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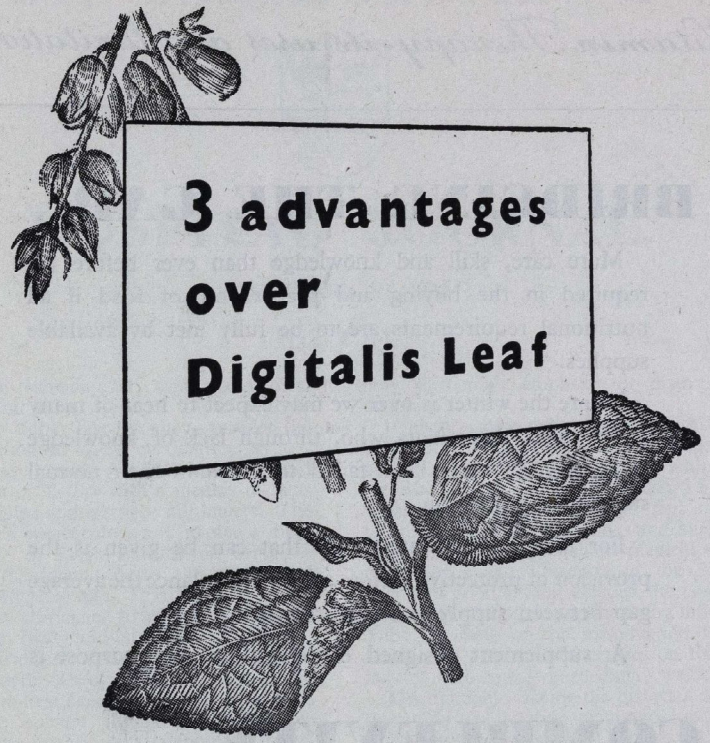

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ST. BARTHOLOMEW'S

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HISTORY

THOSE who exclude every aspect of medical history from their range of interests probably do so either because they consider the least addition to their curriculum an unwarrantable burden, or because an old association of history with a medley of facts to be accepted and learned, still lingers. The history of a subject does not involve a mere chronology of facts, but should serve to elucidate the origin, course and changes of ideas from age to age. It is the duty of the diarist and chronicler to record, but of the historian to relate and interpret.

The historical paragraphs included in medical textbooks often fail to arouse the student's interest because they consist of facts about the subject in hand which have scarcely any relation one to another. Interest is unlikely to be aroused unless the facts can be shown against a background of ideas prevalent at the time in question, or unless the reader is presented with the facts in such a way that their relation to the time in which he lives is immediately apparent. In a normal textbook it is obviously impossible to include adequate historical subsections. The only remedy is the independent study of history itself.

One of the historian's greatest joys is realised when his researches open up an entirely fresh line of thought. Fortunately the study of the past offers pleasures to the less ambitious. There is excitement in routing out historical evidence from records or existing monuments of the past; there is the satisfaction of interpreting modern trends of opinion in the light of the past; and there is consolation in the full realization that the laws of Nature and the Universe are as true for every age and generation, however man may shift their emphasis or distort their meaning.

If history were only pleasurable, it would be studied for that alone. But its value must not be disregarded. In a recent address to the Abernethian Society, Sir Richard Livingstone deplored the emphasis laid on the technical aspect of Medicine, and suggested a more human approach to medical education. At a later meeting of the Society, Professor John Fulton pleaded the claims of History as just such a humanizing influence. Thus the news of the introduction in this hospital of a series of Lectures on the History of Medicine is exceedingly welcome.

The difficulties facing the historian include those due to limitation of material evidence. The historian must rely for his facts on records and documents in existence at the time he writes. When there is lack of continuity in the records, he can produce theories and hypotheses to bridge the gaps. These theories should not be confused with facts, any more than restoration to a work of art should be confused with the artist's original conception. Suggestions are sometimes confirmed by later discoveries: but just as often false conjecture and legend becomes hallowed by familiarity, and is accepted for fact by succeeding generations.

There are many such instances of confusion of legend with history. An example is furnished by the argument about the date of the foundation of another great Hospital. Recently St. Thomas's has been claimed by a writer to be the oldest Hospital in London.* In his book he claims that the Priory of St. Mary the Virgin, situated on

* *The Story of St. Thomas's* by Charles Graves. Faber and Faber Ltd., London

the site now occupied by Southwark Cathedral, later named St. Thomas's from the time of St. Thomas á Becket's canonization in 1173, and founded by Augustinian canons, was used as a hospital from 1109. He then infers that when Rahere founded St. Bartholomew's in 1123, he staffed it with Augustinian canons because he was impressed with their efficiency in Southwark. This is a case where legend, based on conjecture or imagination, has been confused with historical fact supported by documentary evidence. Conjecture may be useful to explain historical changes in an institution, but can have no part in deciding the date of its foundation.

