

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

On Dreams. By PROF. DR. SIGM. FREUD. Only authorised English Translation by M. D. EDER from the second German Edition. London: William Heinemann. 1914. Cr. 8vo. Pp. xxxii + 110.

DR. FREUD'S handbook is interesting, illuminating and suggestive. His views will not always meet with acceptance; spiritists will look in vain for supernatural agencies, psychologists and alienists of the old school will be somewhat contemptuous of the attention paid to what they have regarded as dissociated and meaningless play of the cerebral functions.

For the alienist, however, there are many valuable hints in Dr. Freud's method. In cases of mental obsession, cure very frequently follows when the structure of the bogey can be shown, when the patient can be induced to look back and recognise that the dreadful fiend is but a candle in a turnip. The roots of the *ægri somnia vana* are, as a rule, hidden from the patient; when they are exposed the doctor can root out the written troubles of the brain. Psychotherapy becomes then in many cases conditional on psycho-analysis, and the alienist stands, like a modern Daniel, ready to interpret dreams. For it is in dreams most frequently that the secret mental disorder can most clearly be detected.

Dreams are no chance sport of the brain, but the manifestation of ordered mental processes. The dream interpreter has to determine the nature of these processes. Dr. Freud holds that all dreams are ultimately inspired by egoistic motions, that they are the concealed realisations of repressed desires. Most of the dreams of adults are traceable by analysis to erotic desires, which can be discovered in the latent dream content. Between the

manifest dream content and the latent content a kind of censorship is established, and under this censorship the latent content is altered by the process of "dream work" into the manifest dream.

Dr. Freud distinguishes four principal modes in this dream work :—(1) Condensation whereby a single dream element is representative of many waking experiences ; (2) dream displacement whereby the emotional emphasis is transferred from its right place in the train of dream-ideas to some trivial element in the dream content ; (3) dramatisation of the dream content, the work of the figurative imagination which aims at unity—a method in the madness ; (4) elaboration due to a regard for intelligibility, whereby the dream gets a kind of façade, which coördinates superficially the structure due to dream work. The dream work is not creative ; "it develops no fancies of its own, it judges nothing, decides nothing." The intellectual operations were already present in the dream-ideas, and have been transferred *en bloc* to a new context in the manifest dream content.

All this dream-work is due to the psychical censorship, the regard for appearance, the effort to suppress the unpleasant or the impossible. The dreamer is unconscious very often of the desires which actuate him, and their existence can be established only by analysis of the dream content. Dreams may be roughly classified as, firstly, those which exhibit non-repressed, non-concealed desire ; these are dreams of the infantile type, becoming rarer among adults. Secondly, dreams which express in veiled form some repressed desire ; these constitute the larger number of our dreams. Thirdly, these dreams where repression exists, but without or with but slight concealment. These dreams are invariably accompanied by a feeling of dread which brings the dream to an end. So far from being a disturber of sleep, the dream is the true guardian of sleep. In infantile dreaming this is manifest ; in his dream the child gets what he wants, and so is content and sleeps on. The case with the adult is fundamentally the same. Life has taught him the

futility of desire, the need of restraints. The psycho-physiological condition of sleep relax some of the energy devoted to repression, but the internal stimuli that arise from the repressed desires which find relief in the dream and do not interrupt the procedure of sleep.

The symbolic character of much of the manifest dream content is due to the ultimately erotic character of the dream thoughts. The psychic Mrs. Grundy shrinks from calling a spade a spade, and has evolved a symbolism which finds expression in the dream. "Dream-symbolism" proves indispensable for understanding the so-called "typical" dreams and the dreams that repeat themselves.

This limitation of the ultimate dream motive will be fiercely challenged by many who find in dreams messages from another world or atavistic resurrections. But the students of comparative religion, of folklore and mythology will, perhaps, find here a hint to illuminate many of the dark corners of human traditions.

The translator has done his work well; he has himself contributed an excellent introduction. T. G. M.

Saint Thomas's Hospital Reports. New Series. Vol. XLI. Edited by DR. J. J. PERKINS and MR. C. A. BALLANCE. London: J. & A. Churchill. 1914. Demy 8vo. Pp. xii + 237.

It is difficult to over-estimate the value of this great annual. It is a very mine of information. But no mine ever deterred the worker more effectually than the make-up of this wealth of information, which is enshrined in beautiful ruby type and columns of statistics. The reviewer rises from the task with aching eyes and a splitting headache; and all this suffering results from a desire to save a few shillings. No volume better repays reading, both specialists and general practitioners may benefit from its records, and the progress of Medicine demands that the benefits be secured without risk of blindness or of a headache that simulates meningitis in its intensity.

THE VACCINATION QUESTION.

1. *Fiftieth detailed Annual Report of the Registrar-General for Ireland.* Containing a General Abstract of the Numbers of Marriages, Births and Deaths registered in Ireland during the year 1913. London: Printed under the Authority of His Majesty's Stationery Office, by Alex. Thom & Co., Ltd., Abbey Street, Dublin. 1914. Folio. Pp. xlv. + 168.
2. *Supplement to the Quarterly Returns of the Marriages, Births and Deaths registered in Ireland during the year 1912.* Being Statistics regarding the Vaccination of Children whose Births were registered in Ireland in that year. London: Printed under the Authority of His Majesty's Stationery Office, by Alex. Thom & Co., Ltd., Abbey Street, Dublin. Folio. Pp. 44.
3. *Annual Report of the Local Government Board for Ireland for the year ended 31st March, 1914.* Being the Forty-second Report under "The Local Government Board (Ireland) Act, 1872," 35 & 36 Vic., c. 69. London: Printed under the Authority of His Majesty's Stationery Office, by A. Thom & Co., Ltd., 87, 88 and 89 Abbey Street, Dublin. 1914. Large 8vo. Pp. lvi. + 380.
4. *The Vaccination Question in the Light of Modern Experience.* By C. KILLICK MILLARD, M.D., D.Sc.; Medical Officer of Health for Leicester; Medical Superintendent of the Isolation and Smallpox Hospitals, Leicester; formerly Medical Officer of Health for Burton-on-Trent; Medical Superintendent of the Birmingham City Hospitals. London: H. K. Lewis. 1914. Demy 8vo. Pp. xvi. + 244.

