerebri just above the right orbit; a round, moist granulating swelling. It did not pulsate. For some weeks he passed urine and fæces in bed, though he was physically able to get out of bed. Mentally, he was in a delusional state, and one day he said, "Don't stand at that window, for two machine-gun bullets have just come through it." On 15th October he had a "fit" lasting for ten minutes, when he threw his arms and legs about, and seemed unconscious. His mental condition cleared up, and on 2nd November he seemed quite well, though one might describe him as being simple-minded. A few weeks later he was discharged by medical board. Such a lesion as this man had would be likely to leave some defect in his mental functions, but what there was latterly seemed more like a lowering rather than a perversion of his intelligence.

Case IV.—Pte. W. J. On 21st September, 1917, a bullet struck this man's forehead. His field medical card was inscribed "Gutter fracture across frontal bone, linear fracture with depression of bone in mid line. Trephined; large area of inner plate comminuted, dura bruised but not perforated. Depressed fracture removed."

On admission (3rd October, 1917) there was a large flap covering a trephine opening situated just above the root of the nose. When healed there was a pulsating area, and he had slight headache. He was under observation for four months, but manifested no abnormality. The trauma, owing to its locality, might not cause much disturbance of the cerebral cortex.

Case V.—Pte. D. When at Vimy Ridge on 11th April, 1917, a piece of metal struck this man's right frontal area, near the fronto-parietal suture and 7 cm. above the zygoma. His field medical card was inscribed "On admission some brain tissue exuding. *X*-rays showed an area of loss of bone and some

foreign bodies in the frontal lobe. No paralysis, vision normal, mentally clear. Knee-jerk on right side absent. *18th April.*—Profuse discharge. Left pupil larger than right. Fundi normal."

While this man was a patient at Ramsgate he was in a hostile air raid on 22nd August, 1917, and was again wounded. He was admitted to this Hospital on 30th August.

Condition on admission.—He had a linear scalp wound just to the right of the vertex, and he had motor paralysis of the left leg, but no loss of sensation was made out. The opening in his right frontal area could be felt. His pupils were equal and the fundi normal. The injury over the parietal area seemed as if it might be a scalp wound only, but our *X*-ray report was, "Some injury to upper portion of skull, trephine opening, frontal area, and several foreign bodies inside the cranium." A few days later he could move his leg, and by October he could walk, but dragged his leg somewhat. His mental condition was clear and alert. He had no fits, and his speech was not affected.

In the foregoing cases the lesions did not involve the ascending frontal convolution, the motor area. Two of them had some loss of brain substance, without much, if any, loss of intelligence. Two had mental symptoms, and one had fits: but the latter were probably hysterical in nature. Lesions of the frontal area do not seem to produce any very definite manifestations.

B. Parietal Area.

Case VI.—Pte. E. This man was wounded on 3rd October, 1918, when on the Albert front. A bullet passed through his helmet, and struck his head just at the vertex, fracturing his skull on the left side of the mid line, and producing right hemiplegia. "The wound was excised, bony fragments removed from the brain superficially, and also some damaged tissue."

On admission (14th October, 1918) there was a wound on the top of the head, on the left side, but close to the middle line. The wound was about an inch and a half long, depressed, and pulsating. It lay obliquely, the posterior end touching the mid antero-posterior line, and being 14 cm. from the inion. The

wound overlay the upper end of the ascending frontal convolution, and probably did not extend beyond the fissure of Rolando, the posterior boundary of the motor area. The *X*-ray plate showed a localised fracture, probably with some depression of bone. All his reflexes on the right side were exaggerated, and at least on one occasion, when the patient was warm in bed, the plantar reflex was extensor. From below the right clavicle down the arm, side, back, and leg there was partial loss of sensation, a hypoæsthesia. Slight contact was felt less acutely on the right side than the left. Over the loin in front there was a zone in which there seemed to be no lowering of the sense of contact. The ulnar border of the fore-arm and the outer surface of the leg had not suffered any loss, nor had the dorsal or palmar surfaces of the hand and fingers. There was no paralysis of the face, but he stated that the right side of his face was "numb" in the early stages of his illness.

I have notes of thirteen cases of injury over the parietal area, and of these eleven had fracture of the bone, but only in two was the dura opened. Five had motor paralysis, one became mentally depressed, and one developed Jacksonian epilepsy. All recovered, but some may develop epilepsy later on. Several patients in this Hospital, who had fairly large openings in the skull, had thin plates of silver or aluminium inserted under the scalp to cover the hole in the bone. The subsequent history of these cases might be interesting.

I have notes of several cases of injury to the temporal bone. These were associated with traumatic deafness, or injury to the facial nerve.

C. Occipital Area.

The cortical centre for vision is situated at the posterior extremities of the occipital lobes, mainly on the mesial surfaces, and especially in the calcarine fissure. The centre for macular or central vision lies at the most posterior parts of the lobes.

Injury to the occipital bone usually involves the visual centre.

Case VII.—Pte. W. A piece of shell struck the back of this

man's head on 20th September, 1918. He was unconscious for five days. The report from France is that "Two or three foreign bodies were removed, wound excised, fractured skull trephined." In January he complained of difficulty in reading, and "can only pick out a word now and again." He does not see objects to his right, but sees quite well to his left. He gets about, and has no complaint other than that about his vision.

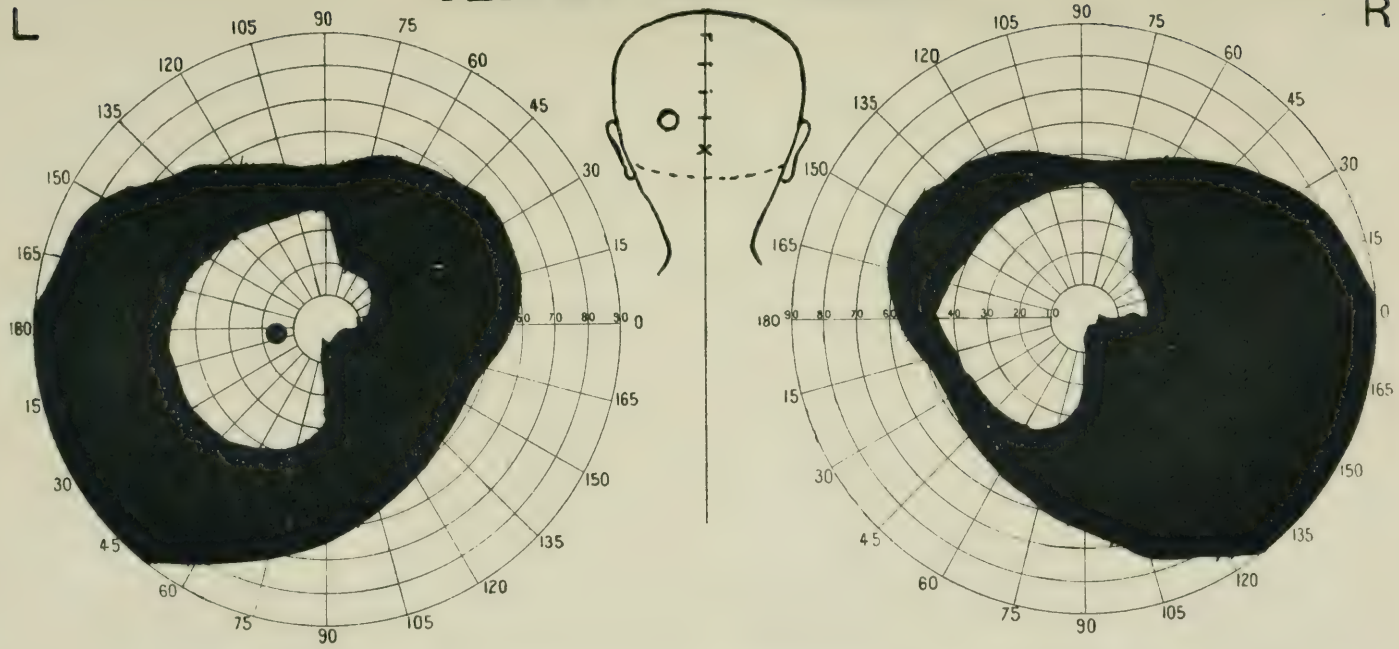
His vision is R.E. $= \frac{6}{12}$ L.E. $= \frac{6}{18}$, and the refraction of his eyes is nearly normal. His pupils react to light, convergence, and consensually. The fundi are normal. An opening can be felt in his skull on the left side of the occipital bone. It has irregular edges, and is a little larger than a trephine opening. The lower edge of the opening is 4·5 cm. above the intermeatal line, or 2 cm. above the inion, and the inner edge is 2·5 cm. from the middle line. The *x*-ray report is: "Large opening in left occipital region. Many small foreign bodies in the damaged area and frontal region." These small foreign bodies are too dark for bone, and are probably metal. They are confined to the left side of the brain, and are mainly near the middle line.

The perimeter chart of his fields of vision shows right homonymous hemianopsia, and also some limitation of the periphery of his left fields. Central vision is not involved. In the unaffected parts of his fields colour vision is normal.

The metal on entering his head seems to have scattered, three small pieces passing forwards and upwards into the frontal area, and one downwards, inwards, and forwards, probably passing through the outer part of the calcarine fissure, and coming to rest over the cerebellum. The distance of the trauma from the middle line would probably leave the mesial edge and the posterior pole uninjured. This may account for the vertical axes in the upper parts of the fields and central vision having escaped.

He has great difficulty in reading. The large words he spells and then pronounces them. He writes freely and quickly to dictation, but he is unable to write out by sight a sentence from a newspaper. This defect is not due to loss of visual acuity. It is said to be a peculiarity associated with right homonymous hemianopsia, when the lesion is deep.

PERIMETER CHART.



The black area indicates the limit of the average normal field of indirect vision; the white inset shows the field in Case VII.

CASE VIII.—Pte. H. On 15th August, 1917, a piece of metal passed through this man's helmet and struck the back of his head. It produced a scalp wound, but no fracture was made out.

On admission (25th August, 1917) he had a scalp wound over the back of the head. He had headache and some rise of temperature. A few days later his condition was no better, and abscess of the brain or thrombosis of the longitudinal sinus was suggested. The *x*-ray plate supported this suggestion. His vision was R.E. = $\frac{6}{18}$, L.E. = $\frac{6}{12}$, and he had double optic neuritis. The discs were swollen, with blurring of the edges, especially on the nasal sides. The arteries were small, and some capillaries on the disc were partially buried in woolly exudation. A few tiny hæmorrhages were seen. There was slight contraction of the fields in the right lower segment.

On 29th August Captain M'Neill excised the wound, which was situated in the left occipital area, turned down a large flap, and trephined in the left occipito-parietal angle. The dura was found to be dark, and it did not pulsate. An opening was made in it, when blood-clot, pus, and brain substance escaped. Two days later there was pulsation in the trephine opening. Eventually the patient made a good recovery, and the optic neuritis cleared up.

The locality of the scalp wound was to the left of the visual centre, and, although there was no obvious fracture, intradural hæmorrhage had occurred, and this had become infected through the bone and dura mater. The optic neuritis was binocular, and was probably caused by increased intracranial pressure. The abscess probably partly overlay the visual area, but the surface of the occipital lobe is probably not much associated with the function of vision.

D. HERNIÆ CEREBRI.

There were three cases of hernia cerebri — one over the frontal area, one over the parietal, and one over the occipital. These were sponged with spirit or covered with bismuth paste. They gradually shrank and disappeared. The parietal one was associated with hemiplegia, but after two months this patient was able to walk with only slight impairment of function.

The one over the occipital area was associated with permanent hemianopsia.

E. Foreign Bodies in the Brain.

Two cases had small foreign bodies in the frontal lobe of the brain : in one case they entered through the frontal bone and in the other through the occipital. They did not seem to produce any ill effect.

Another man had a piece of metal in the parieto-temporal region. It formed on the radiograph a shadow nearly half an inch square. It had entered through the occipital bone, injuring the visual area, and when I saw him it had been in his brain for two years. He had no paralysis. His mental condition was sluggish and irritable, and occasionally he was giddy. He got about fairly well.

In another case a small piece of metal entered in front of the left ear, and the radiograph showed it lying in the under surface of the left occipital lobe. The shadow was just under half an inch in length, and the breadth of it about one-eighth of an inch. It produced no observable ill effect whatever.

The absence of suppuration in these cases and the toleration of the brain seem remarkable.

Obituary.

ON SERVICE.

WILLIAM SMITH SINCLAIR, M.B., C.M.,
Major, New Zealand Expeditionary Force.

We regret to have to announce the death at sea, on 25th January, 1919, of Major W. S. Sinclair. Deceased, who was aged 46 years, had served with the New Zealand Expeditionary Force, and his death occurred while on the homeward journey to New Zealand. He studied medicine at the Universities of Glasgow, Berlin, and Manchester, and graduated M.B., C.M. Glasg., 1893. He took the D.P.H.Vict. in 1901. He was the only son of Mr. C. S. Sinclair, L.D.S., of Helensburgh.

JAMES HINSHELWOOD, M.A., M.D., F.R.F.P.S.G.,
Mentone.

By the death of Dr. James Hinshelwood, which occurred on 22nd of last month at his residence at Mentone, Glasgow has lost one of the best-known of her ophthalmologists.

Born in 1859, and a native of Glasgow, James Hinshelwood studied at the University, graduating M.A. in 1880, and M.B., C.M. in 1884. In 1889 he received his M.D. "with commendation," and in 1896 he became a Fellow of the Royal Faculty of Physicians and Surgeons.

After graduating he held the post of resident surgeon to the N. R. Infirmary, Middlesbrough, and on returning to Glasgow became assistant to the late Professor McCall Anderson. Here he very quickly gained the reputation of being a careful, enthusiastic, and inspiring teacher. In addition to assisting in the teaching in McCall Anderson's wards, he

Bailie WILLIAM GEMMELL, M.B.

conducted a clinique in the Out-patient Department of the Western Infirmary. He did not aim, however, at becoming a teacher of clinical medicine: but he directed his attention to ophthalmology, and became associated with the late Dr. Thomas Reid at the Eye Infirmary. Here he received the promotion which he merited, and when a vacancy occurred he was appointed one of the visiting surgeons. The enthusiasm which he showed in his earlier career in the teaching of clinical medicine he carried with him into the realm of ophthalmology, in which he soon came to be an acknowledged expert.

The publication in 1900 of his work on *Letter-, Word-, and Mind-Blindness* deservedly increased his reputation. He made the subject peculiarly his own, and he bestowed on it a vast infinity of pains. He was the author also of numerous contributions to the various ophthalmic journals.

Never very robust, his incessant and earnest work began to have an effect on his health, and some few years ago he found it necessary to winter abroad. Ultimately he took up his residence at Mentone, where he continued working at his favourite subject.

Hinshelwood's character may be summed up as earnestness, coupled with capability; and he had the good fortune to have this recognised early in his professional career.

He was twice married, and is survived by his widow and by a daughter by his first wife.

BAILIE WILLIAM GEMMELL, M.B., F.S.A.SCOT.,
GLASGOW.

IT is with profound regret that we have to announce the sudden death on 2nd April, in the Western Infirmary, of Dr. William Gemmell, of Scotstounhill.

Deceased was walking along Anniesland Road on Saturday, 29th March, on his way (as he told the writer) to the University Library, when he was knocked down by a motor bicycle, and sustained a compound fracture of the leg. He was at once conveyed to the Western Infirmary, where his condition

did not give rise to any undue anxiety. He was in good spirits, and seemed to be in a fair way of making a satisfactory recovery from his injuries when, on 2nd April, he was seized with cardiac weakness, and passed away in the course of an hour.

William Gemmell was a native of Glasgow, and received his early schooling in George Square Academy and the High School. Thence he proceeded to the University, where he studied medicine, and graduated M.B., C.M. in 1888. After graduation he served as resident medical officer in Kennedy Street Fever Hospital, and later became assistant superintendent of Belvidere Fever and Smallpox Hospitals. He also served for a term as extern physician accoucheur at the Maternity Hospital.

Subsequently he commenced practice in Hornsey, in the northern district of London, where he soon acquired a large *clientèle*, and where he remained for about twenty years.

On his return to Glasgow he found himself free to devote his energies to public work and to the literary and antiquarian pursuits which he had already found time to cultivate during the busy years of professional work.

On the extension of the municipal boundaries in 1912 he was returned to the Town Council as one of the representatives of the newly-formed Jordanhill Ward, and in 1917 he was elected a Magistrate. His work in the Council Chambers, which was interrupted by his taking a temporary commission in the R.A.M.C. during the war, was not showy, and he never played to the gallery. Nevertheless, his opinions were always listened to with respect, born of a recognition of his sterling honesty, high idealism, and hatred of all that was mean or crooked.

As already indicated, Gemmell had strong literary leanings, and he was the author of several books and of papers in the medical periodicals.

His first work was entitled *Dermic Memoranda: an Introduction to the Study of Skin Disease, with Special Reference to the Exanthemata.* As its title shows, it was inspired by his work in the Fever Hospitals, and was written and published during his residence there. About this time, also, he made several contributions on infectious diseases and on public health to the medical journals.

After his return to Glasgow he became deeply interested in

the history of the city, and a prominent member of the "Provand's Lordship Club." He published in 1910 a history of this pre-Reformation building, entitled *The Oldest House in Glasgow*, in which volume he established the antiquity of Provand's Lordship. It was also largely due to his efforts that the Club bearing that name was put on a sound financial basis. In the following year he rendered great service to the Scottish Exhibition, in which he organised the domestic section in the Palace of History.

Yet another work was his *Early Views of Old Glasgow, chiefly from the Foulis Academy*, written round a series of prints drawn by the students of the Academy.

His tastes led to his being appointed Convener of the Libraries Committee of the Corporation of Glasgow, and it would be difficult to imagine one more suited to fill such a responsible position.

But with all his weight of learning, those who were privileged to enjoy his friendship found him simple and unassuming, and a welcome companion whether at the social board or exploring an historic building or battlefield.

Men of his type are all too rare, and his passing has caused a gap which will be severely felt, not only by the Scottish archæological world and by Glasgow as a whole, but also by the medical profession of which he was an ornament.

CURRENT TOPICS.

University General Council and a Memorial Chapel.—The Business Committee of the General Council have reported to the Council that a representative Committee, to which the Business Committee has contributed six members, has been formed for the purpose of considering the establishment, in connection with the University, of appropriate memorials to those of its members who have fallen in the service of their country.

Attention is directed to the fact that in the meantime the Principal and Lady MacAlister have offered to the Court a sum of about £20,000 for the purpose of erecting a Memorial Chapel. This sum was offered on behalf of a number of friends and members of the University whom they privately invited to join with them.

The erection of the Chapel is part of a scheme for completing the building of the West Quadrangle. The scheme was approved in July, 1914, but was interrupted by the outbreak of the War.

The offer has been gratefully accepted by the Court.

Medical Preliminary Examination: Standard to be Raised.—At a meeting of the University Court on 24th ult. intimation was made from the Scottish Universities Entrance Board that they proposed to issue for the consideration of the Universities a general regulation providing that the standard of preliminary education required for admission to the Faculty of Medicine should be assimilated to that for admission to the Faculties of Arts and Science. The Principal said that was also the opinion of the University as expressed by the Senate and the Court, and unanimously adopted by the Entrance Board. The regulation did not come into operation immediately. Professor Noël Paton remarked that it was highly desirable

that it should be brought into operation by October, because at present absolutely untrained students were going into medicine.

THE GARDINER CHAIRS OF BACTERIOLOGY AND CHEMISTRY.—At the meeting of the University Court on 24th ult. the Secretary, Dr. Clapperton, submitted an intimation from the Scottish Office that there had been laid before both Houses of Parliament Glasgow Ordinances No. 22 (Foundation of the Gardiner Chair of Bacteriology); No. 23 (Foundation of the Gardiner Chair of Organic Chemistry); and No. 24 (Foundation of the Gardiner Chair of Physiological Chemistry). A formal intimation of dissent had been made by Aberdeen University Court in order that the Ordinances might be studied.

