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THE HISTORICAL APPROACH TO MEDICINE

In the present issue of the *Journal* we print the inaugural address given at the University of Durham College of Medicine, Newcastle-on-Tyne, by Sir George Newman (p. 711), and a review of a recently published book by Sir Henry Brackenbury (p. 725). The address and the book, though directed to different objectives, may with advantage be considered together, owing to the striking similarity of their line of thought and their general conception of the attitude of mind towards his work that should be cultivated by a medical practitioner. Sir Henry Brackenbury's book is intended to expound the present outlook of medicine with a view to the cultivation of a proper relation of doctor to patient, both as individual to individual and as an organized profession to the community as a whole. The address is intended to suggest some readjustment in medical study, with a view to influencing the proposals for changes in the medical curriculum now under consideration. Nevertheless, the address and the earlier part of *Patient and Doctor* alike illustrate the value of a historical approach to the science and art of medicine, and Sir George Newman recommends that this method should find a definite place in the curriculum of medical schools.

With a wealth of illustration which is characteristic of his writings, Sir George Newman pleads that for the proper learning of the science and art of medicine there is necessary not only a scientific outlook, a preventive outlook, an outlook comprehending the whole of man's personality and environment, but a historical outlook also ; and claims that such a point of view is essential for "a scholastic foundation of cultural education," and that it alone, or at any rate most readily, leads to a full appreciation of the sociological and ethical aspects of medicine and of that "deeper affinity, the integration of medicine, the interrelation of its several parts in one whole . . . the total unity and mutual interdependence of scientific truth." There can be scarcely any doubt about the general truth of this proposition or opinion. It is possible to be a competent medical practitioner even with the very scantiest knowledge of the history of medicine ; but, within reasonable limits, a relatively full and detailed knowledge of that history not only adds immensely to the interest of medical study, but is really necessary to a proper understanding of many biological, physiological, and pathological problems of the duties of a medical practitioner in relation to the communal health, and of some of the fundamental social and ethical requirements of professional life. To supply this knowledge in due proportion and in sufficient degree, it would not seem to be necessary to tack on an additional subject—the history of medicine—to the already heavy medical curriculum. Sir George Newman has sometimes so stressed the importance of this teaching as to appear to imply that such a definite addition should be made, but he does not actually suggest this in his address at Newcastle. Just as attention to the preventive aspects of medicine should pervade the whole of medical instruction and study, so the historical approach to the considerations of physiological and clinical problems can be sufficiently inculcated and emphasized by its adoption in the ordinary course of lectures on physiology, medicine, surgery, and pathology, and by appropriate incidental references during practical clinical teaching. The fact that Sir Henry Brackenbury in one short chapter and Sir George Newman in an inaugural address are able to give a bird's-eye view of the development of medicine, to indicate its main periods and their general characteristics, and to particularize the chief reforms or contributions of the Hippocratic school, is enough to show that no systematic organized course of lectures on this subject is really necessary as part of the obligatory curriculum in order to make the historical approach to medicine an effective part of the student's training.

Sir George Newman says that "the integration and unity of medicine cannot be apprehended without a vigilant appreciation of the potential and kinetic value of its history." This is a valuable additional reason for the historical approach and method. Recent reports on the reform of medical education have insisted that to deal with the different subjects of the curriculum as though they were in separate compartments more or less rigidly divided off from each other is radically faulty, and that the course must be considered and dealt with as a whole. For this reason, as well as for others involved in the practical conduct of medicine as an art, the distinction of the three main branches of medicine (in the narrower connotation), surgery, and obstetrics, and of a number of specialties within these, is in danger of being carried too far. It is becoming of increasing importance that the essential unity of medicine as a science and of the medical profession as one organized whole should be reaffirmed and demonstrated. On all grounds Sir George Newman did well to say to the students in the University of Durham School of Medicine: "Your appreciation of history as a student and afterwards as a practitioner will be of inestimable pleasure and advantage to you, in work, in leisure, and in travel."