ONLY within the last few years has the Vaccination Question arisen in Ireland, largely indeed owing to an active propaganda on the part of the National Anti-Vaccination League of which the official organ is *The Vaccination Inquirer*, published monthly. In the number of that publication for March 1914, the following passage occurs: "Many of us would prefer an attack of smallpox

to vaccination, all of us would prefer the risk of smallpox to the certainty of vaccination. Smallpox is a natural disease running a known course. . . . Vaccination is a loathsome disease of uncertain origin, artificially transmitted through various beasts and capable of setting up a variety of repulsive, dangerous, and even fatal affections.”

Such is the teaching of the National Anti-Vaccination League through its mouthpiece, *The Vaccination Inquirer*. The apostles or missionaries of the League carried this doctrine first to the south-east of Ireland a few years ago, and it was the Enniscorthy Board of Guardians that first raised the standard of revolt in this country against compulsory vaccination.

How quickly the leaven has spread through Ireland may be gathered from the following passage in the Annual Report of the Irish Local Government Board for the year ended March 31, 1914, pages xxvi. and xxvii. : “In recent Annual Reports we drew attention to the marked diminution which has taken place in the numbers of primary vaccinations performed by Poor Law Medical Officers, as compared with former years, and we regret to report that during the year now under review there has been a still further considerable falling off in these vaccinations. The diminution in the two Unions, which include the city and suburbs of Dublin, has been very marked. The primary vaccinations carried out by the Dispensary Medical Officers of North and South Dublin Unions in the year ended March, 1911, numbered 6,372, and in the year ended March, 1912, the number fell to 5,317, and in the year ended March, 1913, there was a further decrease to 2,689, whilst in the past year the number amounted only to 1,527. There are now enormous numbers of unvaccinated children in the City of Dublin, and, notwithstanding our repeated warnings, the Guardians of the two Metropolitan Unions have persistently refused during the past three years to discharge the statutory obligations which devolve upon them of administering the Vaccination Acts.”

The action of the Local Government Board—the supreme sanitary authority in Ireland, be it remembered—was eminently characteristic. It is described in their

own words by the Board :—" In this condition of affairs, we felt it incumbent on us to address the Corporation of Dublin as Sanitary Authority for the City, and requested them to provide the further hospital accommodation necessitated by the default of the Boards of Guardians to enforce the provisions of the Vaccination Acts " !

Could there be a more fatuous policy than this? A public body shows default, when the controlling supreme authority, instead of insisting on the law of the land being obeyed, " requests " another public body to " pluck the chestnuts out of the fire " by penalising the citizens of Dublin, who will have to pay for " the further hospital accommodation necessitated by the default of the Board of Guardians." We have a shrewd suspicion that the Corporation of Dublin will in their turn show default, and so the vicious cycle will be complete until smallpox arrives and, after the fashion of a submarine, involves the Local Government, the Boards of Guardians, and the Corporation in a like fate, so far as their administrative capacity is concerned.

For full vaccination statistics we turn to the publications of the Registrar-General for Ireland. In the Supplement to the Quarterly Returns for 1912 it is stated that of the 101,035 children whose births were registered in Ireland during the year 1912, 66,934 were returned as having been successfully vaccinated; 3,375 as having had their vaccinations postponed; 91 cases were returned as unsuccessful, on the ground of constitutional insusceptibility of the vaccine disease; 5,778 children as having died before vaccination; 3,143 were returned as " unaccounted for owing to removal from district or otherwise," and 21,714 were reported as defaulters who had not been granted an extension of time under the Acts. When expressed in percentages, it appears that 66.3 per cent. of the total children born in 1912 were reported as successfully vaccinated; that 3.3 per cent. were postponed on account of the children being unfit for vaccination; that 0.1 per cent. were insusceptible of vaccination; that 5.7 per cent. died before they were vaccinated; that 3.1 per cent. were " unaccounted for owing to removal from district or

otherwise"; and that 21.5 per cent. were returned as defaulters.

The following Table gives the condition as regards vaccination of the children whose births were registered in the year 1912, as compared with each of the preceding eight years :—

TABLE I.—Showing particulars regarding the Vaccination of the Children whose Births were registered in Ireland during each of the nine years 1904–1912, with their percentage to the total Births registered during each year.