BUSINESS COMMITTEE OF THE UNIVERSITY GENERAL COUNCIL AND THE MEDICAL CURRICULUM.—The Business Committee has recommended that they be authorised by the General Council to consider and report upon the whole question of the medical curriculum, and that the remit be understood to include the subject of post-graduate teaching in medicine. The committee points out that the problem has become accentuated in recent years, and has found expression in the alternatives of "unloading the overburdened curriculum" or "adding another year." The committee holds that an early solution of the problem is of vital importance to the future of medicine in Great Britain.

POST-WAR PRESSURE IN THE UNIVERSITY.—The report of the Business Committee of the General Council of the University of Glasgow, submitted at the half-yearly meeting of the Council on 30th ult., points out that the signing of the armistice and the approach of peace have led to the release from active service of a large number of students and of many, but by no means all, of the members of the teaching staff. In the Medical Faculty alone over 200 ex-service students have enrolled themselves for the summer classes of the first year, with the result that the existing accommodation at the University is altogether inadequate for their needs. Temporary provision has, by the courtesy of the Royal Technical College, been made there for

additional University Courses in Physics and Botany. In view of the duty laid upon the University to prefer the claims of students who have served their country in the field, it might be necessary, the report states, to postpone until October the admission of the younger applicants from the ordinary schools who wished to enter on their curriculum in the summer term. The immediate provision of additional teachers and demonstrators and of space and equipment for lectures and laboratory work in the later subjects of the medical course has now become urgently necessary. The resources of the University, it is added, will be insufficient to meet the cost without considerable assistance from the Treasury or from private benefactions. It is understood that the University Court has represented the emergency to the Government. Similar conditions have arisen in the other universities as a consequence of the cessation of the war, and all alike have appealed for further subsidies to enable them to meet their responsibilities, not only to ex-service students but to students from America and the Overseas Dominions, who are likely to be numerous in the near future.

Admission of American Students to the University.—At the recent meeting of the University Court there was submitted, among the communications from the Senate, a report by the Faculty of Arts regarding the admission of American students. Principal MacAlister said that raised a point which was brought up at two successive conferences in London of the Universities of the United Kingdom—the desirability of each University preparing a succinct pamphlet setting forth its specialties and the facilities it was prepared to offer, together with general information for overseas students. It was proposed that a pamphlet should be prepared for Glasgow University and issued with the authority of the Court. It was constantly asked for, and they had not got it. This was agreed to.

Scottish Board of Health Bill.—The Bill was under consideration on 8th ult. by the Scottish Grand Committee of the House of Commons. It was proposed in the form of amendments to Clause 1, which deals with the establishment of a Scottish Board of Health, that a separate Minister of Health for Scotland be appointed.

In the course of the discussion the opinion was expressed that it was not likely that in the new Cabinet there would be two Ministers representing Scotland. In order, therefore, to improve the administration of health matters in Scotland it would be necessary at the present time to have as Health Minister the Secretary for Scotland, who already occupied an important place in the Cabinet.

The Secretary for Scotland took the attitude that if, and when, Scottish Home Rule was accomplished, he did not doubt that they would have separate Ministers for all the great services in Scotland. What the local authorities wanted was an official who would carry weight with the Cabinet and the Treasury, and the Secretary for Scotland satisfied those conditions in normal times. There was no chance of a separate Minister of Health for Scotland being a member of Cabinet to-day. On a division being taken, the amendment was negatived by 28 votes to 12. Clause 1 was then agreed to.

Clause 2 was next considered. This clause defines the general powers of the Board in relation to health. Some discussion arose on the question of the initiation and direction of research, an amendment being moved that such research should not include experiments under the Cruelty to Animals Act of 1876. The amendment was negatived, and the clause was agreed to.

Clause 3, dealing with the constitution of the Board, was agreed to, with the amendment that a Parliamentary Under-Secretary for Health purposes be appointed, who should be Vice-President of the Board, and responsible under the President for its administration.

Edinburgh Medical Men and the Scottish Health Bill. —At a largely attended meeting of the medical profession of Edinburgh and Leith held on 8th ult. the following resolutions on the Scottish Board of Health Bill were passed unanimously:—

1. "That, even if it involves joint membership of the Board, there should be two members representing the clinical side of medicine;" and

2. "Having now considered the Scottish Board of Health Bill, this meeting is strengthened in its conviction of the necessity for the establishment of a standing medical consultative council,

the members of which should be elected directly by the profession, and should have power to discuss and make representation to the Board on any matters which in their opinion affect directly or indirectly the health of the community, and this council should have power to meet jointly with any council, medical or lay, as occasion arises. This council should consist of at least 11 members, one of whom should be a registered dentist, with medical qualifications."

The Campaign Against Venereal Diseases.—The Committee of the Red Cross Societies, comprising representatives of the Red Cross Societies of France, the United States, Great Britain, Italy, and Japan recently discussed at Cannes the report embodying the recommendations of the Committee on Venereal Diseases.

The Committee finds that any comprehensive scheme for combating venereal diseases must embody measures for the protection of individuals not yet infected, the elimination of conditions of environment favouring the dissemination of venereal diseases, the discovery, treatment, and control of individuals already infected, and the education of practitioners, nurses, and attendants. The Committee recommends sex education of children and education of the general public in the principles underlying the combating of venereal disease. It lays stress on providing entertainment and recreation and stimulating group activities, such as social and athletic groups. It favours the encouragement of early marriages, the custodial care of the feeble-minded, the isolation of infected individuals, and the report system in regard to early preventive treatment. The report recommends the repression of commercialised prostitution and promiscuous sexual intercourse. The Committee urges free laboratory diagnosis in advisory clinics among other means for the discovery, treatment, and control of individuals already infected. It also recommends treatment free of cost to patients, and the distribution of officially approved anti-syphilitic remedies to physicians under certain regulations, and the establishment of dispensaries with equipment and *personnel*.

From the above report of the findings of the Committee, it is not easy to learn details on certain points.

The Committee is reported to favour early marriages. How these are to be made possible is not stated. We would point out that many young men acquire venereal disease at an age when marriage would be out of the question under present social conditions; and, indeed, it is questionable if marriages contracted in the 'teens are likely to prove happy. But, granted that they would turn out a success, where is the money to come from to support the probable offspring?

Another point which is not clear is as regards the use of anti-syphilitic remedies—whether the Committee recommends their use before or after the disease has been acquired.

It is possible that the Committee discussed these and other points fully, and that a detailed report may later on become available; but we venture to think that the bald report of the discussion which Reuter has communicated to the press does not help us very much in dealing with what is perhaps the knottiest problem of human life.

The Work of Hospital Almoners.—We have seen a recent report of the Hospital Almoners' Council, and find therein a short account of the duties of Almoners which we think is worth noting. The duties of an Almoner may be summarised as follows:—

1. To check the abuse of an Out-patient Department by patients who are (*a*) in a position to pay for treatment; (*b*) insured persons under the National Insurance Act entitled to the services of a panel doctor, and not requiring special hospital treatment; (*c*) too poor to benefit by any assistance other than that obtainable through the Poor Law. Adequate inquiries are made, with the assistance of charitable societies, for this purpose.

2. To ensure as far as possible that all patients to whom treatment is granted shall benefit to the full by that treatment, by securing, with the assistance of outside charitable agencies if necessary, the full co-operation of the patient in carrying out the treatment prescribed by the hospital.

3. To act as connecting link between the Out-patients' Department and outside charities.

It will be seen that an Almoner must be possessed of varied

qualifications in order successfully to carry out the duties outlined above. Further, she must have the special technical knowledge which is required in every branch of charitable administration.

After being selected by the committee, the candidate undergoes a course of training, practical and theoretical, which extends over eighteen months. At the end of this training she should be eligible for the Hospital Almoner's Certificate, as well as that of the Ratan Tata Department of Social Science and Administration of the University of London.

The fee for the course is 25 guineas, and intending candidates should communicate with the Secretary, at Denison House, 296 Vauxhall Bridge Road, London, S.W.1., from whom detailed information may be obtained.

It is hardly necessary to commend the institution of the Hospital Almoner. There are few of us who have not had some personal experience of hospital abuse, and there is, we fear, little likelihood of its disappearing, or even diminishing, *sua sponte*, in the near future.

The hospitals are not yet nationalised ; and so long as they are maintained by the charitably disposed, so long will they be subject to abuse. That such is likely to receive a check at the hands of the Almoner does not entail a great effort of the imagination.

Resettlement of Nurses: Committee appointed for Scotland.—The Minister of Labour has appointed a sub-Committee for Scotland of the Nurses Resettlement and Demobilisation Committee (London). This sub-committee will deal with the resettlement of Scottish nurses in civil life, with special reference to those who desire to find post-war employment, or to undertake some form of training. It will also control the register of Scottish nurses who desire work in Scotland. The register will be kept at the office of the Employment Department, Ministry of Labour, 112 George Street, Edinburgh, to which all inquiries should be addressed. The members of the Scottish Sub-Committee are:—

Miss Merchant, matron, Eastern District Hospital, Glasgow, and Thomas E. Dewar, M.D., c/o Local Government Board, Edinburgh, representing the Local Government Board.

L. D. Cruikshanks, M.D., 9 Cobden Crescent, Edinburgh, Scottish Education Department.

Lieutenant-Colonel David Wallace, F.R.C.S.E., Edinburgh, Scottish Branch, British Red Cross Society, Edinburgh.

Miss Melrose, R.R.C., Royal Infirmary, Glasgow, Scottish Matrons' Association.

Miss White, 26 Castle Terrace, Edinburgh, Queen Victoria's Jubilee Nurses' Institute.

Miss Gill, R.R.C., Royal Infirmary, Edinburgh, College of Nurses, Edinburgh.

Miss M. M. Paterson, National Health Insurance Commission, Edinburgh, National Health Insurance.

Miss Younger, O.B.E., Divisional Office, Drumsheugh Gardens, Edinburgh, Ministry of Labour.

Nursing V.A.D. members and special military probationers who desire either to train for the nursing profession or any other career or to hear of vacancies are reminded that—

(1) Applications should be made on Form Z.27a (Nurses), obtainable from their senior officers. The forms should be returned to the Nurses' Demobilisation and Resettlement Committee, 16 Curzon Street, Mayfair, London, W.1.

(2) As full a statement as possible should be entered on the form, including the permanent home address of the applicant.

(3) Arrangements for a personal interview either in London or Edinburgh should be made.

The attention of employing authorities is also drawn to the fact that the committee has on its register women with nursing experience who are seeking posts as nurse masseuses, secretaries, bookkeepers, and nurse chaffeurs.

Nurses' Registration Bill (as Amended).—At a meeting of the Edinburgh Centre of the College of Nursing, held on Saturday, 19th April, it was resolved to draw attention to the following points in connection with the Bill for State Registration of Nurses, as now amended; and also express their deep dissatisfaction, as Scottish Nurses, at the inadequate representation of Scotland on the first General Nursing Council, as provided by the amendment in the Bill at present before Parliament.

A circular has been issued by the Joint Hon. Secretaries of the Edinburgh Centre, in which they state that—

1. As it now stands, the Clause relating to the formation of this Council provides for the election of eighteen women Nurses, four of whom have been apportioned to Scotland; but what security have Scottish Nurses that these members will represent them? Which are the nominating Societies?

The College of Nursing, which has a Scottish Board, will probably give one of their four nominations to Scotland; the "Royal British Nurses' Association," having a very small membership in Scotland, is not in a position to select a Scottish representative; the only one of the other seven Associations with power to nominate, which has any effective membership, is the "Scottish Nurses' Association," and this is a Society local to Glasgow and neighbourhood.

The largest and most representative Scottish Association of Nurses is the "Association for the Promotion of Registration of Nurses in Scotland," which, since its formation in 1909, has done steady pioneer work, and taken part in all previous deliberations over proposed Registration Bills, and it has been ignored. The Edinburgh Centre of the College of Nursing does not consider these provisions satisfactory.

2. They also protest against the powers given to the First Council under Clause 11. They hold that these powers are too great for a Provisional Council, and should be curtailed until such time as the Council consists of direct representatives elected by Nurses themselves.

3. They note that paragraph 4 in Clause 12 has been amended, and the word *training* deleted. That is to say, that persons who have been in attendance upon the sick for three years will be eligible for the first Register without other qualification than that of "having been in attendance upon the sick" for the time stated. A Register formed on such a basis will give no protection to the public, and will inflict a grave injustice to the trained Nurse and the Nurse at present in course of training. The College of Nursing deplore this setting aside of all standard of training.

4. They object to the Clause introduced which makes the penalty for one omission of the annual fee the same as that for "infamous conduct."

In view of the desire to keep a "live Register," they suggest

if a Nurse fails to report her name she be retained on the Register, but the particulars of her training, &c., dropped for that year.

They also protest against the Registration Fee being raised at any time higher than £1, 1s., as, in addition to this, Nurses will have to pay Examination Fees.

Medico-Political Union: Meeting in Glasgow.—The question of the organisation of the medical profession on trade union lines was discussed at a meeting held in the Christian Institute, Glasgow, on 29th ult., under the auspices of the Medico-Political Union. Members of the profession in Glasgow and the West of Scotland were invited to attend, and there was a fairly large audience. Professor Ralph Stockman, Glasgow University, presided.

The Chairman said that they knew that great changes were impending in the practice of medicine. We had been promised definitely a Ministry of Health. Apart from that there had been adumbrated in the press and elsewhere great changes in the actual practice of medicine. It was accordingly necessary that the profession should be prepared to discuss and determine exactly what they wanted.

The principal speaker was Dr. Stancombe (Southampton), who moved a resolution "that in view of the far-reaching changes inevitable in the medical service of the country consequent upon the coming of the Ministry of Health it is essential that the profession should be solidly and democratically organised on a trade union basis to enable it to negotiate effectively with the Government in the interests of the community no less than those of the profession." He addressed himself to the question of whether there was need for stronger organisation of the profession on trade union lines. It behoved them, he said, to protect themselves against unfair agreement, petty economies, and variation of regulations without their consent, knowledge, or power of redress. Even clergymen were now contemplating the forming of a union. The amount of concessions made to any body was in exact proportion to their driving power as represented by trade union organisation.

Trade unionism represented actual, well defined, legally constituted power. It was recommended by the Government as being the proper constitutional method for all men who realised that individual effort was quite hopeless. He considered that trade unionism was peculiarly and exquisitely adaptable to the need of medical men, because there was no body of men so secure from its primary danger of substitution or dilution of labour. Some people talked about "descending to the level of the bricklayer." He preferred to speak of ascending to that level, because when the artisan went on strike his earning capacity ceased. "We do not do anything of the kind. We do not propose to withhold our services from suffering humanity." They would still go on with the essential task which it was their honour to perform. "What, then, do you strike against? Simply against the Government or against some obnoxious form of control." No trade union movement could succeed that ostracised public opinion, but the community would not suffer under the strike policy that they would adopt. One of the first things they had to do was to protect the community from anything that was cheap and nasty.

Dr. G. A. Main (Stockport), organising secretary of the Union, seconded the resolution. He spoke of the danger of "agreed bills" in Parliament and legislation by Order in Council, and said they wanted watchdogs in Parliament. The only way they could exercise power was by withholding their labour. They were registered as a trade union in 1915, and had now 2,000 members. Now that war activities had ceased members were rolling in.

Replying to questions, Dr. Main said that there were about 70 members in the Glasgow and West of Scotland Branch.

Dr. Stancombe informed another questioner that the British Medical Association could not get away from its charter and its formation under the Companies Act. Otherwise he was satisfied that it would have been a trade union long ago.

Dr. James R. Drever (Glasgow) moved as an amendment that "in the interests of the community at this critical time this meeting deprecates the formation of bodies which are rivals to the British Medical Association, and advises practitioners to support the latter solely and wholeheartedly." There were some

interruptions during Dr. Drever's speech in support of his amendment.

Dr. Charles Robertson (Glasgow) seconded.

The meeting lasted almost two hours, and before the vote was taken a number had left the hall. On a show of hands the Chairman declared the resolution carried by 37 votes to 18.

If we may judge from the above report, the meeting did not evidently excite great interest among the profession in Glasgow and the West of Scotland, as it would appear that a number did not wait to vote.

We have since seen a circular sent out to members of the profession from the head office of the Medico-Political Union. It is signed by the General Secretary of the Union, and its tone is, to say the least of it, peremptory. May we suggest to the Union that the medical profession in Glasgow and the West of Scotland is not yet accustomed to be addressed in this way, and that it might be advisable to couch such circulars more in accord with the usages of official correspondence? Perhaps, however, the Union considers the profession as very far below the "level of the bricklayer." *O tempora! O mores!*

Crichton Royal Institution: Report for 1918.—We have just received the 79th Annual Report of the Crichton Royal Institution, Dumfries. The Report, which deals with the year 1918, contains reports by the Board of Direction, the Physician-Superintendent, and the Commissioners of the Board of Control; Abstracts of Accounts; and the Statistical Tables usual in such documents. Further, it sets forth the Institution Roll of Honour, in which appear a goodly number of names.

Dr. Easterbrook's report, as the following extracts show, gives a great deal of interesting information regarding the work of the year.

Admissions.—The total cases admitted during the year numbered 224, namely, 104 male and 120 female. Deducting the 21 temporary transfers from Larbert Asylum, the remaining 203 admissions slightly exceeded the average of 199 for the previous ten years, there being excluded from the latter figure the similarly disturbing factor of the 94 transfers from Dykebar

Asylum in 1916. The 203 admissions coming to the Institution from what may be regarded as the usual sources in the community comprised 70 rate-aided certificated cases from Dumfriesshire and Galloway (previous ten years' average 70), and 133 private cases from various parts of the country (previous ten years' average 129), the latter group comprising 69 certificated cases (average 89), and 64 voluntaries (average 40). An analysis of last year's admission rate thus bears out the experience at the Institution during recent years, namely, an increasing tendency for patients of the private class to come voluntarily for treatment; and practically no variation in the number of annual admissions of rate-aided patients from the Dumfries District, as contrasted with the marked decrease of rate-aided admissions into asylums in the country generally, especially during the years of the war. The great influx of population engaged in munition and allied war industries established in the district largely explains the uniformity in the level of the rate-aided admissions at the Institution, the quota of admissions from this source neutralising the operation of those other and general factors which have led to a decrease in rate-aided admissions throughout the country.

Of the 64 voluntary admissions (31 male and 33 female), who were the subjects of various forms of nervous and mental breakdown, mostly in their milder degrees, 58 had not previously during their illness placed themselves under mental hospital treatment, in contra-distinction to the other 6 who had already been under official treatment.

Of the 160 certificated cases (73 male and 87 female), 51 represented transfers from similar institutions in Scotland and elsewhere and from their homes, who had already been treated during the existing illness as certified patients, and they suffered from less hopeful forms of mental affection. The majority of the certificated cases, namely, the 109 receptions (47 male and 62 female) comprised those who were certified for the first time during the illness for purposes of care and treatment. The 109 cases represented 108 persons (47 men and 61 women), a female admitted early in the year having recovered and been re-admitted towards the end of the year owing to the onset of another attack. Of the 108 individual receptions, 20 (10 men

and 10 women) had been the subject in previous years of one or more attacks of certified insanity from which they had recovered, and 88 were suffering from their first attack, these including 2 male congenital imbeciles who had not hitherto been certified.

The mean age on admission of the receptions was 42·3 years (men 42·4, women 42·2), the youngest being a boy of 16, and the oldest a woman of 77. Fully one-half were in the middle period of life, one-third below 30 years, and one-sixth above 60. Sixty-four were single, 35 married, and 9 widowed.