THE HEALTH OF THE PEOPLE

The annual report for 1934 of the Chief Medical Officer of the Ministry of Health[1] is the first to appear above the name of Dr. Arthur MacNalty, although, as he says, the work which it records was performed under the direction of his predecessor, Sir George Newman. The report is less bulky than usual, running to only a couple of hundred pages. In matters of health the statistical method is always inadequate and often misleading, yet in the health assessment of the forty million people of England and Wales statistics must be the principal recourse, however many the factors which they conceal rather than reveal. Concerning the cruder vital statistics, however, with which the first part of the report deals, the position is fairly clear. The birth rate for 1934, 14.8 per 1,000 living, was slightly above that for the previous year, but recent experience suggests that the annual number of births in England and Wales will soon be only half a million, as compared with not far short of a million at the turn of the century. The death rate, 11.8 per 1,000, was a little below that for the last three years, but above the figure for 1930 and for 1926. The infant mortality, however, 59 per 1,000 births, is the lowest yet recorded. In general epidemiology the year had no special significance, except for the increased number of notifications of scarlet fever and a high incidence of diphtheria. The insurance medical service calls for little comment in the Chief Medical Officer's annual review. It seems now to be running on very smooth rails, and its best testimonial is the paucity of complaints—only 161 brought before medical service subcommittees, and of those only one in four substantiated. The one note of criticism is the continued high cost of prescribing.

Two obstinate figures present themselves in the bills of mortality. The first is the number of women whose deaths are classed to pregnancy and child-bearing. The puerperal mortality per 1,000 live births was 4.60, virtually the same as in the previous year (4.51) allowing for the slightly increased number of births in 1934. One mother's life was sacrificed for every 221 children born, or, put in another way, 2,748 women died in performing the maternal function. The disquieting thing is the refusal of this figure to respond to improvement in the provision for maternal care and the enlightenment of the public conscience on the subject. It is true that the figure is inflated by the excessively high figures for a few areas, especially some Welsh counties and some Lancashire boroughs. The "black" areas are now being visited, and, what may prove equally useful, other areas are also being visited in which, though the rates are lower, the general circumstances are similar to those in the areas where the rates are exceptionally high. The figures for different areas are very perplexing. Why is the maternal mortality in Merthyr Tydvil (1,093 births) only 1.82, while in the neighbouring boroughs of Swansea and Cardiff (2,803 and 3,692 births) it is 6.06 and 7.31 respectively? The persistently high rate in Wales is the subject of special discussion in the report, and it is said that nowhere more than in the Principality do mothers need to learn the necessity for ante-natal care. The other unyielding figure is the cancer mortality. Deaths from cancer are again slightly up (1,563 per 1,000,000 living), which means that out of every hundred deaths at all ages thirteen are due to this disease, or, taking only the working life span, from 15 to 65 years, the toll of cancer is seventeen out of every hundred deaths. It is pointed out that the ability to diagnose cancer improves steadily, and on the reasonable assumption that the actual number of deaths has always exceeded the number certified, and that there is little, if any, increased prevalence of the disease, it seems possible that the peak of the mortality is being approached. Or, if not a peak, perhaps a plateau.

Some recent reports from Whitehall have been criticized on the ground that they exhibit too great complacency with regard to possible under-nutrition resulting from economic distress. The influence of unemployment or reduced family income on health is extremely hard to determine. As we suggested, in commenting on the Durham County investigation,[2] the results of which are recapitulated in the present report, there are factors of a depressing kind which nevertheless fail to make their appearance in health indexes. In a list of distressed areas, counties, and county boroughs the death rate is shown to be below the national average in at least half of them, and in several the infant mortality is lower than for the country as a whole. The comment is made, arising out of the Durham investigation, that even in the most distressed areas the measures taken by public authorities and the generous efforts of individuals have largely held in check the deleterious influences of unemployment. "At the same time the [Durham] report gives no ground for complacency. No inquiry can accurately evaluate the grave, indirect dangers to health of mind and body which prolonged unemployment involves, and the position is being closely watched." One thing desired is research into suitable tests which would serve as a means of ascertaining the normality of nutritional functions.