Years	Successful Vaccinations (Form A, First Schedule)	Vaccinations Postponed (Form B, First Schedule)	Insusceptible of Vaccine Disease (Schedule D)		Died before Vaccination	Unac- counted for owing to removal from District or other- wise	De- faulters who have not been granted an ex- tension of time under Form B. First Schedule	Total Births Registered
			On the ground of Constitu- tional Insuscep- tibility of the Vaccine Disease	In respect of the Children already having had Smallpox				
1904	84,068	2,184	118	2	7,105	3,774	6,560	103,811
1905	84,326	2,505	90	—	6,624	3,625	5,662	102,832
1906	83,223	2,555	121	—	6,955	4,229	6,453	103,536
1907	81,841	2,360	88	—	6,656	3,567	7,230	101,742
1908	80,504	2,601	96	—	6,808	3,217	8,813	102,039
1909	80,455	2,715	118	—	6,651	3,884	8,936	102,759
1910	78,839	2,754	83	—	6,680	3,694	9,913	101,963
1911	73,856	2,990	151	—	6,434	4,518	13,809	101,758
1912	66,934	3,375	91	—	5,778	3,143	21,714	101,035
1904	81.0	2.1	0.1	0.0	6.9	3.6	6.3	100.0
1905	82.0	2.4	0.1	—	6.5	3.5	5.5	100.0
1906	80.4	2.5	0.1	—	6.7	4.1	6.2	100.0
1907	80.4	2.3	0.1	—	6.6	3.5	7.1	100.0
1908	78.9	2.5	0.1	—	6.7	3.2	8.6	100.0
1909	78.3	2.6	0.1	—	6.5	3.8	8.7	100.0
1910	77.3	2.7	0.1	—	6.6	3.6	9.7	100.0
1911	72.6	2.9	0.2	—	6.3	4.4	13.6	100.0
1912	66.3	3.3	0.1	—	5.7	3.1	21.5	100.0

In 1912 it appears that the successful cases of vaccination in the province of Leinster numbered 12,370, or 45.8 per cent. of the total births registered; in Munster the successful vaccinations numbered 14,847 or 64.0 per cent. of the total births registered therein; in Ulster the successful vaccinations numbered 30,417 or 81.3 per cent. of the total births registered; and in the province of Connaught the number of successful vaccinations reported was 9,300 or 69.2 per cent. of the total births registered.

From this Table (I.) it appears that successful vaccinations, which were 81 per cent. of the births registered in 1904, rose to 82 per cent. in 1905, but declined to 80.4 per cent. in each of the years 1906 and 1907, to 78.9 per cent. in 1908, to 78.3 per cent. in 1909, to 77.3 per cent. in 1910, to 72.6 per cent. in 1911, and to 66.3 per cent. in 1912.

The Registrar-General states that during the year 1913 there was no report of a death from the vaccine disease or from any other effect of vaccination.

In the following tabular statement the number of successful vaccinations returned for each of the years 1882-1912 is given :—

TABLE II.—Showing the Number of Successful Primary Vaccinations in Ireland during each of the years 1882 to 1912. [Extracted from Quarterly Reports.]

Year	Number of Successful Primary Vaccinations in each year	Year	Number of Successful Primary Vaccinations in each year	Year	Number of Successful Primary Vaccinations in each year
1882	107,613	1893	88,695	1903	95,955
1883	106,961	1894	107,204	1904	91,976
1884	105,021	1895	92,227	1905	89,394
1885	102,680	1896	88,817	1906	90,171
1886	97,137	1897	89,732	1907	89,207
1887	96,866	1898	87,169	1908	88,576
1888	93,520	1899	84,937	1909	86,799
1889	92,621	1900	91,150	1910	88,698
1890	93,368	1901	88,520	1911	84,011
1891	92,267	1902	94,303	1912	77,374
1892	89,527				

The following table shows the number of deaths from smallpox registered in Ireland in each of the years 1864-1912 :—

TABLE III.—Showing the Number of Deaths from Small-pox registered in Ireland in each of the 49 years 1864 to 1912.

Year	Number of Deaths registered from Small-pox	Year	Number of Deaths registered from Small-pox	Year	Number of Deaths registered from Small-pox
1864	854	1881	72	1897	3
1865	461	1882	129	1898	—
1866	194	1883	16	1899	1
1867	21	1884	1	1900	1
1868	23	1885	4	1901	2
1869	20	1886	2	1902	1
1870	32	1887	14	1903	40
1871	665	1888	3	1904	16
1872	3,248	1889	—	1905	5
1873	504	1890	—	1906	—
1874	569	1891	7	1907	1
1875	535	1892	—	1908	—
1876	24	1893	1	1909	—
1877	71	1894	72	1910	—
1878	873	1895	146	1911	—
1879	672	1896	4	1912	—
1880	389				

It will be observed that the last record of mortality from smallpox in Ireland was in the year 1907, when one death was registered.

Now, so far as we have gone in this review, two facts stand out in bold relief—first, an uncompromising opposition to vaccination on the part of the National Anti-Vaccination League; and, second, a rapid decline of the practice of vaccination in Ireland. The latter has been brought about by three agencies—an active anti-vaccination crusade engineered by the League, carelessness on the part of parents and guardians of new-born children, and a reprehensible passive resistance on the part of Boards of Guardians to the working of the Vaccination Acts. We cannot exempt from blame the Local Government Board for not insisting that the Boards of Guardians should do their statutory duty of enforcing primary vaccination.

A notable contribution to the literature of the Vaccination Question has been made quite recently by Dr. C. Killick Millard, Medical Officer of Health for Leicester, who appeals for reconsideration of the whole question in the light of modern experience. Dr. Millard's official position, his reputation as a sanitarian, and the admirable manner in which he puts his case, entitle him to receive the fullest and most dispassionate consideration for his views.

It is a matter of common knowledge that Leicester has been for very many years the headquarters of the crusade against vaccination. Prior to the great smallpox epidemic or pandemic of 1871-1872 Leicester ranked as a fairly well vaccinated town, though there had been a certain amount of vaccination default. From 1849 to 1871, whereas the births in Leicester numbered 61,084, the registered vaccinations were only 41,497, or 68 per cent. In July 1868 the first vaccination officer (Mr. Maskell) was appointed with the object of enforcing the provisions of the Vaccination Acts. Prosecutions for default followed his appointment, and during the ensuing four years, 1868-1871, the number of primary vaccinations rose to 87 per cent. of the births, deaths of infants of course accounting for a good deal of the 13 per cent. deficiency.