Causes of insanity in the receptions.—In co-operation with the usual antecedent condition of inherited or acquired nervous instability, the various exciting factors which, singly or in combination in individual cases, apparently induced the mental attacks of the receptions, were mainly as follows:—Worry, anxiety, affliction, shock, and allied emotional stresses, 38 per cent, this type of cause being nearly twice as frequent among the women as among the men, and being attributed to direct or indirect effects of the war (*e.g.*, anxiety about and grief at loss of relatives, shock from air raids, &c.) in 11 per cent of the cases; the onset of the epochal crises of adolescence, 24 per cent, of the change of life (in both sexes), 17 per cent, and of old age, 8 per cent; physical debility and illnesses, 20 per cent; influenza, 9 per cent; overwork, 8 per cent; alcoholic excess, 6 per cent (men 12·7, women 1·6); previous syphilis, 4 per cent (men 6·3, women 1·6); cerebral apoplexy, epilepsy, and head injury, each in 3 per cent; and among the women, the conditions of childbirth and lactation, 8 per cent. Comparing the 1918 percentages for the above "exciting causes" with those for each of the years of the war, and of the years immediately preceding its onset, one notices some points of interest:—

(1) A distinct increase in the proportion of cases attributed to such factors as emotional stress (worry, anxiety, grief, &c.), overwork, and bodily ill-health, factors which may probably be correlated, and largely attributed to the prolonged stress of the war, which, while it braced up the nation as a whole, has indirectly claimed its toll of victims from the more unstable elements among the civil population. The official statistics point to a decrease of insanity in the country during the war;

but it would not be wise to attach to these their usual significance under the present unusual conditions, with so many extraneous agencies in operation for the treatment of mental and nervous invalids, *e.g.*, war hospitals for mentally disabled soldiers and sailors, hospitals and homes for neurasthenics, and the like. The full effects of the stress of the war on the mental resistance of the nation will probably not be seen until later on, when the tension is fully relieved and reaction sets in.

(2) A progressive decrease in the proportion of alcoholic cases, also an indirect effect of the war, with its special legislation of stringent character, restricting the facilities for the obtaining of liquor by the public, and curtailing its production in and importation into the country. Wholesome as these measures have been from the point of view of national sobriety and safety, even they have failed to reach the residue of national offenders, the minority who abuse a privilege enjoyed by the majority. The proper treatment is to punish the minority, not to penalise the majority who are entitled to enjoy in moderation a luxury which they can afford and find pleasant and beneficial, but which, if indulged in to excess, ceases to give pleasure and benefit and begins to do harm, as may be said likewise of any other luxury, and indeed also of the essentials for the preservation of health and life itself, *e.g.*, food, work, exercise, &c. Alcoholic excess is a vice, and drunkenness an offence, which we in this country tolerate too complacently. The "funny man" on the stage or in *Punch*, which fairly reflects the national taste in matters pertaining to the social code, is frequently the toper, and we laugh or smile when we ought to frown. To expunge the alcoholic from our midst, it should become part of our code to regard the toper as no longer a legitimate source of amusement, to look upon alcoholic excess short of drunkenness as "bad form," and to regard actual drunkenness as a serious offence, to be punished accordingly. The policy of total prohibition, apart from its injustice to the majority, overlooks the cardinal fact that "to err is human," and by effectually extinguishing the alcoholic will probably precipitate the development of other social evils which are worse. The recent apparent increase of drug habits (*e.g.*, cocaine, morphia, opium, veronal, &c.), and of sexual immorality,

and their dangers, would seem to confirm this view, and should serve as a warning to the extremists among our social reformers and legislators.

(3) A sudden increase (0 per cent in 1914 and 1915, 3 per cent in 1916 and 1917, 9 per cent in 1918) in the proportion of influenza cases, the majority of which were admitted during the later and serious phase of the great epidemic in autumn, following the earlier phase in summer. In these cases the mental attacks took the form of pronounced confusion or actual delirium, often with a marked restlessness, excitement, and insomnia, mental depression not being a characteristic feature as in former epidemics.

The forms of mental disorder among the 108 receptions, with the number of cases of each, were as follows:—Confusional and delirious insanity (33), melancholia (30), mania (15), delusional insanity (13), dementia (5), general paralytic insanity (4—3 men and 1 woman), epileptic insanity (3), insanity following cerebral apoplexy (2), congenital insanity (2), and hysterical insanity (1).

At the time of admission 81 had been ill mentally for less than half a year, 16 from one-half to two years, and 11 for longer periods; and 38 were in fair, 47 in poor, and 31 in weak bodily condition.

Deaths.—One hundred and five certificated patients and 7 voluntary boarders died during the year. Based on the average daily numbers, the death-rate of the certificated was 11·9 per cent and of the voluntary 7·1 per cent, as compared with the average mortality during the previous ten years of 7·8 per cent for the certificated, and 6·2 per cent for the voluntaries. The considerable increase in the rate of mortality among the certificated population was mainly attributable to the second visitation in late autumn of the influenza epidemic, which claimed 20 victims. The forms of mental illness of those who died were chiefly, and in order of frequency, dementia, congenital insanity, delusional insanity, confusional and delirious insanity, general paralytic insanity, mania, and melancholia.

Treatment and nursing arrangements.—The sanatorium and other approved methods of treatment were continued as formerly, subject to such modifications as were rendered necessary owing to war conditions. The depletion of the staff

of nurses and attendants during the war, referred to in previous Reports, continued steadily throughout the year, owing to the the same causes as formerly, namely, in the case of the women, the more attractive remuneration and condition of munition-making and other forms of "war work," and for those who had gained the mental nursing certificate, the more highly paid and more responsible work of private mental nursing; and in the case of the men, following the great and final German offensive in the spring, and the consequent raising of the age for military service to the 51st year (and 56th year for doctors), a more stringent combing out of the staff by the Government authorities. The shortage of the staff of attendants became so acute in spring that an appeal had to be made to the General Board of Control, through whose good offices 10 orderlies from the Royal Army Medical Corps were detached for duty as temporary attendants, of whom 4 still remain in the service. At the end of the year the shortage of attendants amounted to 25 per cent, and of nurses to 29 per cent.

We have not hesitated to make lengthy extracts from Dr. Easterbrook's report, as they show in no uncertain fashion the care which has been taken in preparing it. Further, the facts therein marshalled are full of interest, dealing as they do with a branch of medicine of very great national importance.

REVIEWS.

Manual of Bacteriology. By Robert Muir, M.A., M.D., and James Ritchie, M.A., M.D. Seventh Edition. With 200 Illustrations in the Text and 6 Coloured Plates. London: Henry Frowde and Hodder & Stoughton. 1919. (16s. net.)

So many books have been inspired by the war that it is refreshing to turn to one of pre-war origin. But when we read the preface to the new edition of *Muir* and *Ritchie*, we find that it has not escaped the influence of the times. And this is only natural when we consider that in the present war, more than in any previous one, the Medical Department has had its opinions listened to and acted upon, and its work brought into more prominence.

Even the "Man in the Street" knows how closely bacteriology is interwoven with the health of armies in the field, and it does not therefore surprise us to find that the authors of the *Manual of Bacteriology* refer to the "impetus given to bacteriological research by the urgent requirements of practical medicine and surgery in the war." This shows itself in the *Manual* in the sections on tetanus and wound infections, intestinal infections, &c., to which sections appropriate additions have been made.

As regards Tetanus, attention is drawn to the modification of the clinical type in the wounded who have had prophylactic injection of anti-tetanus serum. This is seen in the late onset, precipated or excited by operation for removal of foreign bodies from the tissue. Another clinical feature, to which the authors draw attention, is the local hardness and stiffness, with pain, and exaggeration of local reflexes. Mention is also made of the official recommendations of the War Office Committee regarding the therapeutic use of antitoxin; and, later, the success of *prophylaxis* having been established during the

present war is referred to. By the means of prophylactic injections, the incidence of 16 per thousand, during the early months, has been reduced to 2 per thousand. The official recommendation of prophylactic injection previous to late operations is also noted.

Gas-gangrene next comes in for a share of attention, and the descriptions, by McNee and Shaw Dunn, of the various stages of the process are given in some detail.

Turning to Intestinal Infections, we find bacillary dysentery is treated of at some length, and the methods to be employed in the differentiation of strains are carefully gone into. The subject of Amœbic Dysentery is dealt with in an appendix, in which the entamœba coli and histolytica are described, and directions given for the examination of the fæces. This subject is one in which great interest has been taken by clinicians as well as bacteriologists. The term "dysentery" has been applied, as the authors remind us, "to a number of conditions of different etiology," and it was found important in practice to determine the etiology with a view to exhibiting appropriate treatment. It was no uncommon experience on the Egyptian front for a dysenteric patient to present the characters of bacillary dysentery, and, after a course of treatment appropriate to this form, to develop the characters of the amœbic form, confirmed in both cases by the bacteriologist. The determination of such double infection became of great importance, and laboratory findings roused a widespread interest in the medical departments of the Force.

Another microbic disease which assumed some importance in the Expeditionary Forces was Cerebro-spinal Fever. Our authors give a careful account of the causative micro-organism, the d. intracellularis of Weichselbaum. After mentioning its usual habitat, the naso-pharynx, they refer to the routine examination, during the war, of contacts in order to determine the question of "carriers." It has been found that, while carriers exist among non-contacts, the proportion is greater among contacts, and this is important in view of the evidence that such carriers may disseminate the infection.

As regards Infective Jaundice, reference is made to infected rats in the trenches. Soil and various articles become contaminated by the spirochætes which are passed in large numbers

in the urine of these animals, a fact which is of importance with regard to the epidemiology of the disease.

An appendix is devoted to the subject of Trench Fever, which has been "recognised as a distinct disease only during the present war," and as being louse-borne. It has been widely prevalent, and has given rise to a serious amount of temporary disablement in the armies. The tendency in some cases to late myalgia and rheumatic pains, cardiac irregularity, and slight febrile attacks is mentioned, and the occurrence of chronic disablement is also referred to.

The investigations of McNee and Renshaw show that the red blood corpuscles are infected, while the researches of British and American Committees have determined that the infection is carried by lice. The lice do not become infective, however, before the lapse of several days after biting an infected patient.

Such extracts as we have made above will give an idea of the way in which the authors have brought up to date the present edition of their well-known *Manual*. The work needs no word of commendation from us: it is sufficient merely to draw attention to the more prominent features of this new edition. At the same time, we cannot close this notice without expressing our thanks to the authors for once more placing in our hands an authoritative and reliable account of Bacteriology, both in its laboratory and its clinical aspects.

The Anatomy of the Peripheral Nerves. By A. Melville Paterson, M.D., F.R.C.S., Lieutenant-Colonel, R.A.M.C. London: Henry Frowde and Hodder & Stoughton. 1919. (12s. 6d. net.)

The necessity of a detailed knowledge of the peripheral nerves is now so fully recognised that we are not surprised at the appearance on the scene of the volume now before us.

The author, who is Professor of Anatomy in the University of Liverpool, holds the post of Assistant Inspector of Special Military Surgical Hospitals, and he must from his official connection with the Medical Department of the War Office

have had impressed upon him the need for some such work as the present. The necessity of possessing such a knowledge of the peripheral nerves is no new thing for civil hospital surgeons; but at the present day, and for a long time to come, the attention of a large proportion of the profession will be focussed on lesions of these nerves. Special study will be required, and to meet this a volume of convenient size is a desideratum.

We have read Colonel Paterson's book carefully, and studied both the text and the illustrations, separately and together. In reading the text continuously we have been struck with the repetitions which occur. These are no doubt intended to fix certain points in the reader's memory; but they sometimes tend to produce a feeling of irritation. There is no doubt, however, that this occurrence of repetitions will be of use to those who may wish to use the book for reference, as it will obviate the necessity of their turning back to earlier pages.

There is a good deal of morphology introduced into the matter; but this is, we think, an advantage, and it makes the text so much the more interesting. The development and arrangements of the limb-buds are an example of how the author unfolds his theme. The simple plan of dorsal trunks to the dorsal and of ventral to the ventral aspect of the limbs is unfolded, and the alteration of position by torsion, which tends to obscure the arrangement of the nerves, is carefully explained. No one can study this part of the work without gaining an insight into the general plan of nerve-distribution. Such an insight will help him to memorise details of individual nerves.

Another point to which we would draw attention is the care with which the author gives the roots the origin of each nerve, and this is one of the features which will make the book valuable as a work of reference.

The author's style is hardly an easy one: this is particularly the case in the opening paragraphs of the section on the sympathetic system. But Anatomy is hardly a subject which "reads like a novel," and, after all, it is the *matter* which counts.

The text is illustrated by an abundance of figures. While most of these are good, the diagrammatic representations of the

courses of the different nerves in the limbs appeal to us as specially likely to be helpful. Those showing areas of cutaneous supply are also worthy of remark.

There is what looks like a curious slip on p. 34. In referring to the distribution of the nerves arising from the anterior trunks of the brachial plexus, the author states that it is, "with one exception (dorsal branch of the ulnar to the hand), to the anterior aspect of the limb." This exception is again specifically alluded to on p. 40, and would not seem to take into account the *posterior* cutaneous branches of the musculo-cutaneous and internal cutaneous nerves. The same criticism applies to the cutaneous digital branches of the median nerve (p. 44).

We do not, however, consider the above as serious defects. On the contrary, we consider the work an excellent exposition of the subject, a book written with care and with thought, and one which we can heartily recommend.

Author and publishers alike deserve our thanks, and we have little doubt that the volume will meet with the hearty appreciation which it deserves.

Transactions of the American Surgical Association. Vol. XXXIV. Edited by JOHN F. BINNIE, M.D. Philadelphia: W. J. Dornan. 1916.

THIS volume contains the papers read before the Association in May, 1916.

The address of the President (Dr. R. G. Le Conte, of Philadelphia) is a departure from the usual run. It is entitled "Preparedness," which Dr. Le Conte defines as, "To increase the efficiency of the military establishment of the United States." With this as his theme, he advocates universal military training after the model of Switzerland and Australia. Trained officers must be provided in times of peace, if the United States are to avoid a repetition of the breakdown of the Medical Department such as was experienced in the Civil and the Spanish Wars. From our experiences in the present war, we can unreservedly endorse Dr. Le Conte's opinions on this point. His reply to

pacifists is, "For many years Lord Roberts advocated universal military training in England. His opponents were always asking, 'Whom are you getting ready to fight?' He could not tell them, but they have their answer now."

Passing on to the professional papers, we would mention a certain number dealing with war surgery. Dr. Fauntleroy, in a paper on the surgical lessons of the war, gives prominence to the early and more or less continued use of a potent and practical antiseptic, to abort if possible the infective process. The antiseptic to which he gives first place is Dakin's fluid. He considers that the small first-aid packet has been of little or no value in the primary treatment of the serious wounds of the present trench warfare. He points out that total excision is applicable only to comparatively small wounds. The most obvious surgical lesson is the prophylactic use of antitetanic serum; the use of anti-streptococcic serum has also given encouraging results. He also lays stress on the value of a dental department in every base hospital, and of a base splint factory.

J. H. Flint writes on localisation and extraction of foreign bodies (projectiles), and figures an ingenious localiser. R. B. Greenough contributes a well-illustrated paper on the treatment of septic gunshot fractures. J. C. Bloodgood writes on gas-bacillus infection, and K. Taylor on gas gangrene. C. L. Gibson has a paper on the treatment of tetanus. Of the remaining papers, we would draw attention to that, by Halsted, on the cause of dilatation of subclavian in some cases of cervical rib. This writer suggests the abnormal play of the blood in the relatively "dead" pocket distal to the rib, and the absence of normal pulse pressure in the same portion of the vessel, as factors in the etiology.

F. H. Backman's paper on trifacial neuralgia would seem to point to excision of ganglia as the only sure method of relief, and the author believes it to be "the operation of choice for a person in reasonably good physical condition."

Coley and Hoguet contribute a long paper on melanotic cancer, with records of 90 cases; and F. J. Cotton furnishes an interesting account of the disability following fracture of calcaneum, and describes his method of rectifying the deformity and securing satisfactory functional results.

The transplantation of free flaps of fat is the subject of a paper by Kanavel; and Lewis and Kirk contribute an experimental study on regeneration of peripheral nerves.

Altogether the volume is one of the most interesting which the Association has published.

Surgery at a Casualty Clearing Station. By CUTHBERT WALLACE, C.M.G., F.R.C.S., and JOHN FRASER, M.C., F.R.C.S.E. Black's Medical Series. London: A. & C. Black, Limited. 1918. (10s. 6d. net.)

THE casualty clearing station was recognised early in the war as perhaps the most important surgical unit. It was there that the first opportunities presented themselves of performing thorough surgical operations, and to meet the demand these clearing stations were made more efficient and elaborate. The call for operation at the earliest possible moment, and the admirable results obtained, very soon justified the establishment of fully equipped stations with highly trained and specialised surgical and nursing staff. Those who have been reading the journals and receiving the memoranda of the War Office and the pamphlets of the Medical Research Committee are well informed of the various changes in method, and the advancing and abandoning of theories, so that to them there is not much in this volume which is new. But it is extremely satisfactory to have the whole matter of surgery at a casualty clearing station gathered into such a very readable book, and those not acquainted with the work of a casualty clearing station will find the story a very interesting one. While primarily intended for military work, the knowledge of the various procedures of war surgery are not likely to come amiss to the civilian surgeon, different in many respects as his work is.

The chapter on surgical shock is one of the most interesting in the book. Many workers are contributing to the elucidation of the actual conditions and states of the organism in shock, and it appears as if we have not yet reached to a knowledge of what shock really is. "Acapnia" and "acidosis" have been discarded; "oligaemia" and "abdominal venous accumulation"

no longer fit with experience; and probably "capillary concentration and stasis with lowered pressure in the vessels," though acknowledged as a fact, will not suffice as the whole explanation of the condition.

In treatment of war wounds excision with primary suture is the ideal method. But it takes time and great care. In the rush of wounded after a battle, it is not possible even with the best organised team and grouping arrangements to deal with every wound by this method, and something less than the ideal has to be done. It is well known that much success has attended the methods of Rutherford-Morrison and Carrel, and other plans adopted in the evolution of war wound treatment.

This is a very practical book. The authors have described only these procedures tried by experience and found to be best. Happily the need is now past, but the record of work is important. We are sure that surgeons who have worked in casualty clearing stations, undoubtedly the best of all war units for the surgeon, will thoroughly enjoy reading this book. Even men who do not know what a casualty clearing station is will learn many things from it, and comprehend more highly and sympathetically than ever the labours and difficulties of those close up to the firing line.

Syphilis, Paludisme, Amibiase. Traitement Initial et Cure de Blanchiment. Par PAUL RAVAUT. Collection Horizon: Prècis de Médecine et de Chirurgie de Guerre. Paris: Masson et Cie. 1918. (4 fr.)

M. RAVAUT is an enthusiast, a hard worker, and a clear writer. His experience of the protozooal diseases is vast. He has noted the success of arsenic in all of the three diseases of which his book treats; and his specialty has been the perfecting of treatment of these maladies by a combination of arsenic compounds and the older remedies—mercury with arsenical bodies for syphilis; emetine with arsenic compounds for amœbic dysentery; and quinine with arsenic again for malaria.

In syphilis he starts with an injection of a soluble mercurial salt during four days, this part of the treatment aiming at

attenuating the virulence of the parasite, and at diminishing the intensity of the reaction brought about by the first injection of an arsenic compound. Then follow 8 intravenous injections of novarsenobenzol in increasing doses, one per week. On each day of the six intervening days in each week an injection of a soluble mercury salt is given.

At the end of two months the patient has thus had 8 injections (intravenous) of arsenic bodies and 46 of mercurial agents. He can very soon thereafter resume duty. But treatment must go on. With the French soldier this takes the form of pills of protoiodide at regular and increasing intervals for fully five years after the beginning of this system of cure.