We shall have occasion in a later issue to describe in more detail some aspects of the Chief Medical Officer's report. In the meantime we may be allowed to express the hope that there will be a long series of such annual reports, progressively encouraging in character, from Dr. MacNalty's pen.

[1] *On the State of the Public Health.* Annual Report of the Chief Medical Officer of the Ministry of Health for the Year 1934. H.M. Stationery Office. (3s. net.)

[2] *British Medical Journal,* May 18th, 1935, p. 1037.

ACIDOPHILUS THERAPY

The group of bacteria known as the lactobacilli has acquired great prominence in the literature. Metchnikoff's elixir of life, by means of which the intestinal toxins were to be neutralized, was one of them ; but unfortunately the bacillus he chose, *L. bulgaricus,* was of animal origin, and did not flourish in the human intestine. Two forms, however, are capable of growth and, under suitable conditions, of multiplication and continued existence in human bowel contents. One of these, *L. acidophilus,* is of human intestinal origin, and has been accepted as playing an important part in the bacteriology and physiology of the intestine. The lactobacillus genus is widely distributed in nature, is primarily fermentative, and possesses but little proteolytic property. By fermentation of carbohydrates lactic acid is produced ; and one property which has attracted particular attention is the peculiar tolerance for free organic acids. The results of a recent study of the group and particularly of the human intestinal organism, *L. acidophilus,* are now published by the four authors, under the direction of Professor Rettger of Yale University.[1] It is pointed out that in order to obtain a significant and prolonged change in the bacterial content of the faeces towards the acidophilus side, cultures must be ingested of organisms from human origins. The cultures, when taken by the mouth, must contain viable organisms and the culture medium must be free from foreign organisms. It has been found necessary to sterilize the milk media in an autoclave under pressure, in order to kill off other organisms, and to administer the culture within a day or two and in large amounts. The authors demand a culture containing at least one hundred million bacilli per c.mm. and recommend cultures with eight or ten times as many organisms. The survival of the bacilli is limited, and after a few days the number of living organisms is reduced by at least one-half. They state that it is not necessary to change the diet at first, but to increase the lactose and dextrin in the food is useful ; and recommend that there should be a daily intake of a quart of the culture, spread over eight to twelve weeks, in order to obtain a satisfactory and persistent swing of the faeces to the acid side. Even then recurring courses of treatment should be given. They have found persistence of *L. acidophilus* in the faeces eleven to eighteen months after the close of the last acidophilus milk ingestion period. As well as experiments on human subjects under laboratory conditions, the authors have made four years' observations on patients with various forms of intestinal complaint. Seventy-five per cent. of cases of simple constipation yielded to the treatment. No drastic aperient was used, but an occasional enema was necessary. Even in cases of constipation complicated by gall-bladder disease an equal number of successful results were obtained. Cases, too, of mucous colitis or irritable colon were found to benefit by the treatment. A physician of great experience informs us that he has found similar useful results in patients with disorders of the colon, and can confirm the persistence of the organism in the faeces after courses of *L. acidophilus* ingestion. Much smaller amounts are usually enough, and by continuing to take a few ounces of culture twice a week the *L. acidophilus* remains the predominant faecal organism.

[1] *Lactobacillus Acidophilus and its Therapeutic Application.* By Leo F. Rettger, Ph.D., LL.D., Maurice N. Levy, M.D., Louis Weinstein, Ph.D., and James E. Weiss, Ph.D. New Haven: Yale University Press ; London: H. Milford, Oxford University Press. (11s. 6d.)