Then came the epidemic, when in spite of Leicester's supposed "well-vaccinated" state, large numbers of the population were attacked, and no less than 358 deaths occurred. Following the outbreak, an attempt was made to enforce vaccination by prosecution for default. The number of prosecutions grew from only two in 1869 to 1,154 in 1881. But the opposition to vaccination grew in direct proportion. Those who were penalised for defying the law were looked on as martyrs, and the Leicester Anti-Vaccination League was called into being. The popular agitation against compulsory vaccination continued to gain strength until at last it culminated in a great national demonstration which was held in Leicester on March 23rd, 1885. This demonstration practically settled the question of compulsion in Leicester. As a

result of the anti-vaccination agitation, the number of vaccinations began to decline rapidly. By 1887 they had fallen to only 10 per cent. of the births, and by 1891 to less than 2 per cent.

Dr. Millard tells us that "ever since the dawn of the sanitary era in Leicester, smallpox, though many times introduced from outside, has never caused another disaster like that of 1871-2. There have been at least forty separate importations of smallpox since the disease was made notifiable in 1878 [under a private Act], but only three times has it succeeded in assuming epidemic proportions. Moreover, each of these three epidemics has been trifling, as regards the mortality caused by it, compared with the epidemics of the pre-sanitary era." (Page 124.)

The "Leicester Method," by which that town has endeavoured successfully to control smallpox, consists in the adoption of the following preventive measures—notification, hospital isolation, disinfection, searching for "contacts," vaccination and surveillance of "contacts." On this last point Dr. Millard expresses himself as follows (page 127):—"I regard it as absolutely proven that vaccination, even after exposure to infection, is usually effective, provided that no more than three or four days have elapsed since the infection was contracted. The vaccination of contacts is therefore a very useful and important measure, not only for the sake of the contacts themselves, but also for the sake of reducing the number of cases of smallpox to be dealt with. It can hardly be regarded as an *essential measure*, and I do not consider that any compulsory powers in this direction are either necessary or desirable. It is much less certain in its effect than is vaccination before exposure. In any case the contacts must be kept under surveillance, and in the event of smallpox appearing it is almost always possible, by prompt removal to hospital, to prevent the infection going any farther."

Having stated in outline his position with reference to the two contending parties in this controversy—the Pro-

Vaccinists and the Anti-Vaccinists, Dr. Millard advances (in Chapter II.) the following propositions :—

1. Vaccination has, beyond all doubt, so far as the individual is concerned, a protective influence against smallpox.

2. The effect of vaccination upon a community is a variable quantity.

3. Smallpox is disappearing from Great Britain independently of the practice of infantile vaccination.

It will be observed that in the first two of these propositions the author contrasts the "individual" with the "community." "It is necessary at the outset," he writes, "to insist upon the importance of making a clear distinction between the effect of vaccination upon the individual and the community." (Page 9.)

Dr. Millard's argument, stated briefly, is as follows :— "Recent vaccination confers on the *individual* protection against smallpox which, for practical purposes, is complete, though unfortunately only temporary." Further, "vaccination has a remarkable power of modifying and mitigating smallpox for many years after its power to protect against attack has worn out. Moreover, the protection conferred by vaccination can be renewed by revaccination."

He proceeds :—"The great difficulty in controlling the spread of smallpox at the present day in this country is *the occurrence of unrecognised or 'missed' cases of the disease*, which spread infection broadcast before any precautions can be taken. . . . These unrecognised cases which do so much mischief, and which go so far to thwart our efforts to control the disease, *occur chiefly amongst persons vaccinated in infancy and because they were so vaccinated.*"

Now it occurs to us that there is a serious flaw in this line of argument. Surely unrecognised cases could not possibly spread infection broadcast except through an unprotected and, therefore, a susceptible community.

But Dr. Millard goes further. "In other words," he writes, "it **would** seem that infantile vaccination has a

distinct tendency to encourage the spread of smallpox, which goes far to neutralise any benefit which the community might otherwise derive from the fact that such vaccination largely protects the child population against the disease."

This is an unfair inference, for it altogether loses sight of the protective influence of re-vaccination, which the author has already admitted at the outset, and which he emphasises in italics at page 26 in the following sentence : " I am quite prepared to admit that *a complete system of universal vaccination and re-vaccination and repeated re-vaccination, if such could be efficiently carried out, would abolish smallpox from any country in the world.*" In the United Kingdom he is satisfied, however, that " such a drastic measure " is not necessary, and that " it is now frankly admitted, even by the most extreme pro-vaccinists, that general re-vaccination of the community is no longer a question of practical politics."

Chapter III. is devoted to a consideration of the finding of the Royal Commission on Vaccination appointed in the year 1889, and of the conclusions arrived at in the Final Report of the Commission, which was not published until 1896. The remainder of Dr. Millard's work deals with the experience of smallpox which has been gained since the issue of that Final Report. The author accordingly proceeds to discuss the relative importance of vaccination and sanitation (Chapter IV.), the tendency of vaccination to spread smallpox by masking the disease (Chapters V. and VI.). Then follow three chapters on " The Leicester Experiment." and an instructive chapter on the history of smallpox prevention based on outbreaks in Dewsbury in 1893 and 1904, and in Gloucester in 1895-1896. In this last case, in a town of only 40,000 inhabitants, 1,979 cases of smallpox occurred, mostly within the short space of five months. Moreover, the type of the disease was unusually severe, no less than 434 of the cases proving fatal, equivalent to a case mortality of 21.0 per cent. Both towns, by the way, were badly vaccinated, so to speak.