In regard to paludism, M. Revaut is quite clear that arsenic's chief action is on the general nutrition, and not specific as quinine is, or as are the arsenic compounds in syphilis; but he also believes the combined employment of quinine and arsenic in malaria results in a mutual heightening of therapeutic activity. For a prolonged treatment he considers that hypodermic or intravenous injection of quinine is not practicable. His conclusion, however, that it matters little whether the quinine is taken by mouth or by injection is one that will be doubted by many, in view of the remarkable observations by the British surgeons, Hughes and Bankes, on the reaction of wounds in malarious subjects to these two ways of introducing the drug. Hughes and Bankes saw the results on the living tissues laid bare, a thing a physician does not ordinarily do; and everything they saw there in these cases pointed plainly to the superior efficacy of the injection method.

In amœbic dysentery Ravaut practises an alternation of injections of emetine and an arsenic compound. In forty days the patient has had 10 intravenous injections of novarsenobenzol and 18 of emetine. There is usually from the very first day of treatment remarkable relief and amelioration of all the symptoms under this system. Every two or three months after this initial dosage further "cures" are taken at increasing intervals, and with reduced amounts of the drugs—by the mouth in most cases. In chronic forms, and in the treatment of cysts, the oral method is to be preferred.

Ravaut is a master of his subject, and writes convincingly. His thoroughness is quite as good as the Prussian variety of that

virtue: and his clarity of expression is markedly fine even for a Frenchman. The book is not too big, and can be comfortably read in two or three hours. Many ten times its size contain much less wisdom.

The Early Treatment of War Wounds. By H. M. W. Gray, C.B., C.M.G., M.B.Aberd. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1919. (10s. net.)

Mr. H. M. W. Gray is well known to all students of military surgery for his energetic and enthusiastic advocacy of advanced methods in the treatment of wounds of war. He has made a considerable number of contributions to the literature of war surgery which have generally commanded serious attention. The present volume gathers together his final and tolerably definite opinions on the early treatment of war wounds. There are few things more interesting than the development of the treatment of this class of wounds from the first disastrous adherence to the methods of civilian surgery to the latest meticulous care in excision *en masse* with the most scrupulous asepsis and gentleness, and primary suture, of which method Mr. Gray was the first exponent in the British Army. The whole story is very ably set forth in this volume. In reading it surgeons whose work did not take them to the seat of war will appreciate with sympathy the difficulties besetting the front line management of the wounded.

Shock inevitably bulks largely in the mind of the front line or C.C.S. worker. It is the great "unsolved riddle of military surgery." We are no nearer to a knowledge of what it essentially is, but we do know most of its signs and symptoms, and a more or less satisfactory treatment has been worked out. The results following the adoption of the "shock team" system were admirable.

We do not find ourselves in agreement with the author when he suggests that Willem's method of treatment of suppurating knee joints by active movement is followed by "impressive and favourable results." This method was tried in two armies known to the writer with disastrous consequences.

Nor can we follow him in his opinion that in the great majority of cases of proposed secondary suture "bacterial counts are unnecessary, and unless carried out with the greatest care and skill are unreliable." In our experience the count always justified itself, and the care and skill called for were soon acquired.

The detailed chapters on wounds of the thorax, brain, and articulations are rather disjointed; but give a full statement of latest conclusions and methods.

The book is a worthy record of a great and meritorious military service, and will be enjoyed by all who have come through front line experiences, and be educative to all who have not.

Practical Organic and Bio-Chemistry. By R. H. A. Plimmer. New and Revised Edition. London: Longmans, Green & Co. 1918. (18s. net.)

The present edition does not differ materially from the previous one, and the book remains a reliable and exhaustive guide to the theory and practice of organic and biological chemistry. It is admirably suited to the requirements both of the student and the research investigator. The plan of the book is such as to lead the reader through the subject from the simple to the complex, commencing with the elements of organic chemistry, and ending with the more intricate biological products.

Apparatus and methods are well described and attention paid to the principles underlying them. Errors are few, but on page 2 it is stated that on heating oxalic acid no appreciable change occurs! The student will soon discover the error if he tries this simple experiment. Again, a few pages further on, the remarks on the boiling point of liquids might be clarified by a reference to the effect of changing pressures. Such oversights as these are, however, rare; and typographical errors are remarkably few.

The most recent methods introduced for the clinical laboratory estimation of nitrogen, urea, uric acid, ammonia, creatine and creatinine, amino-acids, and sugar are fully described. Illustrations are good and sufficient in number, and there is a

coloured plate illustrating the absorption spectra of a number of substances; also a list giving the composition of normal and standard solutions and indicators.

On page 47 it is stated that starch is insoluble in cold water, but no mention is made of the fact that one of the common starches *is* soluble in cold water.

Due attention is given to the analysis of pathological fluids, both qualitative and quantitative, and an ample index insures the usefulness of the book as a work of reference. It should have a place on the shelves of the clinical pathologist as well as the biological chemist.

A Manual of Physiology. By G. N. Stewart, M.A., D.Sc., M.D., D.P.H. Eighth Edition. London: Baillière, Tindall & Cox. 1918. (21s. net.)

This, the eighth edition of Stewart's well known *Manual*, not only maintains but improves on the high standard of excellence of the previous editions. A most important aud useful addition has been made—a bibliography has been inserted as an appendix. As most of the references given are to more or less recent papers in British and American journals, the senior student should be enabled to get some insight into the original work on which the *Manual* is based. In the opinion of the writer too little attention has been devoted in this country to this aspect of tuition, particularly in the case of advanced students.

Professor Stewart still adheres to his original plan of incorporating practical exercises at the end of each related chapter. Since he does so, and as the majority of students will become ordinary practitioners of medicine, it is a pity that more practical exercises linking up physiology more specifically with actual clinical medicine are not given.

Books, Pamphlets, &c., Received.

Nerve Injuries and their Treatment, by Sir James Purves Stewart, K.C.M.G., C.B., M.D., and Arthur Evans, M.S., M.D.Lond., F.R.C.S. Second edition, revised and enlarged. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1919. (12s. 6d. net.)

Practical Obstetrics, by E. Hastings Tweedy, F.R.C.P.I., and G. T. Wrench, M.D. Fourth edition. London: Henry Frowde and Hodder & Stoughton. 1919. (21s. net.)

Deux Cents Consultations Médicales pour les Maladies des Enfants, par Dr. Jules Comby. Fifth edition. Paris: Masson et Cie. 1919. (5 fr.)

Traité De Physiologie, par J.-P. Morat et Maurice Doyan. Fonctions de Relation, par J.-P. Morat; Fonctions de Reproduction, par M. Doyan. 221 figures noires et en couleurs. Paris: Masson et Cie. 1918. (25 f.)

Pensions and the Principles of their Evaluation, by Llewellyn J. Llewellyn, M.B., and A. Bassett Jones, M.B. With a Section on Pensions in Relation to the Eye, by W. M. Beaumont. London: William Heinemann. 1919. (30s. net.)

Elements of Field Hygiene and Sanitation, by Joseph H. Ford, B.S., A.M., M.D. Approved for Publication by the Surgeon-General U.S. Army. With 152 illustrations. London: William Heinemann, Limited. 1918.

The War Work of the Y.M.C.A. in Egypt, by James W. Barrett, K.B.E., C.B., C.M.G., M.D., M.S., F.R.C.S. London: H. K. Lewis & Co., Limited. 1919. (10s. 6d. net.)

Chronic Traumatic Osteomyelitis: Its Pathology and Treatment, by J. Renfrew White, M.B.(N.Z.), F.R.C.S. With 24 plates and 13 diagrams. London: H. K. Lewis & Co., Limited. 1919. (12s. 6d. net.)

Catalogue of Lewis's Medical and Scientific Circulating Library, including a Classified Index of Subjects. With the names of those Authors who have treated upon them. New edition, revised to the end of 1917. London: H. K. Lewis & Co., Limited. 1918. (12s. 6d. net.); to subscribers, (6s. net.)

Irish Ethno-Botany and the Evolution of Medicine in Ireland, by Michael F. Moloney, B.A.Hon., R.U.I., M.B., Ch.B., N.U.I., L.A.H.Dublin. Dublin: M. H. Gill & Son, Limited. 1919. (4s. 6d. net.)

Prothèse Fonctionnelle des Blessés de Guerre: Troubles Physiologiques et Appareillage, par le Dr. Ducroquet. Préface du Pr. Aug. Broca. Avec 218 figures. Paris: Masson et Cie. 1919. (5 fr.)

Précis de Dermatologie, par J. Darier. Deuxième Edition Revue et Augmentée. Avec 195 figures dans le texte. Paris: Masson et Cie. 1918. (18 fr.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FIVE WEEKS ENDED 26TH APRIL, 1919.

	Week ending				
	Mar. 29.	April 5.	April 12.	April 19.	April 26.
Mean temperature,	33·8°	40·7°	46·5°	46·2°	45·5°
Amount of rainfall, ins.	0·47	0·04	0·60	0·48	0·32
Deaths (corrected),	489	419	415	346	355
Death-rates,	22·8	19·5	19·3	16·1	16·5
Zymotic death-rates,	2·4	2·6	3·3	2·4	2·7
Pulmonary death-rates,	3·8	2·9	2·3	2·1	1·9
DEATHS—					
Under 1 year,	85	71	63	59	57
60 years and upwards,	124	95	104	84	84
DEATHS FROM—					
Small-pox	...	...	...	...	...
Measles,	8	9	18	14	24
Scarlet fever,	2	...	..	1	1
Diphtheria,	4	5	3	1	2
Whooping-cough,	31	35	45	33	24
Enteric fever,	...	...	...	...	...
Cerebro-spinal fever,	1	1	...	1	...
Diarrhœa (under 2 years of age),	7	6	4	2	7
Bronchitis, pneumonia, and pleurisy,	166	125	108	90	81
CASES REPORTED—					
Small-pox,	...	...	...	...	...
Cerebro-spinal meningitis,	2	1	2	3	...
Diphtheria and membranous croup,	34	25	26	21	22
Erysipelas,	14	11	14	9	11
Scarlet fever,	25	32	37	33	29
Typhus fever,	1	...	...	...	...
Enteric fever,	...	...	...	...	...
Phthisis,	55	40	45	43	37
Puerperal fever,	1	2	2	4	5
Measles,*	275	327	599	332	208
Ophthalmia neonatorum,	11	12	10	7	5

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, *6th May*, 1919.

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ORIGINAL ARTICLES.

AN INVESTIGATION INTO THE PHENOMENA OF "SERUM DISEASE": THE RELATION BETWEEN ITS VARIOUS FORMS AND THE PROTEINS OF HORSE-SERUM.

BY WILLIAM TENNENT GAIRDNER DAVIDSON, M.D., D.P.H.

INTRODUCTION.

THE observations which form the basis of this work were made in the City of Glasgow Fever Hospital, Ruchill.

Although, hitherto, considerable attention has been given to the various problems of anaphylaxis, our knowledge with regard to it and to the allied subject of "serum disease" is still far from complete. This latter condition is now well recognised, and the fact that the proteins of horse-serum play a large part in its production is well established, but, as yet, there has been no attempt to show the relation between the disease and the serum proteins in a more specific way. In this work a detailed investigation was carried out, the special objects of which were:—

1. To show that there are distinct varieties of "serum disease."

2. To show that the proteins of normal or antitoxic horse-serum are distinct from each other in their characters and anaphylactic reactions.

3. To attempt to correlate specifically the various forms of "serum disease" with the various proteins of horse-serum.

At the same time an endeavour was made to obtain a clearer view of the various phenomena manifested in "serum disease" by clinical and statistical methods, in the hope that the information that was obtained would prove of some material value. Incidentally, some points of interest not directly bearing on the special object are also set forth.

The cases on which the observations were made were those of diphtheria admitted into the Hospital between March, 1911, and June, 1917, a great many of which were under the writer's care. The total number in which serum was administered was 4,381.

I. *The toxic effects in man of injections of antitoxic or normal horse-serum* ("*serum disease.*")—Ordinarily, with the exception of a little local irritation, the injection of antitoxin is not followed by any immediate local changes.

It was early noted, however (Lublinski,[1] 1894) that injections of antitoxin were sometimes followed after a few days by a peculiar train of symptoms, which are now spoken of as the phenomena of "serum disease," a condition which is recognised as allied to "anaphylaxis." The symptoms principally noted were rashes, pains in the joints, and fever. Scholz, in the same year, noted four cases. Since then the disease has become well recognised, and was of fairly common occurrence in diphtheria wards until the introduction of an anti-diphtheritic serum of high potency, since when the appearance of serum disease, so frequent in the early days of antitoxic treatment, has diminished almost to vanishing point.[2] The concentration of the serum would appear to have brought this about, as resort to the use of unconcentrated serum in the course of this investigation was followed immediately by the more frequent appearance of "serum disease" than had been experienced with the use of concentrated serum. In this connection Heinemann[3] (1916) states that the refinement and concentration of serum eliminates in large measure the non-antitoxic proteins of the serum.

As serum treatment was extended to other diseases, such as tetanus, streptococcal infection, &c., it was found that "serum disease" was not due to the antitoxic or antimicrobic principle in the serum, but to the serum itself.

Heubner and Bokay, as early as 1895, expressed the view that the phenomena were due to other constituents of the serum than the antitoxin, viz., to the proteid non-antitoxic portion of the serum, and this was subsequently confirmed experimentally by Johanessen[4] (1895), who found that the same phenomena were produced with normal horse-serum. Hartung[5] (1896) collected statistics on the frequency of serum rashes, and found that they occurred in from 8 to 11 per cent of the cases.

Although our knowledge of serum disease is almost entirely derived from the use of horse-serum, it is known[6] that the serum of other animals will give rise more or less markedly to the same effects.

The manifestations of "serum disease" in man, according to Von Pirquet and Schick[7] (1905), may be:—

1. The development of an eruption (serum rash) which is usually the first and most obvious indication of the disease, and spreads from the site of injection over the rest of the body or appears simultaneously in symmetrical places.

2. A rise of temperature, showing that the rest of the body is taking part in the reaction.

3. Synchronously with a rise of temperature, an increase in the pulse-rate, its quality, however, remaining good.

4. Joint pains, which are regarded as one of the most prominent symptoms. They bear some resemblance to an attack of rheumatic fever.

5. Enlargement of lymphatic glands in various parts of the body.

6. Œdema of the loose tissues, generally of a slight nature and demonstrated by its being visible or by increase in the body weight.

7. Rare mucous membrane symptoms and blood changes, *e.g.*, diffuse bronchitis and leucopenia.

II. *The various types of serum rash.*—The serum rash is recognised as one of the principal features of "serum disease" or antitoxic sequelæ.

The rashes are of various kinds, and were divided by Hartung[5] (1896) into four main types:—

1. Urticarial.
2. Morbilliform.
3. Polymorphous or circinate.
4. Scarlatina-like rashes—(*a*) diffuse erythematous; (*b*) scarlatiniform.

The claims of the first three to be ranked as distinct types seem to be well established by all observers.

The establishment of the scarlatina-like rash as a distinct type does not, however, meet with general approval. With the majority of observers its occurrence at all is rare. Leiner[8] (1902) states that it is contagious and believes it to be true scarlatina, and others that it is frequently limited to the site of injection.

The group of cases recorded as having developed this type of rash is specially dealt with in the Appendix to Part I in connection with reported cases, but, as regards the special object of this work, this type is left out of consideration altogether, because, on investigation, considerable doubt was thrown on the supposition that rashes of this type were caused by serum at all, the facts elicited pointing rather to their being cases of exanthemata.

There are therefore three types of rash—urticarial, morbilliform, and circinate—which are universally accepted by all observers as being, without doubt, due to the injection of antitoxic or normal horse-serum, and it is these three types with which this investigation deals.

Part I.—To Show that there are Distinct Varieties of "Serum Disease."

I. *Clinical differences between the various types of serum rash.*—The urticarial rash is an eruption which appears suddenly in the form of red blotches on the skin, irregular in shape, and scattered more or less over the body surface, the region round about the site of injection being usually affected first. Not infrequently this local rash is the only symptom so far as the skin is concerned. Later, in the majority of cases, wheals develop in the centre of the reddened areas. In a few cases the

wheal formation is not distinctly seen, but the resemblance to urticaria in appearance and distribution still remains. The eruption frequently disappears with equal rapidity leaving behind no trace of its existence, save perhaps a slight and transitory hyperæmia over the affected areas. The wheals vary in size, and are most commonly small and about the size of a coffee bean. Occasionally, however, they are larger, cover a considerable portion of skin and have elevated flat surfaces. In colour they are pink or white, and are surrounded by an hyperæmic areole. They may be discrete and few, or numerous and confluent and coalescent. They are firm and semi-solid to the touch. In contour they are roundish or oval-shaped, but a variety of outlines may be found. Individual lesions change their appearance frequently, and successive crops of wheals may continue to appear for two or three days. Occasionally, however, there may be only a few blotches which disappear within twelve hours. There may be some œdema in the vicinity of the wheals, especially where the skin is delicate and thin.

The subjective symptoms are due to the intense itching and irritation, and vary according to the susceptibility of the patient, neurotic patients especially suffering great distress. All kinds of sensations are experienced—stinging, burning, pricking. Scratching to obtain relief is, therefore, common, but this serves not only to further develop the eruption but also to injure the skin.

The second type, the morbilliform rash, as its name implies, resembles measles, so much so sometimes as to cause trouble in diagnosis. The eruption consists of fairly well-defined macules, smaller in size than those of measles, and varying in colour from red to reddish-yellow, the deeper tints of red, seen in measles, being absent here. The eruption, also, is not raised so much above the skin as in measles, and frequently begins round about the site of injection and not on the face, but spreads to the face later. It does not last so long as the eruption of measles, and occurs most frequently on the extensor surfaces of the extremities, though the trunk may be involved also. The conjunctivæ may be injected and the eyelids puffy, and, if the eruption is present on the face, trunk, and limbs, the patient presents an appearance which resembles measles very strikingly. There is usually, however, no catarrh, and Koplik's spots are not present.

Individual lesions may be discrete or confluent, but the crescentic character of the eruption as noticed in measles does not occur.

Subjectively there may be some slight irritation of the skin surface, but nothing in comparison with the distressing irritation of the urticarial eruption; the constitutional disturbance, however, as will be shown later, is much greater in this type than in the urticarial.

The polymorphous or multiform erythema, at first amorphous in arrangement, tends to become circinate and form gyrate patterns. The lesions consist of erythematous maculæ, and are distributed over the body frequently in patches, different appearances being seen in different places. It is most commonly found over the knees, elbows, inner sides of thighs and over the back, spreading subsequently to the face and arms. The lesions are more or less flat. The macule consists of a central depressed area, where the colour is pale, and a peripheral extension of the erythema in the form of a ring. The colour of the ring, which is dark red or purple, varies in shade in different parts of the body. There may be some extravasation of blood into the skin producing, as the rash fades, a variety of colours.

Subjectively the rash causes a smarting sensation which is insignificant compared to that of the urticarial eruption.

Summary.—Leaving out of account for the present the scarlatiniform, or diffuse erythematous rash, it will be noticed that there are three types of serum rash—urticarial, morbilliform, and circinate—and these are seen to be essentially different in their clinical appearances from each other. Although, sometimes, there may be a little difficulty and confusion one with the other where the rash is not well marked, in the great majority of cases the clinical features of each are quite distinct and separate. The latter two, viz., the morbilliform and circinate, are more apt to be difficult to distinguish from each other than from the urticarial. Confusion appears to have been caused by mixed appearances of the rash in certain cases. This may be due, as will be shown later, to the possibility of two separate rashes being present at the same time.

II. *Statistical differences.*—The total number of cases dealt

with are the cases admitted, certified as diphtheria, between March, 1911, and June, 1917, and, although some proved not to be diphtheria, serum was administered in each case.

Total number of cases admitted, . . .	4,381
Total number of cases which developed "serum disease,"	415 (9·5 per cent)
Total number of serum rashes, . . .	435

TABLE I.—CASES RECORDED AS SERUM RASHES.