THE ELECTROCARDIOGRAM AND CARDIAC DISPLACEMENT

In view of the amount of space recently devoted to cardiology in these columns, some novel experiments conducted by W. B. Kountz and co-workers,[1] which throw light on the old and new interpretations of extrasystoles and bundle-branch block in the electrocardiogram, may not be without interest. During the last few years observations have been made suggesting that the conventional interpretation of the site of origin of these anomalies is incorrect, so that what was formerly regarded as a right ventricular extrasystole and right bundle-branch block should really be called left in both cases, and vice versa. Kountz and his associates first experimented on human bodies obtained immediately after death. The chest was opened, the heart perfused, and in eight instances the heart-beat was restarted with the establishment, sooner or later, of normal rhythm. Electrocardiograms obtained with ordinary limb leads showed normal curves in these eight cases. On separate stimulation of the ventricles the curves showed complexes of extrasystoles in harmony with the new interpretation. Cutting of the right and left branches of the bundle similarly gave curves in support of it. The results, however, were greatly modified by displacement of the heart, and it was only when the heart was in normal position that the site of a disturbance could be correctly localized from the curves. In a second series of experiments the perfused and normally beating dog's heart was introduced into the human pericardial cavity from which most of the human heart had been removed. Cardiograms taken by limb leads then gave curves similar to those obtained from the perfused human heart. The importance of this observation lies in the fact that ordinary cardiograms of the dog give curves *dissimilar* to those of man, and it was on these that the classical interpretation of the human cardiogram was based. The explanation offered for the discrepancy is that in the experimental dog, laid on its back and with the chest open, there is a considerable displacement of the heart, which is able to fall back towards the posterior wall of the chest. Finally, experiments were made on a series of monkeys, in which the chest contour is similar to that of man. The form of extrasystoles and bundle-branch block were again similar to those obtained in the human experiments. Studies on the effect on the curves of cardiac displacement to left and right showed right and left axis deviation, respectively, to be produced. From this it is surmised that the axis deviation of unilateral ventricular hypertrophy depends on deviation of the septum to the contralateral side. Observations on the effect of rotation of the heart showed that this also leads to axis deviation. This work seems to be significant in confirming the modern view of the electrocardiographic localization of premature beats and branch block, and in emphasizing that the position of the heart and its rotation must be

[1] *Amer. Heart Journ.*, June, 1935, pp. 605, 614, and 623.

taken into account in any interpretation; indeed, changes in these factors may make localization of premature beats and the site of the block impossible. The suggestion that displacement of the dog's heart under experimental conditions gave rise to fallacies in the interpretation of the curves, long surviving in the classical interpretation of the human cardiogram, is ingenious, and if confirmed may solve a long-standing problem.

POST-OPERATIVE CIRCULATORY DISTURBANCE

According to a recent paper[1] the pre-operative use of histamine injections, spread over a period of rather more than a week, promises to be of some value in the prophylaxis of this condition. Three Hungarian workers, Drs. S. Rusznyák, S. Karády, and D. Szabó, have succeeded, by means of injections of this substance, in distinguishing between certain types of blood pressure reactions. Those patients who reacted to the injections by showing certain characteristic changes in the blood pressure proved to be peculiarly liable to post-operative derangement of the circulation. After the intravenous injection of 0.005 mg. of histamine most persons show a brief fall of the systolic blood pressure, whereas those subject to post-operative circulatory disturbances react to such an injection with a fall of the blood pressure followed by an often considerable rise. Various attempts by the authors to combat this tendency to post-operative collapse by means of strychnine, ephedrine, etc., proved disappointing, and they found that alcohol promoted this tendency. Much more promising were the results obtained with a subcutaneous injection of 0.5 to 1 mg. of histamine twice a day for eight to ten days before an operation. This prophylactic measure changed the abnormal response to histamine to normal for a brief period, this abnormal reaction returning three to four days after the last injection. Though the authors cannot explain the mode of action of histamine in such cases, they have found it a valuable adjunct to the preparation of patients for operations, and they intimate that histamine may prove invaluable in a great variety of anaphylactic phenomena, including bronchial asthma and urticaria.