In Chapter XI. on " Injuries caused by Vaccination,"

the author very fairly brings forward all the available evidence touching such injuries, and in equal fairness "restores the perspective," and corrects any exaggerated impression which may have been conveyed by the recital. The most serious vaccination disaster was an outbreak of very fatal erysipelas following vaccination which occurred in the Misterton District of the Gainsborough Union, Yorkshire, in 1876. This untoward and disgraceful incident took place thirty-eight years ago, and was reported upon to the Local Government Board by their Inspector, Mr. J. Netten Radcliffe. He was unable to trace the source of the infection but very properly blamed the dirty methods of the public vaccinator, whom he described as being "reprehensibly careless." His lancets were blunt and rusty, both blades and handles were dirty, whilst his "points" were stated to be "filthy." Moreover the used "points," smeared with blood, were carried mixed up with the unused points. Mr. Radcliffe in his report, also drew attention to the insanitary surroundings of many of the victims' homes. No wonder that Fehleisen's streptococcus, not yet recognised, revealed its presence in producing sickness and death.

Dr. Millard has been Medical Officer of Health for thirteen years of a town (Leicester) with a child population 90 per cent. of which is unvaccinated. This has led him to some startling conclusions. First, he considers that infants, though unvaccinated, enjoy a comparative immunity from smallpox. From this view we must, from personal knowledge, express our emphatic dissent. However he gives figures in support of his opinion at page 150. Secondly, he thinks that the value of infantile vaccination in checking the spread of smallpox in a "civilised" community has been greatly over-estimated. Thirdly, the chief factor in the dissemination of smallpox at the present day is, undoubtedly, the unrecognised case—in this opinion we are at one with the author. But the remedy he suggests evokes a smile: "If the General Medical Council would only ordain that every medical student in his final examination had to 'pass' in

the diagnosis of smallpox as a special subject, ways and means for obtaining the necessary knowledge would quickly be devised, and the whole situation would be radically changed" (page 191). Fourthly, we gather that Dr. Millard is in favour of abandoning compulsory infantile vaccination (compare pages 186 and 189). Well we venture to think that if this reform (?) is ever carried into effect, the mortality from epidemic summer diarrhoea among infants will materially lessen—a conflagration dies out when fuel fails!

Another statement to which we take exception is that "individuals exposed to the infection of virulent smallpox will readily contract the disease, no matter how 'sanitary' the conditions under which they may be living" (page 44). This view is in direct opposition to Dr. Millard's reiterated opinion that infantile vaccination has one serious drawback, namely—that whilst mitigating smallpox it also disguises it, and in this way tends to spread the disease. So it would appear that individuals exposed to the infection of mitigated smallpox also will readily contract the disease.

The prevention of smallpox, if we may presume to express an opinion based on a far-reaching experience of the disease, depends on three things—an aseptic primary vaccination in infancy, an aseptic secondary vaccination approaching puberty, and *of course* sanitation in the fullest sense of the term.

J. W. MOORE.

Pain : Its Origin, Conduction, Perception and Diagnostic Significance. By RICHARD J. BEHAN, M.D., Dr. Med. (Berlin). New York and London : D. Appleton & Co. 1914. Large 8vo. Pp. xxviii. + 920.

WE are unacquainted with any publication which attempts to deal with the study of pain in so widely comprehensive a manner as this book by Dr. Behan. It is a subject on which a most fascinating book might be written—but a book that would be extremely difficult to write. The

author has surmounted this difficulty in part. At the end of the book is an excellent bibliography of works relating to pain. This in itself shows the painstaking care and industry of the author and his desire to be thorough and to give credit where it is due. But his very respect for authorities, we think, gives a general impression of disjointedness in the work as a whole. One feels always it is a compilation. The whole expression is a little incoordinate. Its individual parts are excellent but somehow they fail to work together as we imagine they might have been made to do. In fact Dr. Behan has given us too much of his authorities' and too little of his own brains. The Scotch lawyer who made up his briefs by reading all the facts and then letting them, as he said, "whammle in his wame" overnight, giving his own account of the the case next morning, deserves more copying than he gets. This it is which makes the first few pages tedious, and some of the later chapters too long.

Pain the result of disease in every organ and tissue is carefully recorded and explained. The structure of the nervous system in so far as it relates to sensation is well described and many good diagrams are given. Head's views on segmental areas and on peripheral sensibility are adopted. They held the field at the time this section of the book was written doubtless; but even if they enjoy the author's approval some addendum reference is due to the contradictory views of Trotter and Davies which were published in 1913.

The pains of disease primarily in organs other than the nervous system are fully dealt with. In many instances tables are inserted to show by what concomitant conditions differential diagnosis between one disease and another may be made. Such an example faces page 550. One which seems still more gratuitous faces page 585. It would have been wiser to have used these folded leaves to give larger impressions of the cramped small-printed diagrams on, for example, page 43. Still we can see that this addition may enhance the value of the work in the opinion of many.

The book is plentifully illustrated, and the majority of the illustrations are good. We are old-fashioned (or prudish) enough to regret the insertion of figures 40 and 41. We should not complain much if we could see what they are supposed to show—in witness whereof we do not cry out against the brazen representations on pp. 308 and 309. We hope the author will not think our series of objections are intended as hostile criticism of his book. That is not at all our wish. We think the book is distinctly a good and useful one and we can recommend it as such. But we hope we shall be better pleased with the second edition.

F. C. P.

On the effects of Volcanic Action in the Production of Epidemic Diseases in the Animal and in the Vegetable Creation, and in the Production of Hurricanes and Abnormal Atmospherical Vicissitudes. By H. J. JOHNSTON-LAVIS, M.D., D.Ch., M.R.C.S. Eng. ; L.S.A. Lond. ; F.G.S. ; Author of many works on Medicine and Vulcanology. London: John Bale, Sons & Danielsson, Ltd. 1914. Cr. 8vo. Pp. xii. + 67.