	Number of Cases.	Number of Rashes.
Group A.—Type not stated, . . .	121	121
Group B.—Type scarlatiniform or diffuse erythematous, ...	10	10
Group C.—Accelerated reactions, . .	18	23
Group D.—Type urticarial, morbilliform, circinate, occurring after one injection of serum, ...	266	281
Total, . .	415	435

It will be seen from the figures given that 9 to 10 per cent of the cases developed serum rashes. 121 cases (Group A) were recorded as serum rashes, but no type was stated.

Group B comprises those cases which have already been mentioned as belonging to the fourth type of rash (scarlatiniform or diffuse erythematous), and, as stated before, are dealt with in detail in the Appendix.

Cases (Group C) which showed accelerated reactions, *i.e.*, "serum disease" occurring in cases which had received serum on two or more separate occasions, are also discarded so as to eliminate possible error, a reinjection of serum being associated with a shortened period of incubation, and giving rise to more rapid and more acute symptoms than in a normal person.[9]

Group D contains the cases with which this work deals. The records of these cases have been examined with scrupulous care, and the information given regarding them subjected to the closest scrutiny. The analysis has been made of the number of rashes and not of the number of cases. The number of rashes,

which were observed as having occurred after one injection of serum, is seen to be 281.

Percentages are given as well as numbers, so that comparison is made easy.

TABLE II.

Group D.—Type urticarial, morbilliform, circinate—	Number of Cases.	Number of Rashes.
1. Cases having one rash present,	251	251
2. Cases having two rashes, . .	15	30
Total, . .	266	281

A sub-division of Group D shows (Table II) the number of rashes present in each case. In 251 cases the rash was single, and in 15 cases two rashes were observed.

In the general analysis these double rashes are counted separately but, in the Appendix to Part I, are also dealt with by themselves, because it was found that a study of these cases with more than one rash had an important bearing on the special object of this investigation.

TABLE III.

Type.	No.	Per Cent.	Ratio.
Urticarial, . . .	218	77·6	$10\frac{1}{2}$
Morbilliform, . . .	42	15·0	2
Circinate, . . .	21	7·4	1
Totals, . .	281	100·0	

A further sub-division of Group D, according to the type of rash present in each case, shows (Table III) the relative frequency of occurrence of each type.

According to the results obtained, the urticarial type was found to be by far the commonest, and this is confirmed by most observers.[10] This type represented 77·6 per cent of the total, the morbilliform being intermediate with 15 per cent. and the circinate least common with 7·4 per cent. The ratio between the three types shows that the urticarial is ten and a half times and the morbilliform twice more frequent in occurrence than the

circinate. The frequency of occurrence of the three types has been noted before in other works, but great divergence of opinion seems to exist. Most observers are agreed with regard to the urticarial type being the commonest, but the position of the other two does not appear to have been worked out satisfactorily. This may, possibly, be due to several causes. In the first place, the number of cases dealt with by many observers does not seem to be great enough to form definite opinions. Secondly, it may be due to the fact that morbilliform and circinate rashes are the two most likely to be confused with each other; and, thirdly, the constituents of serum may vary, as Goodall [11] (1907) states, according to the source, and may possibly account for varying results obtained.

The regularity of the order of occurrence does not appear, however, to have been so fully investigated. Park and Bolduan [12] (1908) state that the morbilliform rashes invariably follow the urticarial, and the reverse order is rarely or never observed; and that the circinate also usually follows the urticarial. Goodall [11] states that urticaria usually precedes the circinate type.

By a careful study of the figures given in the analysis (Table IV), the order of occurrence of the three types would appear to be distinctly traced throughout, and would also seem to be fully demonstrated in the study of cases having more than one rash. It will be noted, also, throughout the whole statistical analysis, that the order in which the three types are repeatedly placed is a very striking feature, and is probably of some significance.

Classification and General Analysis of Rashes.

1. *Incubation periods.*—In common with other exanthemata, a period of time elapses from the injection of serum until "serum disease" manifests itself clinically. To this interval of time the term "incubation period" has been applied, and this period, reckoned in days, will be found in the first column of Table IV. The capital letters, U, M. and C, used throughout the analysis, represent the "Urticarial," "Morbilliform," and "Circinate" types respectively.

TABLE IV.

1.	2.	3.	4.	5.	6.	7.
No. of days after Injection of Serum.	Total Cases. Number. U.	M.	C.	U.	Percentage. M.	C.
1	...	...	...	...	...	...
2	...	...	...	...	...	...
3	...	...	...	...	...	...
4	9	1	...	4·1	2·4	...
5	9	...	...	4·1	...	...
6	18	...	...	8·3	...	...
7	39	1	...	18·0	2·4	...
8	34	1	...	15·6	2·4	...
9	26	2	...	12·0	4·8	...
10	23	4	...	10·5	9·5	...
11	18	3	2	8·3	7·1	9·5
12	18	6	2	8·3	14·2	9·5
13	10	5	4	4·5	12·0	19·0
14	5	10	2	2·3	24·0	9·5
15	7	3	7	3·2	7·1	33·0
16	1	6	2	0·4	14·2	9·5
17	...	...	1	...	...	5·0
18	1	...	...	0·4	...	...
19	...	...	1	...	...	5·0
Totals,	218	42	21	100·0	100·0	100·0

By a study of the number of rashes of the urticarial type found in the second column of this table, it is seen that the earliest appearance of an urticarial serum rash was observed to be the fourth day after injection of serum. The rashes increase in number as the incubation period lengthens, up to the seventh day, on which occurred the maximum number of rashes. The number of rashes then gradually decreases as the incubation period lengthens, until the last one recorded is seen to have occurred on the eighteenth day after injection of serum.

There was no urticarial serum rash recorded as having occurred at an earlier period than the fourth day, or later period than the eighteenth day. The average incubation period for the urticarial type (arrived at by taking into consideration the number of rashes occurring on each day) was found to be the ninth day after injection of serum.

Taking, similarly, the next column (3), showing the number of morbilliform rashes, it is seen that the earliest appearance of this type is the fourth day after injection of serum. As the incubation period lengthens the number tends to increase also, but very irregularly, up to the fourteenth day, when the maximum number is recorded; and then, continuing in decreased numbers up to the sixteenth day, the rashes cease altogether. The minimum and the maximum incubation periods for this type are therefore the fourth and sixteenth days respectively, the average period being the twelfth day after injection of serum.

Turning now to the next column (4), containing the number of circinate rashes, it is seen that the earliest appearance of this type is the eleventh day after the injection of serum, the maximum number occurring on the fifteenth day, and the last one being recorded on the nineteenth day — the average incubation period being the fourteenth day after injection of serum.

(*To be continued.*)

THE TREATMENT OF SYPHILIS.

By IVY MACKENZIE, M.D.,
Visiting Physician, Victoria Infirmary, Glasgow.

The following summary of observations on the treatment of syphilis has reference to cases treated during the past eight years. When salvarsan was first introduced it was, of course, necessary, in order to test its therapeutic effect, to employ it uncombined with any other form of treatment: consequently the conclusions based on the first year's experience of this drug may be said to be more or less tentative. It was administered in varying doses and by different methods, subcutaneously intramuscularly, and intravenously. Although for observation purposes it was necessary to employ salvarsan apart from any other form of treatment, it had never really been seriously intended by responsible authorities that salvarsan alone could effect what could be achieved by the combined treatment by salvarsan, mercury, and iodides.

The present summary deals with the observation of 2,600 cases, treated in a more or less definite plan, combining the use of salvarsan and mercury in various forms.

Method of treatment.—In the great majority of cases the original salvarsan or kharsivan has been used intravenously. Where possible it has been given in six successive doses of 0·3 of a gramme, at intervals of a week, although in some cases at an interval of five days. Freshly distilled and sterilised water has been used in the preparation of the solution, and except for a short period at the commencement of these observations distilled water alone has been used, it having been recognised that many of the febrile disturbances were attributable to the presence of organic and inorganic material in the saline solution. The strength of the solution represents 0·1 of a gramme to 30cc. of distilled water. The mercurial treatment employed has varied according to the susceptibility of the patient to the various preparations. It is

found, for example, that some patients cannot tolerate the green iodide, which is probably the most effective drug for oral administration. In such cases of intolerance, grey powder may be employed with success. On the other hand, perchloride of mercury and iodide of potash are found to be most effective in the later stages of the disease. Where it has been possible and convenient to do so, early cases have been invariably urged to employ inunction in addition to oral administration. A mouth-wash is always given to be used after every meal.

The cases treated included (1) syphilitic cases admitted to general medical wards in the Victoria Infirmary, Glasgow, and to observation wards in the Eastern District Hospital, Glasgow, with diseases incident to syphilis, *e.g.*, locomotor ataxia, gummata, &c., or with diseases other than syphilis but where syphilis was present in combination; (2) cases treated as outdoor patients in the Victoria Infirmary in which there has been a special outdoor clinic for this purpose during the past six years; and (3) cases treated in private practice. In each case the method of preparation for salvarsan injection has been practically the same. Patients are advised to have a mild aperient the night before injection, and on the morning of injection a light breakfast should be taken. The injection is given in the morning, and they remain in the recumbent position or at rest for the most part of the day. In the great majority of cases no disturbances follow the injection, and in practically every case the outdoor patients are able to go home in the evening.

Mercurial treatment is commenced immediately the diagnosis is made, and is continued for a year. Three months after the commencement of treatment a blood test is done, and if the reaction is positive a further series of injections is given. It is urgently recommended that alcohol and tobacco be avoided.

Analysis of Cases.

Primary stage.—From a series of 2,600 cass 217 cases were treated for what at first appeared to be the primary stage of the disease: but of these 217 there were 35 cases in which a slight rash definitely syphilitic in character could be observed after the first injection. This rash disappeared in a few days. It is, of course, impossible to follow out the fate of a series of

cases over a number of years, but 63 of these primary cases have been followed for one or more years, and there has not been a single instance of a recurrence of syphilitic signs or symptoms in a case in which no rash had ever appeared; and in each of these 63 cases the blood at the end of a year gave a negative Wassermann reaction.

Of the 35 cases which showed a reaction rash after injection, 21 cases were seen after a year. In none of these cases had there been any symptoms in the interval, but examination of the blood gave a positive reaction in 8 cases. In 2 out of the 21 cases with a negative blood reaction after a year, recurrence in the form of a syphilitic throat took place in one, and a squamous syphilide occurred in another in the second year. These recurrences were accompanied by positive Wassermann tests. After a subsequent course of injection treatment the symptoms disappeared and the blood ultimately became negative. In each of these cases it was admitted that the mercurial treatment had been discontinued for several months. In one of the eight cases in which the blood was positive after a year choroiditis and iritis developed, and these yielded readily to treatment.

Secondary stage.—1,346 cases in the secondary stage of syphilis were treated. Manifestations in these cases were of a very varying character, and may be said to include forms of disease occurring between six weeks and a year after the original infection. In many of these cases no previous treatment had been given, while in others the usual mercurial agencies had been employed for weeks or months without success. While among the series there were cases which were resistant to treatment, there was no single case in which the symptoms did not ultimately disappear. Even in a case in which mercury had very little or no effect the injection treatment proved almost immediately efficacious. It must be admitted, however, that there are cases which are resistant to mercury, and which at the same time show a very marked resistance to salvarsan treatment. Those which have been found to be most refractory have as a rule papular eruptions with a considerable amount of brown staining. Some cases of this character have been treated for six months, and during this period have received as many as twenty injections, and at the end of that time have shown traces of

cutaneous infiltration and a positive blood reaction. On the other hand, where the eruption has only recently appeared, where it is erythematous, morbilliform, or squamous in character, or even where there is considerable ulceration of the skin, as is sometimes found in the late secondary infection, treatment is followed almost immediately by disappearance of the lesions. Complications of the throat and mucous membrane yield very rapidly to salvarsan, and this applies also to cases of throat complication in which the papular eruption mentioned above is often so resistant.

While there is considerable variation in the periods during which the eruption remains after injection, the symptoms of which the patient complains usually disappear in a comparatively short time. In some cases the rash may disappear in a few days while in others it may remain for some weeks or months. But the symptoms which are the source of complaint are quickly relieved by treatment. Headaches may have been persistent and may disappear in a day or two; the throat may be painful and swallowing difficult, and these symptoms may disappear in twenty-four hours, although ulcerated surfaces may not heal for a week. Pains in the bones and joints may have been persistent for weeks and may disappear in a few days, even in cases of meningitis the relief to symptoms is almost immediate: and in cases where meningitis is followed by paralysis, if injections be given at once the paralysis disappears with great rapidity. A very marked feature is the change which occurs in patients who are anæmic and who have lost flesh. The constitutional disturbances of which these signs are an expression seem to be influenced in a remarkably short space of time by salvarsan treatment. The effect of treatment in eye and ear complications occurring early in the disease is no less remarkable. Optic neuritis, iritis, and choroiditis yield almost immediately to injections. The same applies also to cases of deafness, facial paralysis, and paralysis of the ocular muscles.

Of 1,346 cases treated during the secondary stage, 658 were seen after a year, and of these 460 had had no symptoms in the interval, and their blood gave a negative reaction. Of the remaining 198, 64 had had recurrence during the year, and 21 cases of these recurrences took the form of eye complications in 15, and ear complications in 6. Of the remaining 43 there was

meningitis in 3 cases and a recurrence of cutaneous syphilides in 40. These recurrences yielded rapidly to further injection treatment, but a negative blood reaction was secured in only 35 of the cases after treatment for other three months.

It is obviously impossible to secure a complete statistical analysis of a large series of cases, inasmuch as many of the patients are lost sight of, and others when once the initial symptoms disappear consider that they have been cured, and in spite of previous advice, fail to report themselves.

Perhaps the most reliable conclusions to be drawn from a series of cases are the general impressions which one obtains from an extensive experience. Reviewing the results of these secondary cases, there can be no doubt that the earlier the cases are treated the sooner the symptoms disappear and the less likely is the possibility of a recurrence. It sometimes happens that when the disease is resistant even to salvarsan, as in some of those cases in which the papular eruption is present, the symptoms may recur in different forms, in spite of persistent and energetic treatment by mercury as well as salvarsan. The following case is particularly instructive in this respect:—

A male patient, 30 years of age, contracted syphilis in January, 1917. The disease ran the usual primary course, and when he was sent for salvarsan treatment, six months after infection, there was a diffuse papular syphilide with extensive ulceration of the throat, and laryngitis. He suffered from anæmia and severe headaches. From the date of the appearance of the primary sore he had been treated with mercury and iodides. Six injections of salvarsan were administered, at intervals of a week, and in doses of 0·3 of a gramme at each injection. He was given a biniodide mixture, and had inunction treatment five days a week. The mercurial treatment was continued in this form without interruption, and without any evidence of mercurialism: and six months after the injections, and three months after the papular syphilide had disappeared, he developed iritis, chloroiditis, and optic neuritis in the right eye. His blood reaction was positive, and three further injections were given, with the result that the eye condition cleared up. Mercury was continued, and six months later he developed severe headaches, facial paralysis, and drooping of the right eyelid: and, at the same time, there occurred considerable

inflammatory thickening and œdema at the site of the original chancre. A further course of six injections was given, with the result that the symptoms disappeared. Mercurial treatment was continued as before, and in three months there was evidence of mercurial poisoning. The mercury was stopped, and six weeks later a squamous syphilide appeared on the chest, and a nodular thickening in front of one of the tibiæ. His blood was still positive, and a further series of three injections was given, with the result that these symptoms cleared up. Six months later his blood was still positive, although there had been no further symptoms of syphilis in the interval. There is no doubt at all that this man was thorough and methodical in the application of the mercurial treatment. He is a teetotaller and non-smoker, and pursues a healthy occupation. He is otherwise strong, healthy, and well nourished. This is therefore a case in which the affection is resistant to both salvarsan and mercurial treatment, although, on the occurrence of the more manifest symptoms, injections have a remedial influence.

Another instance of a similar character may be cited in which a man, 30 years of age, developed hemiplegia two and a half years after a syphilitic infection. He had had a primary sore and transient rash, but in the interval there had been no other evidence of disease. The hemiplegia was preceded by severe headaches, came on gradually, and when first seen he was in a delirious state. He was immediately put on a biniodide mixture, which was continued for a week before salvarsan treatment was begun, with 0·1 of a gramme, followed in two days by 0·2 of a gramme, and in other two days by 0·2 of a gramme. A week later he was given 0·3 of a gramme, and by this time the symptoms had ameliorated and the power had become greater in the paralysed side. A month after the first injection he was able to walk, having had in that period 2 grammes of salvarsan and continuous treatment with biniodide. In addition, he had received daily inunction with mercury. He made a good recovery, returned to work, and continued the biniodide treatment for three months, when the headaches returned and paresis of the same side reappeared. The return of symptoms was immediately followed by injection treatment, with effective results, and after the second recovery he continued the biniodide treatment with occasional inunction. Six months

later the paresis again asserted itself, on this occasion accompanied by double optic neuritis. A further course of injections led to a disappearance of the symptoms, and two months after his recovery he was recruited for the army and has not been heard of since. On each occasion on which he suffered from paresis, his blood and cerebro-spinal fluid gave a positive reaction, and the cerebro-spinal fluid contained a large number of lymphocytes. With the disappearance of the symptoms the lymphocytes and globulin disappeared from the fluid, but the blood reaction never became negative. This is another example of a very persistent and refractory infection in which salvarsan allayed the acute symptoms, but in which the combined treatment failed to produce a cure, and in which mercury was ineffectual in maintaining the infection in a latent state.

In the whole series of secondary cases treated there were eight of this refractory type in which after the abatement of the early secondaries there were recurrences of a late secondary character, and in which all the therapeutic means employed appeared to be ineffectual in stamping out the disease. Whether such cases can really be cured would appear to be doubtful. So far there is no evidence that any of these, or in fact any other case treated, have developed the so-called metasyphilitic stage, although, of course, a period of nine years is too short a time in which to form any conclusion on this point; and in any case only a very small proportion of the total number of cases observed has been under review for that period. There can be no doubt, however, that there are cases in the secondary stage of syphilis, although the proportion is small, in which the accommodation between the parasite and the host is so intimate that the action of both salvarsan and mercury is unable to produce a sterilisation.

Contrasted with those cases of late secondary disease which follow resistant early secondary manifestations, such as the papular syphilide, are those cases in which the late secondaries develop as transient and trifling symptoms. These cases are much more amenable to treatment, and it is more easy to produce in them an ultimate satisfactory result. For example, there are cases in which the primary lesion has been small and has disappeared quickly, and in which the only secondary signs may have been a congestion of the throat and a transient roseola. These earlier symptoms clear up in two or three weeks, the

patient thinks he has recovered and mercurial treatment may be stopped; and in the course of from three to six months a squamous syphilide or sore throat may appear. In such a case an energetic course of treatment will immediately suppress the symptoms, and it is not difficult in such a case as a rule to produce a permanently negative blood reaction. This also holds good with regard to the later manifestations which are preceded by milder forms of the disease. Acutely congested and ulcerated throats with laryngitis occurring six months to a year after the first treatment yield readily to a further course of treatment, and as a rule with persistence may, so far as one can make out, be effectually cured, even in nervous complications where these are preceded by the milder symptoms of the earlier stages of the disease. It must, of course, be admitted that the ultimate fate of a nervous complication has not even yet been determined over a sufficiently long period to warrant definite conclusions, and in the case of such complications there is the paradoxical fact that they not infrequently occur at a time when the blood already gives a negative Wassermann test.