INCOME TAX RELIEF IN RESPECT OF CHILDREN

As our readers are aware, the Income Tax Acts provide for "allowances" of £50 per annum in respect of children who are under 16 years of age, or, being over that age, are receiving full-time instruction at a recognized educational establishment. We have been requested to comment on a scheme, which appears to have a considerable vogue, for obtaining greater relief than the statutory allowances provide. Briefly, the essence of the scheme is for the parent to make over to the child by deed the legal title to a fixed annual income. Incidentally, the amount of the income so transferred is usually limited to a maximum of £50, because if the child's income exceeds that amount the statutory allowance is forfeited. In fact, it is advisable to keep below the £50 limit, because otherwise the receipt of a few shillings from, for instance, a Post Office Savings Bank deposit in the child's name will bring the income over £50 and so nullify the effect of the scheme. A further point to be borne in mind is that where the transferred income is "earned" by the parent, it becomes "unearned" income in the child's hands and involves loss of the earned income relief. The scheme, however, does bring some advantage to the taxpayer even after paying a reasonable fee to the agent employed to prepare the necessary deed and deal with the annual repayment claim which the parent makes on behalf of the child in respect of the tax he deducts at the standard rate when paying over the income—very often to himself as the child's natural guardian. The maximum advantage is about £10 per child at present rates of tax, subject to payment of the appropriate stamp duties when the deeds are executed, which normally should not exceed a few shillings for each deed. There is a somewhat complicated section of the Income Tax Acts—Finance Act, 1922, Section 20—dealing with voluntary disposition of income, and for that reason it is advisable to employ someone in the preparation of the deed who has had special experience of this class of business. A correspondent has sent us a circular on the subject issued by a concern which claims to have had large experience in working this scheme, but probably most practising accountants are reasonably familiar with it, and are aware of the pitfalls to be avoided in preparing the necessary deed.

[1] *Deut. med. Woch.*, July 12th, 1935, p. 1111.

DINITROPHENOL CATARACT

The use of dinitrophenol in the treatment of obesity has gone to much greater lengths in the United States than in this country. A number of patent medicines, including one which rejoices in the name of "Slim," are flooding the market there, and an unexpected complication of their use is rapidly developing cataract. Attention to this complication of the use of dinitrophenol was recently drawn by Horner, Jones, and Boardman,[1] who reported several cases, and more recent reports assume something of the nature of an avalanche. One single issue of the *Journal of the American Medical Association* contains no fewer than four different reports dealing with six cases.[2] The histories given are fairly uniform. Young adult and middle-aged patients who have been taking dinitrophenol find after a time blurring of vision which rapidly goes on to blindness from complete lens opacity. In the early stages the lens changes are characteristic. Stippled polychromatic opacities develop in the subepithelial layer of the cortex, and many vacuoles under the epithelium are seen to protrude on the surface, thereby roughening it. Similar opacities are situated in the posterior cortex. When fully developed the opaque lens does not differ in appearance from senile cataract. Apparently the eye is not involved otherwise, but cases are reported in which peripheral neuritis developed as a result of the treatment, and it is therefore conceivable that retrobulbar neuritis might supervene. It would also appear that operative results for dinitrophenol cataract are satis-

[1] Horner, W. D., Jones, R. B., and Boardman, W. W.: *Journ. Amer. Med. Assoc.*, 1935, cv, 108.
[2] Cogan, D. G., and Cogan, F. C.: Ibid., 1935, cv, 793; Lazar, N. K.: Ibid., 1935, cv, 794; Kniskern, P. W.: Ibid., 1935, cv, 794; Allen, T. D., and Benson, V. M.: Ibid., 1935, cv, 795.

factory. One point that emerges from the study of these reports is that the cataract may develop some time after the patient has discontinued the treatment. Of interest in connexion with these reports is a note by Emanuel M. Josephson[3] on the use of vitamin C in this condition. Grounding himself on the work of a number of observers who have reported diminishing incidence of vitamin C in the lens with advancing age and in cataract formation, he has used ascorbic acid in all forms of cataract, and, while the results in senile cataract were gratifying, in dinitrophenol cataract improvement was surprisingly rapid. Other toxic symptoms of dinitrophenol poisoning, such as neuritis, also responded promptly to the ascorbic acid therapy. Josephson's preliminary report does not, however, give much detail, and it is difficult to judge whether this represents a possible medical treatment of senile cataract. Certainly it seems that the much vaunted and most recent of medical treatments—that by lens extract—is proving disappointing. Selinger,[4] who reports on the use of lens extract prepared from senile cataracts—as opposed to lens extract from clear lenses used hitherto—can only conclude that it has no more effect than the more classical lens extract.