Another of the difficulties facing the historian is the scarcity of records of the kind of information required. Sometimes the only available evidence consists of notes on expenditure and account sheets of the period in question. From these must be constructed a coherent story, whose interest will depend upon the skill of the historian. In this number of the JOURNAL we have much pleasure in introducing the first of a series of articles on episodes in the history of this Hospital, which has been compiled by its present Archivist from the abundant but only recently arranged material which has been kept by the Hospital from very early times.

CIRCULATORY CONCEPTS

By Prof. K. J. FRANKLIN

An Address delivered to the Abernethian Society on December 11th, 1947

PART ONE

I AM deeply appreciative of the honour which you have done me in inviting me to talk to you this evening. To address the Abernethian Society at all is a high privilege ; to follow so closely on my friends, John Fulton and Josep Trueta, is an added pleasure.

My lecture is in the nature of an inaugural one as Professor of Physiology, and I can well feel modest as I think of my predecessors, Hartridge, Lovatt Evans, and Bainbridge, and of those who represented physiology before them, e.g., D'Arcy Power, W. S. Kirkes, and James Paget. But even these illustrious names are ancillary to that of William Harvey, and a cardiovascular physiologist returning to Bart.'s, as I have done, gets his major inspiration from the knowledge that he is living and working where the discoverer of the circulation lived and worked over three centuries ago.

My choice of subject for this lecture may, perhaps, have its few words of explanation. When our team at the Nuffield Institute was writing its *Studies of the Renal Circulation,* I felt that the part represented by those studies could not properly be assessed without relation to the whole, so I took it on myself to review to some extent the findings, but to a much greater extent the trends and guiding concepts, of circulatory researches in general. The survey so initiated was not—for lack of time—carried to completion, but even so it gave the impression that the more philosophic treatment of circulatory physiology lags far behind that of neurophysiology, *i.e.*, that there is a relative paucity of guiding concepts and an inadequate synthesis of the available material above this level. I cannot concede that the functioning cardiovascular system is potentially less interesting than the functioning nervous system, but there is no book on the former that can be put next to Sherrington's classic on the latter, though ideally *The Integrative Action of the Circulatory System* is a possible, and desirable, companion work. Unfortunately, Sherringtons appear but seldom. We must also remember that the past forty or fifty years have increased, almost beyond computation, the relevant literature. Finally, there is nothing in the circulatory field which can compare with Soury's outstanding summary and review, published in 1899, of all past work on the nervous system.* If the man or men were available, and could be suitably endowed for more or less full-time work on the subject, some more adequate synthesis of circulatory physiology could be produced, but it must go a-wanting unless these conditions are fulfilled.

* Soury, J. *Le système nerveux central. Structure et fonctions. Histoire critique des théories et des doctrines.*" Paris. Georges Carré et C. Naud. This work seems to be extremely rare; Sir Charles Sherrington very kindly lent me his copy in 1933 when I was preparing *A short history of physiology* for the press.

With that introduction, I can pass on to my lecture proper. It is divided into:—

(1) A statement of the scope of circulatory physiology.
(2) A few ideas and notes about anatomy to clarify its relations to (1) above.
(3) A fairly long review of the past.
(4) My view as to the objectives of circulatory studies.
(5) Some further matters for discussion.

The lecture is, to some extent, deliberately provocative and I hope it will give rise to discussion, not necessarily between my audience and myself, but rather within the Society as a whole.

The scope of circulatory physiology

This, it seems to me, can be divided into four parts, concerned respectively with:—

(1) The blood flow in the embryo and fœtus, and the changes which occur at birth. The circulation in the fœtus was dealt with by Harvey, who integrated his new dynamic concept of the blood flow in general with the best available anatomical data about the fœtal cardiovascular system. It was not until the present century that experimental work was initiated, and it was not until 1939 that the real story began to be revealed. It is still untold, or incompletely told, in relation to the flow through the placenta, limbs, head, and certain internal organs.

(2) The post-natal blood flow, first described by Harvey in 1616 and 1628, and then of necessity incompletely, since the capillaries had not yet been discovered.

(3) The blood flow, artificially transferred from one subject to another. The transference was first practised by Richard Lower and others about the middle of the seventeenth century, but the dangers of the procedure in the cases of human beings caused the practice to fall into desuetude, and it was not until after Landsteiner's work was published in 1901 that the provisos for safety, and thereby for the routine employment of transfusion, were able to be formulated. Even so, progress was not rapid.

(4) The blood flow in tumours, which is physiology from the tumour's point of view if pathology from the subject's one.

Anatomy

No one can accuse me of being unfriendly to anatomy, for I have devoted a great deal of my research time to it. I think, however, that it may be worth while to clarify at least my own ideas about it, not *per se*, but in its relation to physiology.