Extremely satisfactory, from the therapeutic point of view, are those late secondary conditions which affect the mouth and throat. It not infrequently happens that after the disappearance of the earlier symptoms there occur ulceration of the throat and larynx, mucous patches in the mouth, and diffuse infiltration of the tongue. These symptoms may persist for months or years in spite of continuous treatment with iodides or mercury. It would even appear to be the case that while the infection itself is kept in abeyance, the mercury and iodides have an irritating effect on the lesions. Thirty-three cases of this type have been treated in which persistent inflammatory involvement of the structures of the mouth has continued for periods ranging from six months to four years. In each case injection treatment has had an immediately effective influence. The pain, which is an almost constant concomitant of the tongue lesions, has either completely disappeared or has become only trifling in its irritating effects. In a long-standing case, of course, the infiltration and contraction produce a deformity which never completely disappears. The swelling, œdema, and thickness are, however, immediately influenced, and also the ulceration, and the patient is able to take food with comfort. The mouth becomes clean, and the

secondary effects of absorption from mouth and stomach disappear. In cases of extensive throat infiltration and ulceration the acute symptoms disappear with great rapidity. It may be that for months, or even years, the patient has been subject to persistent colds, laryngitis and deafness, and after injection treatment complete relief is obtained from these complications. The anæmia, loss of flesh, lassitude, nervousness, and worry disappear, and the freedom from these disturbing complications gives the patient a sense of relief and a feeling of renewed life and energy. Even from the point of view of ultimate recovery, such cases are not at all hopeless. Scarring and deformity of the structures involved, of course, remain, but a healthy physiological life, and even a permanently negative blood reaction, are probable.

The most obvious symptoms of syphilis are, of course, those that appear in the secondary stages, and of these the skin complications are those which immediately attract attention, and the course of the disease is superficially construed in light of the spreading and disappearance of the skin lesions. It has come to be recognised, however, that while these lesions attract more attention, the more subtle and more dangerous manifestations are to be found in the central nervous system. On this aspect of the subject a great deal of interesting and important work has been done, stimulated in no small degree by the fact that on the introduction of salvarsan treatment sudden and serious involvement of important nerve structures emerged. Paralysis of the cranial nerves, especially of the seventh and eighth, hemiplegia, optic neuritis, iritis and choroiditis, were assumed to occur in a disproportionately large number of cases, and these untoward symptoms were attributed to the new treatment. It was soon discovered, however, that these complications were syphilitic in origin, and that whether or not their appearance was predisposed to by intensive treatment, they could easily be allayed by immediate repetition of injections.

The first and most important work on the subject was carried out by Benario under Ehrlich's supervision, and it was established that during the secondary stage of syphilis, when the infection had become generalised, it was not only the skin but also the supporting structures in the central nervous system that became the seat of inflammatory reaction. Co-existent with

cutaneous roseola, papular and squamous syphilides, there would appear to occur in many cases corresponding exudations in the meninges and structures surrounding the cranial nerves. Therapeutic interference might produce a disappearance of the skin lesion to be followed in a comparatively short period by a sudden recurrence in the central nervous system, especially, if not almost exclusively, in those cases in which a small amount of salvarsan had been injected and no mercury given as an auxiliary remedy.

The pathological basis of this conclusion has been determined by actual observation. Examination of the cerebro-spinal fluid by Ravaut showed that in 67 per cent of secondary cases of syphilis there was an increase in the globulin of the cerebro-spinal fluid, as well as an increase in the number of white cells. It has been asserted by Altmann and Drefus that in ordinary secondary syphilis there is either an increase of pressure of the cerebro-spinal fluid, or of cells and globulin, or a positive reaction, in nearly 80 per cent of secondary cases. This undoubtedly gives a very high proportion of cerebro-spinal complications when judged by the number in which clinical manifestations are observed. There is no doubt, however, that the cerebro-spinal system must be regarded as the most serious site of syphilitic infection, and its importance is further emphasised by the work of C. H. Mills at Rochester Row, who found an increase of cells or of globulin, or a positive Wassermann reaction, or all three, in 47 per cent of secondary and 32 per cent of tertiary cases which showed no symptoms of central nerve disease. On the other hand, it has been determined with equal certainty that in those cases in which treatment is continued by mercury, regularly and methodically, after a course of injection treatment, the tendency for nervous complications to occur is reduced to a minimum. There are cases, however, as has been pointed out above, in which, in spite of the most intensive treatment that could reasonably be employed, recurrences persist, and it is practically impossible to obtain a negative blood reaction. These cases are admittedly the exception.

(*To be continued.*)

Obituary.

ON SERVICE.

Captain ROBERT McKENZIE MORISON, M.B., Ch.B., Royal Army Medical Corps (Temp.).

The death of Captain R. M. Morison, which occurred on 8th ult. at the 31st Combined Clearing Hospital, Aleppo, of typhus fever, adds another Glasgow graduate to the long list of medical officers who have died on military duty during the war.

Robert McKenzie Morison was a Greenockian, and studied medicine in the University of Glasgow, where he took the degrees of M.B. and Ch.B. in 1908. Subsequently he was house surgeon in the Greenock Infirmary, and assistant medical officer to the Wye House Asylum at Buxton. His leanings, however, were towards public health, and he was for a period on the staff of the Glasgow Fever Hospitals.

When the war broke out he served with the Serbian Red Cross, and saw a good deal of infectious disease with the Serbian Army, receiving for his services the Order of St. Sava. The hardships which he underwent while so employed were not lightened during a period of captivity with the Bulgars, and when he was set free he returned home somewhat impaired in health. His energy and enthusiasm were, however, unabated; and, as soon as he could, he obtained a temporary commission in the R.A.M.C., and was posted to Blackpool Training Centre. Here he acted as Adjutant, and became well known to the large numbers of temporary R.A.M.C. officers who served at the Training Centre. Ultimately he was drafted to Egypt, where he was posted to the 78th General Hospital, E.E.F. None too robust, he was not long in wearing himself down by hard work, necessitating an enforced rest. But after a very brief interval he was again on duty, and he accompanied the Unit to Deir-el-Belah, on the Palestine Lines of Communication.

His aptitude for infectious diseases led to his being placed in charge of dysentery cases, and, in addition, he supervised the water-supply and general sanitary arrangements of the hospital. These duties were carried out with the thoroughness that characterised all Morison's work; and he very quickly came to be recognised as a conscientious man who, if not judiciously controlled, would run himself to death. As it was, he was for a time laid aside, during the prevalence of bronchial affections, by an acute chest condition. He made a good recovery, however, and during convalescence might often be found studying Russian. His service in Serbia seemed to have roused in him an interest in Slav peoples, and he often declared his intention of practising in Serbia after the war was over.

When the 78th General Hospital was broken up, early this year, he was posted to the 31st Combined Clearing Hospital at Aleppo, where he was placed in charge of fever patients; and where, after an all too brief tenure of office, he fell a victim to typhus.

Morison was a man of gentle disposition, and eminently lovable. He was possessed of a dry wit, but his shafts were not barbed, and they never rankled.

His sterling honesty and uprightness, his capacity for work, and his unswerving devotion to duty combined to make him a son of whom Glasgow had reason to be proud. His death at the post of duty was characteristic of the man.

He is survived by his wife and his widowed mother, to both of whom we tender our respectful sympathy.

Captain J. H. MAGOVENY, M.B., Royal Army Medical Corps.

It is with regret that we also have to announce the death in Russia, on 19th April, of Captain J. H. Magoveny.

Deceased took the degrees of M.B., Ch.B. Glasg. in 1913. Subsequent to graduation he became house surgeon in the Victoria Infirmary, Glasgow, and later he served as house physician in the Royal Infirmary of Bradford.

He took a temporary commission in the R.A.M.C. during

the war, and one of the posts he had occupied was that of Commandant of No. 1 Convalescent Depôt at Salonika.

At the time of his death he was attached to the Cameron Highlanders.

Captain Magoveny is survived by his parents, who reside in Glasgow, and for whom much sympathy is felt.

Lieutenant-Colonel JAMES COATS, M.B., R.A.M.C. (retired), Ayr.

We regret to have to record the death of Lieutenant-Colonel James Coats, R.A.M.C. (ret.), which took place on 11th ult. in a nursing home in Ayr.

Deceased was one of the three sons of the late Dr. John Coats, a very well-known Glasgow practitioner who for a long period was treasurer of the Faculty of Physicians and Surgeons. Studying medicine at the University of Glasgow, Colonel Coats graduated M.B., with honours, in 1869. He was subsequently a resident at the Old Royal Infirmary, where he was appointed house surgeon to the late Lord Lister. Shortly afterwards he joined the Army Medical Staff, as it was called in those days, and served in India and South Africa, retiring with the rank of Lieutenant-Colonel. On retiring he settled in Ayr where he became well-known, and was a universally respected member of the community.

Colonel Coats was a fine type of what a medical officer should be. His alert and soldierly bearing was accompanied by a genial kindliness, appreciated by all with whom he came in contact, and his death will be greatly felt not only in Ayr, but also by his many friends in Glasgow.

He is survived by his widow and one son, a graduate in medicine of Glasgow (1912), who served in the army during 1915-16, and is in practice at Grimsby. To them and to his brothers—Rev. Dr. Coats, of Brechin, and Mr. J. J. Coats, of Glasgow—we offer our sincere sympathy.

ROBERT GIBSON MILLER, M.B., C.M.,
Glasgow.

After a somewhat long illness, Robert Gibson Miller passed away at his residence in Newton Place on 10th of last month. Deceased, who was in his fifty-seventh year, studied medicine at the University, and graduated M.B., and C.M.Glasg. in 1884.

After having been in practice for some time, Miller made a study of homœopathy, and ultimately became a staunch adherent to its principles. When some few years ago a movement was made to establish a homœopathic hospital in Glasgow, he became identified with the proposal, and was appointed honorary physician to the hospital.

A man of slender build, he was nevertheless, full of energy and active movements, and succeeded in accomplishing a large amount of work. Of sterling worth, his loss will be greatly felt by his professional friends as well as by his patients.

He is survived by a widow and a family, with whom much sympathy is felt in their bereavement.

CURRENT TOPICS.

THE MEDICAL COURSE: QUESTION OF REORGANISATION.—The General Council of the University of Glasgow at their half-yearly meeting on 30th April—Principal Sir Donald MacAlister, K.C.B., presiding—adopted a recommendation to remit to the Business Committee consideration of the whole question of the medical curriculum. The committee in their report, which was moved by the Rev. Dr. John Smith, stated that in recent years the conviction had been steadily gaining ground that the medical curriculum stands in need of reorganisation.

Dr. Hutchison, commenting on the subject, said that the intention when the medical course was extended from four to five years, about twenty-five years ago, was to increase the time that the medical student would have at the end of the course for clinical work. But that had not been done. The extra year had been put at the beginning of the course instead of at the end. He had raised at another meeting this question of the first year of medical training, and the Principal had then informed him that the point was being referred to the Faculty of Science, but it did not seem to be commanding the interest which he (Dr. Hutchison) thought it deserved. He called attention to a paragraph in the report, issued last year, of the committee appointed by the Prime Minister in 1916, to enquire into the position of natural sciences in the education system of Great Britain. Referring to Scotland, the committee said:—"There is more conflict of opinion than we found in England on the question whether the Universities should allow the first examination for the degree of Bachelor of Science, or the first professional examination for the degree of Bachelor of Medicine, to be taken from school, and in the more general question whether and how far work done at school should be recognised in lieu of the first year's work at the Universities. The

Faculties of Science at Edinburgh and Aberdeen are prepared to recognise work at schools where there are adequate arrangements for teaching and for laboratory work, and would allow the first B.Sc. examination to be taken from school. On the other hand, the Faculty of Medicine at Glasgow goes so far as to state that it is not within their knowledge that any secondary school did, or could under any circumstances, teach scientific subjects of the scope or up to the standard required for the first professional examination in medicine." In spite of the objections quoted, the committee adhered to their recommendation that students should be allowed to take the first professional examination before entering the University or medical school, and, similarly, the first examination for the B.Sc.

Mr. Alexander Gemmell, Rector of Greenock Academy, suggested that it might be specified in the remit that the committee should consider "the preparatory science teaching of medical students and others." It seemed to be the case that the schools had got a long way ahead of the Universities, or that the Universities were lagging behind the schools. Boys who had been for years, many of them for five years, at science in the schools found it very disappointing to go into the classes of the first year of the medical course.

Dr. Smith pointed out that the remit was to consider the whole question of the medical curriculum, which, of course, embraced the points raised in the discussion. The report was adopted.

Research Scholarship in Mental Diseases.—At the Tenth Annual Meeting of the Scottish Western Asylums Research Institute, held recently in Glasgow, Dr. Landel R. Oswald stated that he had received from an anonymous donor a sum of money, which would be sufficient to give an income of £250 per annum, to be devoted to the endowment of a Scholarship for Research Work in Mental Affections.

The Research Institute was invited to appoint two trustees to co-operate with others in administrating this fund.

The Scholarship will be founded on the lines of the Beit Scholarships, and will be open to research students throughout

Scotland. It is the desire of the donor that this Scholarship be founded in commemoration of Peace coming.

The hope was expressed that the Institute might soon be in working order again, and the Executive Committee was instructed to take steps towards securing a new Director, and was empowered to offer a salary not exceeding £600 per annum.

Further information regarding the post can be obtained from the Secretary, Dr. James H. MacDonald, Hawkhead Asylum, Crookston, Cardonald, Glasgow.

Red Cross Work in Glasgow.—A report of the Glasgow Branch of the Red Cross Society reviewing the work of the various sections—general service, V.A.D.'s, hospital, work parties, supply depôts, finance, &c.—was submitted at the annual meeting held in the City Chambers on 30th ult. During last year a total of 48,527 sailors and soldiers passed through the rest-rooms conducted by the Glasgow Branch of the Red Cross Society, and 2,100 dressings were attended to. There were 264 work parties in the city, and of these, 72 were registered as Red Cross parties. In all, there were received 1,708 consignments, containing 68,366 articles for the year. During the year the dressings made and despatched from supply depôts to the central store for transmission to the hospitals numbered 714,095, compared with 446,175 in the previous year.

Gratuity to Nurses.—The War Office have just issued a Royal Warrant granting new rate of gratuity to their nurses. The Q.A.I.M.N.S. (Regular) have been given a war gratuity on the same lines as Regular officers—*i.e.*, nurses below the rank of principal matron get a lieutenant's gratuity (£40) for the first year's war service, and increments of £1 or 10s. a month (according to whether they have served overseas or only at home) for each subsequent year or part of a year. Principal matrons are classed with captains (£45), and matrons-in-chief with lieutenant-colonels (£75), while all receive the same increments for service subsequent to the first year.

The temporary nurses (Q.A.I.M.N.S.R. and T.F.N.S.) now get a more generous gratuity than that already provided. Staff nurses get £20 for the first year, sisters £30, and matrons £40, while all get 10s. a month increment for each subsequent year

or part of a year, irrespective or whether their service has been at home or overseas.

A gratuity has also been given to V.A.D. nurses and assistant nurses employed by the War Office. They are to get £10 for the first year, with increments similar to those for the Reserve or the T.F.N.S. Nurses who have already drawn gratuities at the old rates may now apply to the paymaster who issued the original gratuities to have them adjusted according to the new, or may keep the old in the very few cases where they are more advantageous.

Alexander Hospital, Coatbridge.—Mrs. McCosh and family, Cairnhill House, have recently intimated a gift of £10,000 for the purpose of building and partially endowing a children's ward in connection with the Alexander Hospital. The gift is made in memory of the late Mr. A. K. McCosh.

Neckwear and Tempers.—Rather striking were the remarks made by Dr. Leonard Williams at the Peace Nursing Exhibition the other day. This doctor is convinced that men and women who wear tight collars round their necks keep the blood from passing through the brain, and this makes them bad tempered. The theory seems perfectly reasonable, for most women know how extremely uncomfortable a tight neckband can be. According to him, English women have grown much better tempered since they got into the habit of wearing no neckbands, and this improvement is due to better nourished brains. Whether Dr. Williams will be prepared for having his remarks broadened into a plea for "backless" evening dresses now in vogue one cannot, of course, say.

Foreign Service Medical Club.—A meeting of medical men of Glasgow and the West of Scotland, who have served overseas with an Expeditionary Force, and have now been demobilised, was held on 13th ult. in the Hall of the Royal Faculty of Physicians and Surgeons.

Dr. H. Wright Thomson presided, and explained the object of the meeting, viz., to form a more or less social in its aims, the membership to be confined to those who had served with the Army overseas during the war. There was a large attendance of

"de-mobbed" medical officers, and the proposal was favourably received.

Dr. Wright Thomson was unanimously elected president, Dr. W. Adam Burns, vice-president, and Dr. David Shannon, secretary. The following were elected as a committee:—Drs. Livingstone Loudon (Hamilton), Allan (Dumbarton), Edington, John Cowan, and R. B. Carslaw. It was stated at the meeting that the objects of the Club would not clash with those of another recently formed body—the United Services Society.

United Services Society.—At a meeting of representatives of all branches of the Naval and Military Services, held at 21 West George Street on 9th ult., Lieut.-Colonel Connal, Q.O.R.G.Yeo., in the chair, it was decided to form a United Services Society. The main object of the Society is to assist demobilised officers in their resettlement in civil life. A committee was appointed to draw up a scheme for the working of the Society, and Capt. Wm. Maclean, R.E., was appointed secretary.

We understand that some highly-placed personages have consented to become patrons of the newly-formed Society, and there is every reason to believe that the Society will prove of great value to demobilised officers who may, without any fault of their own, have difficulty in their resettlement. It is not intended that the Society encroach in any way on the already existing bureaux and exchanges; but it is felt that a great deal of useful work can be accomplished by it on behalf of the large numbers of demobilised officers in Glasgow.

Glasgow Units, R.A.M.C.(T.F.)—The War Office recently expressed a wish that in view of demobilisation the headquarters of the various Territorial Units be put into such a state that they would be attractive to, and serve as a meeting-place for, the men returning from active service.

With a view to giving effect to the above wish, the County Association has expended some money in doing up the headquarters of the R.A.M.C.(T.F.) at Yorkhill, and an invitation to past and present members of the Corps was published. A largely attended meeting took place on the evening of Monday, 19th ult., in the lecture-room at Yorkhill. Lieut.-Colonel Moffat,

T.D., presided, and after welcoming those present he explained a scheme for resuscitating the messes which had been in abeyance during the war. Committees were formed to take in hand with the messes for N.C.Os, and for the rank and file. It is expected that, as in pre-war days, a weekly evening will be instituted, where the members will have an opportunity of seeing old friends and exchanging experiences of their life while on active service on the different fronts.

British Medical Association and Increased Fees.—We have received a notice from the Glasgow and West of Scotland Branch of the British Medical Association regarding fees, as follows:—

"On account of the increased cost of living, and the extraordinary expenses now involved in the practice of medicine, the doctors, after serious consideration, feel compelled to increase the scale of fees for professional services."

The Divisions of the City of Glasgow have also issued a scale of fees, which we reproduce below.

"The Divisions of the City, having carefully considered a standard minimum scale of fees, have agreed unanimously at meetings held to adopt the following rates, under which it is suggested, unless in necessitous cases, nothing less should be charged. It is to be noted these are the minimum rates, and are without prejudice to a higher scale:—One visit, £0, 3s. 0d.; one consultation, £0, 2s. 0d. (medicines to be charged in addition); certificates, £0, 1s. 6d.; confinements, £2, 2s. 0d. (without instruments); administering anæsthetics, £1. 1s. 0d.; vaccination, £0, 2s. 6d. Night and special Sunday visits double."

The necessity under present circumstances for an increase of medical fees admits of no debate, and we think the Association is opportune in notifying the public of the augmentation which the profession have been compelled to make in their charges for medical attendance.