In the twentieth century of the Christian Era it is no easy task to strike out an entirely novel line of research and to advance the claims of a new branch of science to be so considered. This Dr. Johnston-Lavis has attempted to do in the small monograph before us, and not in vain.

The work is really the essay which some months ago won the triennial Parkin prize of £100 of the Royal College of Physicians of Edinburgh. The subject set for the prize forms the title of the essay. It is one which possesses special interest for the dwellers in volcanic countries, such as Iceland, Italy, and—in the British Empire—New Zealand and other Colonies.

The essay includes a short introduction and seven chapters, of which latter the subject-matter is in sequence: physics of eruption, chemistry of eruption, the physical effects of eruptions on human beings and animals, a small

selection of citations of different authors as to the supposed relationship of eruptions to epidemic diseases of man, animals, and plants, the physical effects of eruptions on plant life, the influence of eruptions in the production of hurricanes and abnormal atmospheric vicissitudes, and general conclusion.

One of the most interesting quotations from old writers on the supposed connection between eruptions and epidemics is a letter from Dr. Giovanni Vivinzio to Padre G. M. de la Torre, written in the year 1755. In that letter the writer gives an admirable account of an extremely fatal outbreak of pneumonia which visited a group of towns lying some ten Italian miles north of Vesuvius at the beginning of February, 1755. The outbreak coincided with the setting in of a south wind, blowing from Vesuvius, which had been in active eruption since December 2, 1754. "I judged," wrote Vivinzio, "that this extraordinary malady must be attributable to the smoke which issued, then in abundance, from the summit of the volcano and from the lava streams."

In Chapter VII., however, Dr. Johnston-Lavis gives good reasons for the opinion which he holds strongly—that there is no *direct* relationship between volcanic eruptions and disease in man or animals. He considers, at the same time, that there are several *indirect* ways in which epidemic diseases may be brought into existence, or, at any rate, accelerated by volcanic outbursts. Such predisposing causes of disease as are connected with eruptions are mentioned at page 63.

Again, "if we audit the accounts for good or evil to plant life," the author thinks that "we shall be safe in saying that there is much on the credit side," for "although damage may be done to vegetation by the fall of dust and lapilli, the complete destruction of worms, snails, insects and parasitic fungi must be eventually a great asset to the revived plant life of the region."

And lastly, "beyond the condensation effects from the dust and gases, the rendering of the atmosphere a little more opaque to the sun's rays, the coincident sun and moon

appearances with some magnetic disturbances, no great meteorological commotion can be laid to the account of volcanic eruption." Dr. Johnston-Lavis finds, therefore, that the indictment against volcanic action as pestilent is not sustainable.

His essay is very entertaining and instructive reading, and his conclusions may be accepted without cavil.

Spiritual Healing. Report of a Clerical and Medical Committee of Inquiry into Spiritual, Faith, and Mental Healing. London: Macmillan & Co., Ltd. 1914.

WE cannot feel that this report throws much light on a difficult subject, though it is satisfactory to find that a combined Committee of clergy and medical men are of opinion, after weighing much evidence, that so-called "spiritual" healing does not differ from healing by so-called "suggestion." The Committee is further of opinion that spiritual healing can be expected to be permanently effective only in cases of what are generally termed "functional" disorders. This conclusion is also satisfactory, not so much to medical men—who for the most part long since arrived at the same opinion—but to the laity, who we trust will accept it as authoritative. Some of the evidence published in the second part of the report is of interest. We commend its perusal to all interested in the subject. For ourselves, like Dr. Lloyd Tuckey, we would like to think that spiritual healing, in the sense of healing brought about by miraculous divine help, existed, but we have no personal experience of it.

Anoci-Association. By GEORGE W. CRILE, M.D., and WILLIAM E. LOWER, M.D. Edited by AMY F. ROWLAND. Philadelphia and London: W. B. Saunders Company. 1914. 8vo. Pp. 259.

THE somewhat cryptic title of this book will prepare the reader for a number of strange—may we say barbarous?—words and expressions which he will meet with in its

pages, and which will almost make him wish its authors had supplied an explanatory glossary such as is appended to accounts of travels among gipsies or stories where some of the characters discourse in "Thieves' Latin" or other idiom not understood by the general reader. We think it a pity that while so many American authors write the purest and noblest English, it is too common to find their countrymen who write on medical subjects expressing themselves in a language which is not English or anything else.

The work before us is divided into two parts. The first is theoretical, and gives a statement of the author's "Kinetic Theory of Shock"; while in the second part we have a description of the treatment and prevention of shock by anoci-association.

Now, what is anoci-association?

"When a barefooted boy steps on a sharp stone there is an immediate discharge of nervous energy in his effort to escape from injury. This is not a voluntary act. It is not due to his own personal experience (his ontogeny), but is the result of the experience of his progenitors during the vast periods of time required for the evolution of his species (his phylogeny). The wounding stone made an impression upon the nerve receptors in the foot similar to the innumerable injuries which gave origin to this nerve mechanism itself during the boy's vast phylogenetic or ancestral experience. The stone supplied the phylogenetic association and the appropriate discharge of nervous energy automatically followed."

Every adequate stimulus awakens an association, and these are either injurious to the individual "*noci-associations*," as in the above example, or beneficial, as in the flow of saliva at sight of appetising food "*bene-associations*."

"All life is made up of bene- and noci-associations, and the constant effort of the race and of the individual is to increase the former and decrease the latter, to develop an environment which shall as far as possible be free from *noci-association*—to reach a state of *anoci-association*."