IDEAL WATER

Many medical officers of health who are keenly interested in the bacterial content of the water supplies of their areas often view with apparent unconcern degrees of hardness in such supplies ranging from moderate upwards. The problem of hardness to their minds, while industrially of unquestioned importance, is hygienically, save in extreme cases, a comparatively minor issue. This attitude on the whole is perhaps warranted. Populations do become accustomed to drinking surprisingly hard waters, and as a rule no harmful effects can justly be held to follow. The aphorism of some years ago that any water which in point of hardness is accepted in the laundry is good enough for the household is nowadays as a working criterion only weakened by the circumstance that in many houses the appeal to the laundry can no longer be made, since the washing is sent out. Yet it is the case that even a moderately hard water, while not a health hazard, carries with it a number of more or less obvious disabilities from which softer waters are free. Much of the soap used with hard waters wastes its virtues in producing an insoluble curd, which by adhering to the skin hinders thorough ablution, or clinging to wash-basins has to be removed with force, which destroys their glaze. Linen in the wash needs severe rubbing, and discolours under the iron. Hot-water boilers, again, become coated with scale so that more fuel is required to heat them. In cooking, too, the green tint of vegetables is discharged and the fibre of meat hardened. Though these blemishes may seem insignificant in a water of high bacterial purity which can be drunk with safety and confidence so far as the risk of communicable disease is concerned, nevertheless the consumer takes notice of them and dislikes the water on their account, while the expert, who judges it by an exacting standard, excludes it from the highest class. Guided, as we are led to understand, by such considerations the water company which supplies the university and town of Cambridge has erected a plant for the purpose of softening the water which it delivers, using the zeolite process of base exchange which is suited to pure waters. Cambridge water, derived from the Fleam Dyke well in the chalk, is already bright, clear, and palatable. Its bacterial standard is excellent. Its chemical analysis has revealed 16 to 18 degrees of hardness. The design is to reduce this moderate figure, which is typical of chalk waters, to 8 degrees, and so by means of partial softening to abate the only imperfection under which the water appears to labour. As if to meet the possible criticism that the water company is taking pains to gild refined gold a speaker on its behalf at a recent meeting of the British Waterworks Association has pointed out that its aim is to turn out an ideal water. Such an aim is fully in keeping with the high standards now observed by the great water providers in the country generally. In the present case the ideal water to which Cambridge may look forward seems well fitted to be delivered to a distinguished fount of learning.

[3] Josephson, E. M.: *Science*, 1935, lxxxii, 222.
[4] Selinger, E.: *Arch. of Ophthal.*, 1935, xiv, 244.

AMBULANCE SERVICE FOR ETHIOPIA

We are asked to announce that medical officers are required immediately to serve with an ambulance unit for Abyssinia. They should not be over 35 years of age, and should be unmarried. Those with surgical experience and with experience of tropical diseases will be given preference. Adequate salaries are being offered, in addition to all expenses, including recognized outfit. Contracts in the first instance will be for six months, renewable thereafter for periods of three months. The form of contract can be seen at 33, Alfred Place, or will be sent on application to the secretary, British Ambulance Service in Ethiopia, Personnel Sub-committee, 33, Alfred Place, S. Kensington, S.W.7. Candidates must be passed as medically fit by the recognized examiner of the B.A.S.E., and will be required to submit to vaccination against the enteric group of diseases and small-pox.

MEDICAL RESEARCH COUNCIL

The Committee of Privy Council, after consultation with the Medical Research Council and with the President of the Royal Society, has appointed John A. Ryle, M.D., F.R.C.P., Regius Professor of Physic in the University of Cambridge, and Matthew J. Stewart, M.B., F.R.C.P., professor of pathology in the University of Leeds, to be members of the Medical Research Council in succession to the Right Hon. Lord Dawson of Penn, G.C.V.O., K.C.B., M.D., P.R.C.P., and Professor A. E. Boycott, M.D., F.R.S.

The tenth congress of the International Society of Surgery will be held at Cairo from December 20th to January 4th under the presidency of Professor A. von Eiselsberg of Vienna.