Doctors and Politics.—The medical profession have made it a habit, as far as politics are concerned, of "missing the train." The words are those of a well-known doctor, who

in common with many members of his profession, is desirous not of only remedying this unpunctuality, but of making certain that matters of public health and the wellbeing of the community shall not be side-tracked off the main line, but shall secure a place in the express train of legislative progress. The doctors have recognised that their object in this direction can best be secured through Parliamentary action. The profession has several representatives in the House of Commons, besides one or two in the Cabinet, and the desire is to extend this representation, both numerically and in influence it can bring to bear. There has been in existence for some months a Medical Parliamentary Committee, which did useful propaganda work for medical candidates at the General Election, and has worked with a view to forming a federation of all existing medical organisations which deal with medico-political subjects. The ultimate object is to supply information on the trend of opinion among all groups of medical workers on health questions, and to secure that these views receive adequate expression in Parliament and elsewhere.

A Medical Parliamentary Committee.—The Medical Parliamentary Committee, which so far has been a temporary body, was on 2nd of last month constituted on a permanent basis at a meeting representative of the medical profession and of nursing, pharmacy, and hospital administration. The meeting was practically unanimously in favour of the formation of the Committee, but a three hours' discussion revealed some differences among the various sections of the profession as to its constitution. Sir Watson Cheyne, who sits for the Scottish Universities, has been very prominent in the movement for the establishment of the Committee, which he is convinced is necessary if proper representation is to be obtained. The British Medical Association, it was explained to-day, already had in being a Political-Medical Committee, but the representative of the Association was able to make it clear that there would be agreement from that quarter as to the need of a permanent body of some sort. At the same time he was doubtful as to how the proposed construction of the Committee would be regarded. The meeting, however, went on with the formation of the new body and the definition of its objects.

It is charged to supply information on the trend of opinion on health questions, to give early intimation of impending legislation to the constituent bodies, to facilitate communication between bodies affected, and to assist in increasing medical Parliamentary representation. The Committee will include registered medical and dental practitioners, nurses, midwives, pharmacists, a representative of the British Hospitals Association, the medical members of Parliament (if they desire to join), and other medical interests.

The Health of the Army: A New Medical Department.—The sanction of the Treasury has just been given to a scheme put forward by the Director-General of the Army Medical Service with a view to linking up, under a definitely planned organisation, the activities of the different departments and individuals hitherto concerned with the various problems of preventive medicine, pathology, and tropical diseases bearing upon the health of the Army in peace and war. The need for such a re-organisation had long been felt by many of those officers of the R.A.M.C. engaged in hygienic or pathological work, and efforts had already been made prior to the war towards an improved system. It was not, however, until the progress of the war brought wider recognition of the far-reaching benefits of scientific research, and a fuller realisation of the amount of training, work, and organisation required to obtain the best results from such research, that the urgent need for a better system became manifest. The principal objects which were in view in the formulation of the scheme, outlined below, were as follow:—

1. To utilise to the fullest extent the benefits of new knowledge, as these become available, through close co-operation between those working within and outside the Army, and by initiating and controlling research work in connection with problems affecting the health of the troops.

2. To raise the standard of sanitary and pathological work in the Army by creating within the Army Medical Department such an organisation as will ensure this co-operation, and will at the same time furnish inducement to officers who have specialised in these subjects to continue to work therein. It is also hoped that the improved prospects now opening up may

encourage young medical men whose bent and inclinations lie in these directions to enter the service.

Tuberculous Soldiers and Sailors.—The President of the Local Government Board and the Minister of Pensions have appointed the following to be a Committee to consider and report upon the immediate practical steps which should be taken for the provision of residential treatment for discharged soldiers and sailors suffering from pulmonary tuberculosis, and for their reintroduction into employment, especially on the land:—Major the Hon. Waldorf Astor, M.P. (chairman); Sir Montague Barlow, M.P. (deputy chairman); Colonel Sir Arthur Griffith Boscawen, M.P.; Lieut.-Colonel Nathan Raw, M.P.; Hon. Brigadier-General Sir Owen Thomas, M.P.; Sir Kingsley Wood, M.P.; Mr. E. Coey Bigger, M.D. (Irish Local Government Board); Mr. F. J. H. Coutts, M.D. (Local Government Board); Mr. James Currie, C.M.G. (Ministry of Labour); Mr. R. W. Harris (National Health Insurance Commission); Sir J. Leslie Mackenzie, M.D. (Ministry of Pensions); Mr. J. Smith Whitaker, M.R.C.S., L.R.C.P. (National Health Insurance Commission). Mr. F. R. Seymour of the Local Government Board will act as secretary, and any communications should be addressed to him at the Local Government Board.

Medical Organisation of Ministry of Pensions.—The Select Committee of the House of Commons on Pensions, presided over by Sir Montague Barlow, met on 8th ult.

Evidence with regard to the medical organisation of the Ministry of Pensions was given by Colonel Webb, of the Medical Headquarters Staff, who stated that from 12,000 to 14,000 medical boards were held up and down the country every month. He was satisfied with the arrangements, and that the boards were quite up-to-date with their work. An effort was being made to ensure that no man's pension should be reduced unless the board had actually seen the man before recommending him. It was intended to have orthopædic and neurological hospitals, where cases requiring long terms of treatment could be attended to.

In reply to the Chairman's enquiry if there were any general scheme for providing treatment centres, Colonel Webb said that

there was such a scheme, and he hoped that orthopædic and neurological centres would be instituted throughout the country.

Sir William Osler's Seventieth Birthday: Anniversary Book. On 12th July, 1919, Sir William Osler will be seventy years of age, and an Anniversary Book is now being prepared by his pupils and colleagues in celebration of that event.

The book will consist of one or more, probably two, large octavo volumes. It will have as frontispiece a steel engraving of Sir William Osler, and its "make-up" will reproduce, as nearly as possible, the printer's and binder's art of the fifteenth century. There will be numerous plates, some of them coloured.

Of those in this country who have promised articles, we note that Sir T. Clifford Allbutt, K.C.B., contributes the introduction, and, amongst other contributors, Dr. T. Dyke Acland writes on "The Oxford Museum"; and Dr. Arnold Chaplin on "The Oxford Medical School in the Eighteenth Century." Dr. J. G. Adami has promised an article on "The Problem of Graduate Medical Study in London"; and Sir Walter Morley Fletcher, K.B.E., one on "The Organisation of Medical Research." Sir A. E. Garrod, K.C.M.G., contributes a paper on "The Laboratory and the Ward"; Professor Arthur Keith one on "The Cradle of the Hunterian School"; and Mr. J. Y. W. MacAlister one on "Ideals for a Medical Library." There will also be a number of American contributors, bringing the total up to about 100 articles.

There will be only one printing of the book, and it will not be publicly advertised. Conditions of printing make it necessary to limit the supply of copies to those who forward their subscription (two guineas) in advance, and before the size of the edition is finally determined. Printing was commenced on 20th March. Names of subscribers will be printed in the book, but should the subscription arrive too late for a copy to be assigned, the amount will be returned. Subscriptions should be sent to the publishers—Messrs. H. K. Lewis & Co., Ltd., 136 Gower Street, London, W.C.1.

Zinc and Spelter Joint Industrial Council.—We have received for publication the following Press Communiqué from the Ministry of Labour:—

"The Interim Industrial Reconstruction Committee for the Zinc and Spelter Industry has, with the approval of the Minister of Labour, been formed into a Joint Industrial Council. The first meeting of the Council was held at the London Chamber of Commerce on Tuesday, 13th May.

"The following had previously been elected the Officers of the Council:—Chairman, C. H. Eden, Esq.; vice-chairman, James Wignall, Esq., M.P.; secretary, C. Taylor, Esq., of the London Chamber of Commerce.

"After a letter from the Minister of Labour, recognising the Council as a Standing Consultative Committee to the Government on questions affecting the industry, had been read, the question of industrial diseases to which workers in this industry are liable, was considered by the Council. Dr. T. M. Legge, of the Home Office, attended the meeting, and dealt particularly with the prevention of lead poisoning and Bright's disease. He stated that there had been a substantial reduction in the number of cases reported during recent years, owing to the great structural improvements that had been made in the various works; but he admitted that the decline was much less than might reasonably have been hoped for, and he invited both sides in the industry to co-operate in reducing the causes of disease. He laid special stress on the vital importance of ventilation, as statistics showed that these diseases were almost entirely caused by the dust and fumes given off in the process of smelting. Dr. Legge was listened to with keen attention by all present, and a large number of questions were asked as to preventive measures."

Public Health (Venereal Diseases) Regulations (Scotland), 1916, and Venereal Disease Act, 1917.—By order of the Local Government Board for Scotland, Section I of the Venereal Disease Act, 1917, has been applied to the Area of the City and Royal Burgh of Glasgow, as from 1st May, 1919.

The following Treatment Centres are included in the Corporation Scheme for the Treatment of Venereal Diseases, and the profession are asked to co-operate by directing enquirers thereto:—

I. *Out-Patients.*—The following Treatment Centres are now in operation:—

Males.—Royal Infirmary Dispensary—Monday, Wednesday, and Friday, at 1·30 P.M.; Western Infirmary Dispensary—Wednesday and Saturday, at 11 A.M. (syphilis only); Victoria Infirmary Dispensary—Wednesday and Saturday, at 9·30 A.M. (syphilis only).

Females.—Hospital for Women (formerly called Lock Hospital)—Daily, except Sunday, at 2 P.M.; Western Infirmary Dispensary—Friday, at 11 A.M. (syphilis only); Victoria Infirmary—Wednesday and Saturday, at 9·30 A.M. (syphilis only); Baird Street Reception House—(see subsequent note).

Both sexes will be advised as to treatment at Bellahouston Dispensary, Morrison Street, S.S., on Monday, Tuesday, Thursday, and Friday, at 2 P.M.

It is expected that a Treatment Centre will also be opened shortly in premises at 186 Broomielaw.

II. *In-Patients.*—(1) For such patients as cannot be properly treated outdoor, bed accommodation is provided at the Royal Infirmary (males only), and at the Hospital for Women, Rottenrow.

(2) Baird Street Reception House.—Young children suffering from Venereal Disease, infants with Ophthalmia Neonatorum, and the mothers of such infants are treated indoor at Baird Street Reception House, where also an out-patient Dispensary for females is conducted at the following hours:—Tuesday and Saturday, at 9·30 A.M.

The provision of further Centres for Treatment is under consideration, and due intimation will be sent of their opening.

III. *Home Treatment.*—When circumstances render attendance by a patient at a Treatment Centre impossible, skilled assistance in the taking of specimens and in the administration of salvarsan or its substitutes will be supplied on application to the Medical Officer of Health.

Subject to the conditions defined in Section III (8), pages 8-9, of the Memorandum accompanying the Regulations, salvarsan or its substitutes may be obtained, free of charge, from the Medical Officer of Health by any practitioner, in order to treat a patient in his own practice. Applications must in this case be made on Form V.2. Such supplies will not, however, be available for insured patients undergoing treatment in the ordinary course of panel practice.

Instruction in Diagnostic and Curative Methods. — By arrangement with the Managers of the Hospitals concerned, post-graduate classes will be held from time to time at the various Treatment Centres, to which practitioners will be admitted free of charge. Such courses will be advertised in the Press.

Scottish Board of Health Bill.—In the House of Lords on 6th ult. the Scottish Board of Health Bill was read a second time.

The measure was given a cordial reception, and an interesting speech dealing specially with the provision of health services in the Highlands and Islands of Scotland was delivered by Lord Forteviot.

Lord Stanmore moved the second reading of the Bill. He described in detail the provisions of the measure, and remarked that at present public health was dealt with by a number of authorities, including the Local Government Board for Scotland, the Scottish Insurance Commissioners, the Privy Council, the Scottish Education Department, and the Secretary for Scotland. It was desirable that all the authorities concerned with public health should be controlled by one central department, and on that question he did not think there was any difference of opinion among their Lordships.

Lord Balfour of Burleigh said he cordially concurred in the general policy of the Bill, but at the same time he regarded Subsection 3 of Clause 4 as the most extraordinary clause he had ever met with. He did not know what to make of it. What was the object of the clause? Was it a pious opinion or a preamble? He hoped in Committee the Government would give the House some explanation of this matter. In Clause 5, he thought it would be a great improvement if such things as housing in Scotland were specially referred to. He had received letters from plumbers in Scotland wanting to know why sanitation had apparently been overlooked.

Viscount Haldane said it was quite true that there was a clause in the Bill which said that if it turned out that among the functions of the Departments whose activities were being transferred to the new Board of Health in Scotland there were those which did not relate to health, then they might be allocated to

other Departments to deal with them. That was not only proper, but necessary. Take, for instance, the case of the poor. There was a very large part of the Poor-law concerned with health, and there was also a part concerned with tramps and vagrants, and the administration of justice. All that was meant by this clause was that the powers of the Local Government Board were transferred *en bloc* to the body that was to take its place, but that it should be possible to transfer to other Departments those duties which had nothing whatever to do with health. The Bill differed from the English Bill in that it did not set up a Ministry of Health. It left it to the Secretary for Scotland and to the Board. That was right enough, for a very good reason. The Parliamentary representatives of Scotland could not always be in Scotland. They must be at Westminster, and many of the functions of the Secretary for Scotland were performed by boards over which he presided. He thought it was a great mistake to make the new Parliamentary Under-Secretary chairman of the Board, and he had grave misgivings about it.

Medical Services in Highlands and Islands.—Lord Forteviot heartily welcomed the Bill, not so much for what it was as that it opened the way for a more vigorous and scientific treatment of public health. But he desired especially to draw attention to an aspect of public health in Scotland which did not exist in any other part of the United Kingdom. He referred to the Highlands and Islands of Scotland, and to the public health conditions there; and he desired an assurance from the Government that the pressing necessities of this case would not be lost sight of or overshadowed by the larger national question. Over a large area of the Western Hebrides, housing was of a most deplorable description. The houses were of the most primitive kind, very little better than cave dwellings, and too often they were shared by the cow and other domestic animals. He did not see how these conditions could be dealt with either under this Bill or the Housing Bill. Under similar conditions on the mainland, the local authority would be called upon to act, but in the Hebrides this could not be done, for the local authorities had no resources. In many districts the public health-rate had been exhausted for years, and in all the districts the rates were very high—14s., 15s., and in one case 19s. He asked what were the intentions of the Government with regard to this matter.

But the ordinary medical and nursing services in the Highlands and Islands also needed very special treatment. It was very instructive to note that while the average percentage of uncertified deaths all over Scotland was 2 per cent, in the Highland parishes it varied from 17 to over 80 per cent. The Board, which was always meant to be temporary, was by the Bill abolished, and its work taken over by the new Board of Health. But he wanted an assurance from the Government that the work of the Board would not be interrupted. Under the Board agreements had been made in all but a very few parishes with the doctors that they should attend on persons, to whom the practitioner's ordinary fee for attendance would be an undue burden, at fees which did not exceed 5s. for the first visit and 2s. 6d. for each subsequent visit, no matter what the distance of the patient from the doctor's house might be. The Board on their part undertook that the doctor should not suffer, but would be properly remunerated for his services. The scheme was working well, and he hoped it would continue under the Board of Health. But he was also anxious that the schemes designed by the Board to complete a reasonable system of medical supply for those districts, and delayed by the war, should now be carried out. It had been impossible during the war to proceed with the building of nurses' or doctors' houses, which were very much wanted, and he hoped the Government would assure the House that the new authority would not allow these and other claims of the Highlands to be forgotten or neglected, but would proceed with them with the least possible delay. With regard to the training of doctors and nurses, which should be done by the Universities and great hospitals, he hoped, speaking from the point of view of the Highlands, that the new Board would do what it could to increase the supply of doctors and nurses. Noble Lords would be surprised to know that under contract with the Highland Medical Board there were at least two Hindoos and one doctor who was a native of the West Indies. At least one Chinaman applied for an appointment, but that was not completed. Now these were highly competent men, but it could not be an entirely satisfactory arrangement either for the doctor or for the patient that those doctors should be practising in the latitude of the Scottish Highlands.

In regard to nurses, the case was even more pressing. There

were two classes of nurses in the Highlands—one with from six to twelve months' training in one or other of the training houses in Glasgow or elsewhere. They were a very popular class. As a rule they spoke the language, helped in the house work, looked after the children, and even milked the cows; but their training was quite inadequate to make them efficient nurses, especially in a district where the visits of the doctor were necessarily infrequent. On the other hand, there were the highly trained Jubilee nurses, and it was the intention of the Highland Medical Board that all the nurses supported by them should have this qualification. After a careful survey of the situation it was decided that it was necessary to appoint an additional 100 fully-trained nurses to the area under their control; but so far only 38 had been secured, and 15 of them were of the partially trained kind. The Board was most anxious that Gaelic-speaking young women should be induced and assisted to take the course which would make them fully-trained nurses, and he hoped that this would be seen to by the new Board. He hoped that in these and other matters the people in the Highlands might be put upon terms of something like equality with the population in other parts of Scotland.

The Bill was read a second time.

Prevention of Anthrax Bill.—Sir Hamar Greenwood, in moving the second reading on 2nd ult., in the House of Commons, of the Prevention of Anthrax Bill, said it dealt with a loathsome disease in the woollen industry in different parts of the country. The Bill followed the unanimous report of the Departmental Committee which sat for several years and produced a unanimous report, the main essentials of which were incorporated in the Bill. Anthrax was a disease of world-wide distribution, to which hoofed animals were particularly susceptible. There were two forms of the disease—the external form and the internal. Internal anthrax was almost invariably fatal. It was brought to this country by imported hair, wool, or skins. Bradford especially had a notable record in endeavouring to fight the disease; but in spite of all the precautions taken there had been a steady increase in the number of cases during the last twenty years in the woollen and allied trades. From 1896 to 1900 there were 56 cases, from 1901 to 1905

98 cases, from 1905 to 1910 130 cases, from 1911 to 1915 164 cases, and from 1916 to 1918 198 cases. The proportion of fatal cases was approximately 25 per cent in each period. The Committee were unanimous in recommending that the principle of *compulsory disinfection of the wool affected* should be adopted, and that principle was adopted in the Bill. A special sub-committee appeared to have been completely successful in producing a process which was effective in eliminating the germ of anthrax without affecting the material itself. The two main provisions of the Bill were the power to prohibit by Order in Council the importation of goods infected or likely to be infected with anthrax, and power on the part of the Secretary of State to provide and maintain the necessary works for the disinfection of infected goods, and make rules for the payment of fees by importers of the infected goods. The actual cost of setting up the first station for this essential work was estimated, on pre-war prices, at £18,000; but now the cost was more likely to be between £40,000 and £50,000. Australia and New Zealand had to a great extent stamped out the disease, and the Government hoped that the other oversea Dominions would take measures to prevent the export of any material which might carry the germ to the home country. There was now being established under the League of Nations an International Health Department to which the question would no doubt be referred. It had already been discussed as an International question. The Bill was part of the Government's plans to improve the lot of the workers.

Lieut.-Colonel Nathan Raw, in welcoming the Bill as a serious effort to diminish the sufferings of those who had to handle wool, expressed the hope that greater efforts would be made to prevent the wool being infected before it arrived in this country.

Sir W. Whitla said the Bill would not make a progressive demand on the expenditure of the country, because with the wonderful progress of research the disease would eventually be stamped out.

The Bill was read a second time.

Operations on Animals.—In the House of Commons on 2nd ult. Mr. Walter Guinness moved the second reading of the

Animals (Anæsthetics) Bill. The measure, he said, was designed to deal with a remarkable omission in the present law regarding cruelty to animals. More than forty years ago it was provided that in cutting operations performed for the purpose of experiment anæsthetics should be used. Where, therefore, live animals were vivisected for the purpose of research anæsthetics were now compulsory. But in the far larger number of cases where no research entered into the matter, and the operation was merely carried out for the convenience and profit of the owners of the animals, no anæsthetics of any kind, no humane devices for preventing pain, were laid down. The advent of medical science had not brought alleviation of suffering to animals in the way it had to human beings. It had too often greatly increased their sufferings, because surgical operations were now performed on animals which were never dreamt of in the days before the discovery of anæsthetics revolutionised surgery. In the enormous majority of cases horses and dogs did not have the benefit of anæsthetics in the delicate and severe operations where anæsthetics would invariably have been used for human beings as a matter of course. The proposals in the Bill in its present form had been very carefully discussed, and were the result of an agreement to meet agricultural and veterinary interests which had the best claim to be considered. The scheduled operations were limited to those on horses and dogs, and a distinction was drawn between those which should be performed under a general anæsthetic and those for which only a local anæsthetic was required.