These efforts include everything from opening an umbrella when it rains or bolting the door against burglars, up to the development of antitoxins and phagocytosis in the body.

“In the beginning of human history man in common with most animals had two principal methods of self-defense (*sic*) against the dangers which surrounded him—he fought or he ran away. It is therefore the motor mechanism in particular which through its phylogenetic association with injury to the individual is responsible for the discharges of energy which are occasioned by the presence or even the thought of danger. These discharges of energy, when intense enough or protracted enough, produce the extreme conditions called exhaustion and shock. In other words, shock is the result of the *excessive conversion of potential into kinetic energy in response to adequate stimuli.*”

According to this kinetic theory of shock, the essential lesions are to be found in the cells of the brain, suprarenal capsules and liver, and are due to excessive katabolism or conversion of potential into kinetic energy at the expense of chemical substances stored in the cells of these organs. The actual motion may not take place, but yet the changes in the brain and glands occur, and the shock is the same. The “nerve ceptors” whose stimulation causes this discharge of energy may be the “contact ceptors” in the skin or the “distance ceptors” in the organs of special sense. The stimuli, if sufficiently numerous or intense, lead to exhaustion. If they lead to obvious work the depletion of the vital force expresses itself as physical exhaustion.

“If the expenditure of vital force is due to traumatic or to psychic stimuli which lead to no obvious work performed, especially if the stimuli are strong and the expenditure of energy is rapid, the condition is designated *shock*. Shock may therefore be produced by different causes, such as fear and worry, physical injury, infection, hæmorrhage, excessive muscular exertion, starvation, insomnia.”

The changes in the brain and glands caused by shock

and exhaustion from any cause whatsoever seem to be identical. The effort of the surgeon should be to develop the shockless operation through anoci-association, or by cutting off from the brain noci impulses.

The authors appear to have done an immense amount of laboratory work and to have "traumatised" an enormous number of animals. It is much to be regretted that they have not given any particulars of their experiments, not one of which is described in detail. We cannot but think that the nomenclature employed is unfortunate. The involuntary withdrawal of the foot when irritated is an associated nervo-muscular or reflex act quite as beneficial to the individual as is the dribbling of saliva at the sight of food, and therefore seems to us to deserve as well to be called a "bene-association."

As to the anatomical changes in the glands and brain caused by centripetal nervous impulses we should like to know more. The changes in the suprarenals and liver, which are said to be associated with increased discharge of adrenalin and of glycogen respectively, are not minutely described, but are figured in some of the very numerous excellent plates with which the book is illustrated. The changes in the brain cells consist in, firstly, a stage of hyperactivity characterised by hyperchromatism, and later a stage of exhaustion shown by chromatolysis, alteration of nucleus-plasm relation, rupture of the nuclear and the cell membranes, and finally disintegration.

The changes are most marked in the cortex and the cerebellum, but are present also in the medulla and the cord. They are absent when the trauma is limited to territories disconnected from the brain by section of the cord or by local "anesthetization." If two dogs had their circulations crossed, so that practically the same blood circulated through the two animals, and one was submitted to "traumatization," the anatomical changes were found only in the latter, showing that they were due not to the condition of the blood, but only to the nerve influence.

The brain changes are depicted in several, mostly

coloured, plates. The figures are all of cerebellar preparations which appear to have been made by the methylene blue method. It would be interesting to know whether the changes in the cortex cerebri were uniform throughout, or more marked in the sensori-motor regions than in the so-called "associational or psychic areae," and whether they showed any localised difference according to the part of the body submitted to the trauma. We may add that, with the exception of these anatomical changes, there is apparently no evidence adduced of increased conversion of potential into kinetic energy in the brain cells.

There are several very interesting statements on which we should be glad to have had further information. Thus we read of a decapitated dog in whom the circulation was maintained for eleven hours by injection of adrenalin, we presume with the aid of artificial respiration. The different amount of shock produced by different kinds of injury is full of interest. Those injuries to which successive generations of animals have been longest submitted, such as crushing and tearing, have, by evolution, come to produce most shock, while those forms of injury to which we have only recently become exposed produce much less. Thus ordinary burns cause great shock, while burns by x -rays do not; slow perforation causes shock, the rapid passage of a modern rifle bullet does not (there are probably a good many poor fellows at the present moment who would deny this statement); dragging on the mesentery or intestine, which resembles the distension of flatulence, causes shock, while cutting with a sharp knife or burning of the mesentery or intestine, an altogether unnatural form of trauma, does not. Indeed the work is full of most interesting and suggestive matter, however we may be inclined to differ with some of the theoretical views put forward.

But in the second part of the work practical surgeons will find matter of the highest interest—for whatever the fate of the theories may be, the practice of the authors has had the most brilliant results. As regards the

anæsthetic a preference is given to nitrous oxide and oxygen. The method of using this gas mixture is described by Miss Hodgins, the chief anæsthetist at the Lakeside Hospital; and Dr. Warner, the superintendent, describes and figures the great apparatus for the manufacture and storage of the gases. This anæsthetic has been used 34,964 times without accident. Other anæsthetics are not, however, excluded. The nitrous oxide inhalation is usually preceded by hypodermic injection of morphine and scopolamine, and ether is, when necessary, mixed with the gas inhaled. Spinal anæsthesia in abdominal operations does not meet with favour; it lowers blood-pressure, leaves the still conscious patient exposed to psychic strain, causes headache, and is followed by a higher mortality than occurs with nitrous oxide.

When the patient is under the anæsthetic the "noci impulses" from the "distance ceptors," that is those brought by the special senses, are cut off from the brain, which, however, still receives the traumatic noci impulses or those coming from the seat of operation. To stop these local anæsthesia is employed. Before division each tissue is injected with novocaïn, and injections of quinine and urea hydrochloride are made at a distance from the wound. The effect of this latter anæsthetic lasts for some days, so that the patient's brain is free from noci impulses originating in the wound until the healing is well begun.

Besides these methods of interrupting the noci-impulses the greatest stress is laid on the importance of making the injury as small as possible, by the use of sharp instruments, clean incisions, avoidance of tearing, crushing or dragging on the tissues, as is too often done in what the authors call "carnivorous operations."

Special chapters are devoted to the technique to be employed in the most important classes of operations, and the descriptions are illustrated by numerous admirable plates. The details must be read in the work itself, and should be carefully studied by every surgeon.

Now, what is the advantage of this method? In what way does the "anociated patient" profit above one

treated by ordinary methods? If we judge the tree by its fruits the advantages of the anoci method are very great, for, besides a recovery undisturbed by post-operative troubles, the mortality is greatly diminished.

“A study of the statistics of the Lakeside Hospital shows that in 1908, the year before the adoption of the principle of *anoci-association*, the mortality rate of all operations performed by the authors and their resident staff was 4.4 per cent.; in 1912 the mortality rate had fallen to 1.9 per cent.; and last year, 1913, to 1.8.”

As the authors' experience has been gained by the practical treatment of over 20,000 surgical cases, these statistics are of great value.

While congratulating the authors on their success, we would cordially recommend their book to the attention of all surgeons.

The Biology of the Blood Cells, with a Glossary of Hæmatological Terms: for the Use of Practitioners of Medicine.

By O. C. GRUNER, M.D. Lond., Pathologist to the Royal Victoria Hospital, and to the Maternity Hospital, Montreal; Assistant Professor of Pathology, M'Gill University, Montreal, &c. Bristol: John Wright & Sons, Ltd. 1913. Pp. xii + 392. With 75 figures and 7 coloured plates.

THE title page describes this work as “for the use of practitioners of medicine,” and the preface informs us that it is intended to serve as companion to any of the larger text-books on hæmatology, but when he has got through this volume in the intervals of his practice, the practitioner will certainly need a good rest before going any further in his studies of the subject. The glossary contains more than eight hundred hæmatological terms from “agranuloplastic” and “aleukæmic malignant lymphadenoid lymphadenoma” to “Wolff's pseudomast cell,” “xanthophile” and “Zoja's hæmocytoblast.”

The writer acknowledges his indebtedness to Pappenheim, and it is evident that he adopts very fully the

ideas of the latter ; so that for those of us who take an interest in the subject, but, not being good German scholars, find it a labour to wade through the pages of Pappenheim's Atlas and of the *Folia Hæmatologica*, it is a comfort to get so much of his most important work in our native tongue. Modern hæmatologists are divided into two camps as dualists and unitarians. To the latter of these groups the author belongs, holding as he does that both red and white cells are derived from the one type of primordial cell, the lymphoidocyte, found in the spleen, bone-marrow, and other hæmatopoietic tissues. Blood-cells are divided into primordial, red, lymphatic, monocytic, neutrophilic and phlogocytic forms, the last-named including those characteristic of non-suppurative inflammatory cell infiltrations and usually, of course, only found in the tissues. The life history of each of these main groups of cells is followed, noting the changes which occur from the time of their birth to that of their death, and the effect upon them, and upon the tissue in which they are found, of pathogenic and other influences.

As one reads the whole subject becomes clearer, and it is possible to grasp the fundamental connections between the cells, and to understand a little more of the relation between the pathological condition of the blood-forming tissues in "blood diseases," and the appearances which may be observed in blood counts and in film preparations of the blood.

The Dublin University Calendar, for the Year 1914-1915, to which are added the Ordinary Papers set in the Year 1913-1914. Volume I. Dublin : Hodges, Figgis & Co., Ltd. 1914. 8vo. Pp. viii + 66* + 348 + cxxxvi.

THE first volume of the Dublin University Calendar for the coming academic year was published in good time at the middle of September. It proceeds on much the same lines as in previous years, but the Undergraduate Ordinary Examination Papers are now paged separately from i to cxxxvi.

In the other parts of the volume, full information is

given as to the Ordinary and Honour Courses in Arts and in the Professional Schools.

Since the publication of the Calendar the University has sustained a grievous loss in the death on Friday, September 18th, of Robert Yelverton Tyrrell, Litt.D., the Senior Dean and Catechist, and President of the Special Court of Examiners in Classics for Moderatorships, Fellowships, and Scholarships; and still more recently in the death, on Thursday, October 15th, of the Provost, Dr. Anthony Traill.

Mr. M. W. J. Fry, the Editor, is to be congratulated on the fine volume before us, which is a credit also to the University Press and to the Publishers.

Clinical Examination of the Blood and its Technique. A Manual for Students and Practitioners. By PROFESSOR A. PAPPENHEIM, Berlin. Translated and adapted from the German by R. DONALDSON, M.A., M.B., F.R.C.S.Ed., D.P.H.; Pathologist, Royal Berks Hospital, Reading, &c. Bristol: John Wright & Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. Toronto: Macmillan Company of Canada, Ltd. 1914. Pp. ix + 87.

THE main value of this little book consists in the two coloured plates placed at its beginning. These plates, with the explanatory details contained in the earlier pages of the text, give the reader a summary of Pappenheim's well known views concerning the varieties of white cells and the relationship which exists between these varieties. The remainder of the book summarises in rather stilted and technical language the essentials of ordinary blood examination, and in addition a short account is given of the changes to be met with in the blood in most of the special blood diseases.

For our part we think that this translation was hardly called for, except that it makes more generally procurable, as already stated, a short account of the author's views concerning the origin and varieties of the leucocytes.