Mr. Bottomley seconded, and said the present system of many of the operations included in the schedules was barbarous and inhuman in the highest degree.

Earl Winterton said that the Bill would do away with a lot of avoidable cruelty.

Sir Watson Cheyne expressed sympathy with the Bill. One of the great weaknesses that those who had been employed in trying to discover the secrets of nature by experiments on animals had found was the persecution they had been subjected to by people who in their dealings with animals, if it was for gain or pleasure, had no regard for the feelings of the animals.

Sir J. Butcher urged that docking ought to be performed under an anæsthetic.

Sir H. Greenwood said the Home Office and the Board of Agriculture did not oppose the Bill. In Committee, however, they wished to make certain amendments, not with the object of affecting the principle of the Bill, but to introduce penal clauses. He also qualified his acceptance of the Bill by reserving the right to introduce a new clause to provide that nothing in the Act should apply to any experiment to which the Cruelty to Animals Act, 1876, applied.

The Bill was read a second time.

Royal College of Surgeons, Edinburgh: Dogs' Protection Bill.—At a meeting of the Royal College of Surgeons of Edinburgh, held on the 19th ult., the following resolution was unanimously approved, and instructed to be forwarded to the Secretary of State for Home Affairs:—

"That the Royal College of Surgeons of Edinburgh respectfully desires to express its hope that the present Dogs' Protection Bill, now before Parliament, may *not* be allowed to become law as, in its view, should the Bill become law, the effect would be detrimental to the scientific advancement of surgery and medicine and would react on the general public, who derive the benefit from scientific research."

Dogs' Protection Bill.—Considerable interest has been aroused in medical circles over the Dogs' Protection Bill, the object of which is to prevent vivisection of dogs. On the 9th ult. Sir Hamar Greenwood, Under-Secretary for the Home Department, received a deputation from the Royal Society of Medicine, protesting against the Bill, which they held struck a blow at research. Miss Aldrich-Blake, Dean of the Royal Free Hospital, stated that the qualified women of the country were also unanimous in opposing the Bill.

The deputation received a sympathetic hearing from Sir H. Greenwood and also from Major Waldorf Astor, representing the Local Government Board, who stated that the Government also were opposed to the objects of the Bill. Sir H. Greenwood explained the proposed Home Office amendment, the effect of which was to extend to dogs the same extra measure of protection given to horses, asses, and mules under the Cruelty to Animals' Act, of 1876.

The Bill came up for debate on 23rd ult., and the proposer (Sir F. Banbury) said that if the above amendment were carried, the object of the Bill would practically be frustrated.

During the debate attention was called by more than one speaker to the hampering restrictions already imposed on scientific research. Captain Elliott objected to the name of the Bill, as instead of protecting dogs it permitted "all sorts of barbarities, obscenities, and cruelties to be carried on by dog fanciers, and, in fact, by anyone so long as they were not scientists." He referred especially to the likelihood of the researches on rickets by Findlay and Noël Paton being brought to a stop if the Bill became law. The alternative would be to experiment on children instead of dogs.

Sir Auckland Geddes referred to the great amount of preventable physical inefficiency which had been discovered in the course of examining recruits during the war. Such inefficiency was preventable if science was given fair-play.

On a division being taken, the amendment was carried by a majority of 78.

It is to be hoped that this defeat will bear fruit, and that for some time at least the work of the profession for the benefit of mankind will remain undisturbed by the misdirected energy of the promoter of the Bill and of all like obstructionists.

Treatment of Rabies in Scotland.—The Local Government Board in Scotland issued a circular on 20th ult., in which they state that although no cases of rabies have yet been reported in Scotland, arrangements are being made by the Local Government Board whereby any persons bitten by animals affected with rabies or suspected rabies may receive the necessary expert treatment at the hands of Professor Ritchie, Royal College of Physicians' Laboratory, 2 Forrest Road, Edinburgh. These arrangements are not yet complete, and until they are it has been agreed that any Scottish cases may be sent to St. Thomas's Hospital, Westminster Bridge, London, S.E.1. When a medical practitioner is satisfied that anti-rabic treatment is essential for a case, and has ascertained that the person bitten is prepared to begin the treatment, he should communicate by telegraph with Dr. Dudgeon at that Hospital, stating whether the place and date of the patient's first attendance for treatment are to be

telegraphed to himself or to the patient direct. A further notice will be issued as soon as the arrangements for treatment in Edinburgh have been completed.

Medicinal Plants in Scotland.—We reproduce below an article on the above by Mr. David Ellis, which appeared in the *Glasgow Herald* of 10th ult.:—

"The writer will never forget his astonishment when on calling on a friend he found that the latter had left for the Continent to arrange for the consignment of a supply of lavender. The feeling will be understood when it is remembered that British-grown lavender is worth at least four times as much as that imported from the Continent. The same state of affairs prevails with regard to other medicinal plants. The British peppermint, thyme, henbane, valerian, and coriander, to mention only a few, command far better prices than do the Continental products, and yet it is not considered worth while, or else we are not sufficiently organised, to exploit medicinal plants on a commercial scale. A superficial examination of the methods adopted abroad gives the clue to the anomaly that it pays a foreign country to palm off an inferior product on this country in competition with the home-grown superior plant. Of course we buy in the cheapest market, and the foreign market has become the cheapest because the children of poor people abroad are taught to identify the wild plants that are of commercial importance, because these same children are trained to collect and dry them, and finally to send them to an approved centre. Further, approved agents visit these local centres, and in the long run a mass of plants is piled up and sent to this country to smite the native product on its own doorstep. For instance, the medical herbalist sells coltsfoot which to get to his shop has travelled perhaps a thousand miles, and yet the flower itself may be blossoming within a thousand yards.

"A well-known authority on medicinal plants has stated that nine-tenths of the herbs imported into this country are of inferior quality and are sometimes mixed with dangerous herbs. Let us take one case. There are about twenty-four wild varieties of Aconitum Napellus, which supplies us with the valuable aconite root of the pharmacist. Now some of these varieties are worthless, while others possess powerful roots, and as the

alkaloid found in them is very poisonous, it is obvious that unless the nature of the exact variety is accurately known one extract might contain ten or twenty times the amount of the drug found in another. In the past Germany and Japan cut in with a cheaper root drawn from several varieties, and the cheaper price of this inferior article resulted in the disappearance of the superior British product. Such instances may be multiplied many times. If we estimate the amount of goods imported normally into Great Britain and appraise this amount at the present value, we find that we import two million pounds worth of medicinal plants—meaning by this term all plants that are not collected for the sake of the food contained in them.

"When we now consider the practical remedy for this state of matters with especial reference to Scotland, we must exercise a great deal of caution in order to escape the many pitfalls which threaten the unwary. Let it not be imagined that all that is required is to obtain a piece of ground and then to select the herb that is the dearest in the market. The following considerations must be taken into account by the small grower:—

"1. The price offered for his drug.

"2. The loss of bulk if he dries the drug.

"3. The adaptability of the soil for the drug in question.

"4. The length of time the plant takes to mature.

"5. The possession of an adequate drying house.

"6. The distance from the nearest railway,

"7. The possibility of his drug deteriorating in value through bad luck or ignorance in the drying or transport.

"The intending grower is therefore advised to experiment first on a small scale in order to let his ground show its quality. If this experimenting were done in comparatively moist soils it would soon be found that certain kinds of medicinal plants would yield a good crop. If this plant were adopted by a sufficient number of people as a change from potato growing we might soon see a revival in the cultivation of medicinal herbs. There is little doubt that for the small grower in Scotland there is better hope in the cultivation of those plants that yield volatile oils than in attempts to obtain a crop of more valuable but more perishable plants such as henbane. Caraway can be taken as an example. This, a British plant, was formerly cultivated in this country, and the British species is more

valuable than the Continental. Yet we use annually many tons which we import from Holland, Russia, Germany, and Morocco. Coriander is another medicinal plant that grows on ordinary soil and has much the same advantages as caraway.

"We could multiply instances and make up a list of plants which, if properly exploited, would materially help us to make unnecessary the importation of the 'cheap and nasty' drugs that at present we have to put up with.

"In conclusion, we must take a leaf from our neighbour's book in the way of intensive cultivation. In 1898 Prince Kropotkin drew a sad picture of British agriculture, and the Departmental Committee appointed by the Government in 1915 to inquire into our food resources did not reveal a spectacle tending to exhilarate him who wished to contemplate the fruits of our agricultural past.

"Let us note the wonderful 'intensive' culture that is pursued by the market gardeners in the neighbourhood of large towns, and especially round Paris. There the gardeners, with their scientific use of mats, frames, and other devices, are very much ahead of our own tillers of the soil. And we have seen that Belgium, a horrid, more or less unfertile land, given over to the erection of mills, had become before the war the chief market garden of Europe. It is a pity that the presence of the Belgian refugees in this country did not serve to remind our authorities of the advantage which their experienced help might have been to us. Now that we have got to turn to to make the very most of our land, why waste our money in paying for two million pounds' worth of medicinal and sub-medicinal plants?"

REVIEWS.

The War Work of the Y.M.C.A. in Egypt. By JAMES W. BARRETT, K.B.E., C.B., C.M.G., M.D., &c., Temporary Lieut.-Colonel, R.A.M.C. With Preface by General Sir E. H. H. ALLENBY. London: H. K. Lewis & Co., Limited. 1919. (10s. 6d. net.)

To such of our readers as have served with any of the Expeditionary Forces the Y.M.C.A. requires no introduction; it is already an old friend in every sense of the term. The present volume deals with the work of the "Y.M." with the old M.E.F. and its successor, the E.E.F.; and, while it will not be an entirely new story to members of these Forces, it will arouse in them very pleasant recollections.

But it will do far more: it will give them a very comprehensive account of the origin and the working of this vast organisation, an account such as they have probably never before received.

We are afraid that we took the Y.M. pretty much as a matter of course: it is only after perusing Sir James Barrett's volume that we get an idea of the underlying principle of the Association, and of how the body evolved and adapted itself to changed circumstances, till at length it achieved its present position of being virtually an integral part of the army.

We had the good fortune to come much in contact with Colonel Barrett in Egypt. We found him a man of wide knowledge of affairs, of sane views, and of boundless energy. We are therefore not surprised to find that in the midst of his many responsible and exacting official duties he has been able to make time to give to the public this account of the war work of the Y.M.C.A. in Egypt. The volume reveals something of the author's personality, and for that reason, if for no other, should prove pleasant reading.

Here is what the Commander-in-Chief of the E.E.F. says in the Preface which he contributes to the book:—"No one has more reason than I to be grateful to the Y.M.C.A. for its work in connection with the army. Throughout the campaign, its workers have followed closely the fighting line; and their labours have done much to keep up the moral, mental, and physical efficiency of my troops. . . . Broad-minded Christianity, self-regardless devotion to work, a spirit of daring enterprise, and sound business guidance have built up an organisation which has earned the gratitude of the Empire."

The above are the expressions of one who is not credited with bestowing undue praise on men or things; and his views regarding the Y.M.C.A. are shared by all who took any responsible position in the campaign in the Near East.

In his introduction the author describes the conditions in Egypt at the time of the Dardanelles campaign. Everyone was fully occupied providing accommodation for the sick and wounded who were pouring into Egypt from Gallipoli. Hospital after hospital was opened, and the "want was just met and the difficulties just surmounted." It was at this time that a "number of undesirable events were taking place in connection with convalescents and men on leave. It was not possible for any of the official staff to do anything to provide for the social wants of the men." Then Mrs. Elgood, herself a member of the medical profession, though not practising, took the matter in hand, and organised a brigade of Anglo-Egyptian ladies and gentlemen to look after the social wants of the men in the Australian hospitals. At the same time, Mr. Jessop, the General Secretary of the Y.M.C.A. in Egypt, offered his services to help men discharged from hospital or on leave. As the result of some negotiations the Australian Red Cross found the money, the Y.M.C.A. did the work, and, amongst other things, the Esbekieh Soldiers' Club in Cairo was established.

Getting into the volume, we are met by the question, "What is the Y.M.C.A.?" The author answers this question by giving a short account of the founding of the Association, in 1844, by Sir George Williams, an English merchant, of strong religious convictions. It was originally "a religious movement, with meetings for prayer and other informal religious exercises, . . . and it was, from our point of view, exceedingly narrow in its

outlook," viewing with disfavour so eminently innocuous an enjoyment as competing in a swimming match! But, then, we must remember, as Sir James Barrett points out, that "probably all religious bodies at this period were also characterised by the narrow outlook which was peculiar to the time." But times have changed, and the "sincere but comparatively narrow sectarian movement has broadened out into an Association which seeks largely to effect its ends by indirect means, providing for young men everything that is healthy in the way of social and physical recreation, or if they prefer it, of intellectual cultivation. It is because of this attribute that the Y.M.C.A. has been of profound service during the war."

In 1864 the relationship of the Y.M.C.A. to the Church came up for settlement, and the conclusion was reached that it was not a church and was not associated with any one sect—it was a central meeting-place for members of all sorts and conditions, *i.e.*, it was inter-denominational.

The Y.M.C.A. College at Springfield is described, and some details of its curriculum are given. This is followed by a short statement of the policy of the Association. "No attempt to detach men from their respective allegiance is sanctioned or authorised. . . . It is contrary to the whole purpose of the Y.M.C.A. that the Association should become a substitute for the worship and corporate life of any church or denomination."

Succeeding chapters deal with Egypt in 1914-15, and the establishment of Soldiers' Clubs therein. In the chapter on the Dardanelles information is given regarding the difficulty of establishing canteens where the troops might purchase, to quote the General Secretary's words, "pickles, Worcester sauce, something pungent to take away the awful taste that one gets that is a constant reminder of death and decay." Chapters follow on the work in 1916 and 1917; the work in the Sudan; and among the Indians. The services of the Y.M.C.A. to the sick and wounded—a new departure—are also duly chronicled.

The author, in one of the closing chapters, suggests the incorporation, in war, of the Y.M.C.A. as part of the Army Reserve, and that along with the Red Cross the Y.M.C.A. should "occupy officially the definite position they have come gradually to occupy unofficially."

The volume is a document of interest to all who have at heart

the welfare of the army and of the nation. It is freely illustrated with portraits, and with views of Y.M.C.A. institutions in Egypt and in Palestine.

We are greatly indebted to the author, a leading member of the medical profession in Melbourne, for his interesting and most readable book.

A Medical Field Service Handbook. By C. Max Page, D.S.O., M.S., F.R.C.S., A/Lt.-Colonel, R.A.M.C. With Foreword by Major-General Sir George Makins, G.C.M.G., C.B. Oxford War Primers. London: Henry Frowde and Hodder & Stoughton. 1919. (6s. net.)

This is a compact book, full of useful knowledge on its special subject. Of great interest are the author's observations on the administration of morphia by way of prevention of development of shock. He is by no means orthodox in his opinion in this matter. "It can be generally observed," he says, "in the receiving or operating-room of such an organisation" (the C.C.S.) "that the men who have been dosed with morphia before arrival show an exceptionally low vitality. The drug undoubtedly predisposes to or accelerates the onset of what is called acidosis, and the presence of this condition makes the administration of an anæsthetic and the performance of an operation dangerous at the critical period." On these grounds the author is of the opinion that morphia should only be given when it is definitely needed for the relief of pain. We shall hear other voices no doubt on the other side: for undoubtedly, in civil practice at least, this is not the conclusion most surgeons have come to.

There is a large amount of helpful stuff in this little book, and it is well presented in clear non-technical language.

ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

EDITED BY ROY F. YOUNG, M.B., B.C.

MEDICINE.

Alveolitis Dentalis, Interstitial Gingivitis, so-called Pyorrhœa Alveolaris, Localised Catarrhal Stomatitism: Suggestions as to its Cause and Treatment. By John J. McNulty, M.D., New York (*The Boston Medical and Surgical Journal*, 13th February, 1919.—Alveolitis dentalis is an error of metabolism focussing its expression in and about the alveolus dentalis. Treatment should be systemic, supported by proper surgical technique. The cause is now believed to be lowering of "concentration and velocity of reaction" of the body auto-protective mechanism—that is, insufficiency of internal secretions and enzymes—hypo-action of the pituitary, thyroid, suprarenals, gonads, and the enzyme cycle. Disturbance in the saline balance may be an important contributing causative factor. Whole cereal foods, rich in vitamines and nutrient salts, are recommended.

Appropriate internal secretions and enzymes are also necessary for treatment.

—James Scott.

Books, Pamphlets, &c., Received.

The Theory and Practice of Massage, by Beatrice M. Goodall-Copestake. Second edition. With 67 illustrations. London: H. K. Lewis & Co., Limited. 1919. (9s. net.)

The Refraction of the Eye: A Manual for Students, by Gustavus Hartridge, F.R.C.S. Sixteenth edition. With 110 illustrations. London: J. & A. Churchill. 1919. (7s. 6d. net.)

A Text-book of Physiology, by Martin Flack, C.B.E., M.B., B.Ch.Oxon., and Leonard Hill, M.B., F.R.S. Illustrated. London: Edward Arnold. 1919. (25s. net.)

Psycho-Analysis and its Place in Life, by M. K. Bradby. London: Henry Frowde and Hodder & Stoughton. 1919. (8s. 6d. net.)

War Neuroses and Shell Shock, by Fredk. W. Mott, M.D., LL.D., F.R.S., F.R.C.P., Brevet Lieut.-Colonel, R.A.M.C.(T.) With Preface by the Right Hon. Christopher Addison, M.P., Minister of Reconstruction. London: Henry Frowde and Hodder & Stoughton. 1919. (16s. net.)

Heart: Past and Present, by Edgar Lea, M.D.Vict., M.R.C.P.Lond. London: Baillière, Tindall & Cox. 1919. (7s. 6d. net.)

GLASGOW.—METEOROLOGICAL AND VITAL STATISTICS FOR THE FOUR WEEKS ENDED 24TH MAY, 1919.

	Week ending			
	May 3.	May 10.	May 17.	May 24.
Mean temperature,	41·9°	49·6°	56·2°	57·3°
Amount of rainfall, ins.	0·45	0·27	0·05	0·13
Deaths (corrected),	278	318	309	275
Death-rates,	13·0	14·8	14·4	12·8
Zymotic death-rates,	1·8	2·2	1·9	1·7
Pulmonary death-rates,	1·2	1·1	1·3	1·0
DEATHS—				
Under 1 year,	43	46	55	48
60 years and upwards,	63	75	75	57
DEATHS FROM—				
Small-pox	...	...	...	...
Measles,	15	19	16	15
Scarlet fever,	1	1	...	1
Diphtheria,	3	1	4	3
Whooping-cough,	16	25	15	16
Enteric fever,	...	...	1	...
Cerebro-spinal fever,	...	1	3	4
Diarrhœa (under 2 years of age),	3	2	4	2
Bronchitis, pneumonia, and pleurisy,	52	48	56	45
CASES REPORTED—				
Small-pox,	...	...	...	...
Cerebro-spinal meningitis,	2	1	10	4
Diphtheria and membranous croup,	29	22	27	33
Erysipelas,	12	11	11	16
Scarlet fever,	23	28	34	36
Typhus fever,	5	1	4	1
Enteric fever,	...	3	4	...
Phthisis,	65	45	44	39
Puerperal fever,	2	2	1	...
Measles,*	423	481	382	314
Ophthalmia neonatorum,	17	15	19	19

* Measles not notifiable.

SANITARY CHAMBERS,
GLASGOW, 29th May, 1919.

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