Historically, ideas of function were for a long time based upon anatomical and comparative anatomical findings, supplemented or not, as the case might be, by some addition of experimental evidence. In the hands of a John Hunter, such an approach to physiological truths can on occasion be most illuminating, but it is not always so with a John Hunter, and it is even less so with a man who has not his flair. Claude Bernard was not only an outstanding physiologist but also a very fine anatomist, and he wrote in one of his works that " anatomy is in the first rank of the numerous subjects with which the physiologist should be acquainted." Elsewhere, however, he stated that anatomy has no relation to function but serves only to locate phenomena and that physiology cannot be deduced from anatomy. His reasons for saying that anatomy is unrelated to function were (i) that many anatomical structures are vestiges of an evolutionary plan, and (ii) that physiology is the science which studies the phenomena manifested by living beings and in this anatomy is of no service.

In these days, when one tends to think more of a living anatomy, Bernard's categorical dictum takes one somewhat aback, but it is not without its value as a warning against over-complacent thought. With his statement that anatomy serves to locate phenomena I am very much in agreement, and it is no mean office that anatomy performs in this respect, indeed, the physiological story lacks precision when it is unaccompanied by its structural complement. (*Quis, quid, ubi, quibus auxiliis, cur, quomodo, quando* is considerably affected by the omission of *ubi*): I agree also in general with Bernard's view that physiology cannot be deduced from anatomy. This became very obvious to me when I reviewed the past literature upon the fœtal circulation, for numerous hypotheses were produced during the seventeenth, eighteenth, and nineteenth centuries, and the fact that they were based almost entirely on anatomy meant that there was no real test of their validity. We know now that the hypothesis which was dominant for by far the longest time was not the one which came nearest the truth ; we know also that this latter one, though it survived to the present century, never became known to more than a few.

If, before Bernard, physiology was largely deduced from anatomy, and if in his century physiology became freed from such dependence, we can now go a step farther and say

that in many instances indications for further anatomical research come from the physiological findings. In my own special fields, I could mention the recognition of the sphincter of the ductus venosus and several other features. But I think the turn of the tide is so obvious that it needs no stressing, so I will pass on to the review of the more functional past.

Review of some past contributions to circulatory physiology

This review of circulatory research, trends and concepts is meant to be in the main a prelude to the *credo* included in the next section. In the early part personal names appear more readily because the discoveries were more isolated, in the nineteenth century story individuals are mentioned to some extent but many are not named because such detail would detract, within the limits of space available, from the major object; finally, in respect of the work of the present century, certain personal names are similarly omitted, and in addition many researches of interest, as well as advances in technique, are not mentioned because they are sufficiently well known without that. These sacrifices would be unnecessary and inadvisable in a more comprehensive account, but they were essential to this one and I trust that physiologists who are not named will realise that their work has not been overlooked.

The story begins with the contributions of William Harvey (1578-1657) and, the more one reads the pre-Harveian literature, the more one realises how clean a breakaway he made from the physiological ideas of his predecessors, while availing himself of most of that which was good in their anatomical findings. For the contributions of the Damascene physician, Ibn an-Nafis, of Miquel Servet* and of Vesal, Botallo (see Franklin, 1941), Colombo and Cesalpino to the functional story were all, in general, emendations of Galen's concept of a slow passage of blood from the venous to the arterial side of the heart through pores or suchlike in the interventricular septum, *i.e.*, they suggested another route or threw doubt on Galen's one but did not describe a pulmonary circulation such as we now recognise. Even Cesalpino, who was the first person to use the word "circulation," had no appreciation of the impetus of the blood flow, nor indeed of its direction as a whole, and it is in vain that certain later authors have attempted to extract for him, out of his very confused writings, a claim to greater glory.

Physiological progress, if one reads all the relevant literature, is usually found to be gradual as regards the evolution of ideas, though some writers have a far greater gift than others for publicizing these ideas, and the casual reader may falsely interpret the abrupt acceptance of concepts as indicative of their abrupt evolution. In Harvey's case the total change in outlook was revolutionary and he not only went contrary to the traditional views of nearly fourteen centuries, but also enounced his new concept when the final anatomical detail concerned (namely, the capillary network) was, in Fraser Harris's apt phraseology, a "logical necessity" but not yet a "histological fact." Despite this, the progress was in reality a slow one, and the sole difference between this and other physiological developments lay in the fact that one man alone did the work, and not—as is more common—a succession of investigators. The slowness is shown by the facts (i) that Harvey was at Padua from 1600 to 1602 and there doubtless saw the venous valves which first induced him to think of a circulation, (ii) that he worked for fourteen years on the subject before making his preliminary announcement, (iii) that he worked for another twelve years before publishing his modest book, and (iv) that he waited until 1651 before he rounded off the story by stating, in a letter to a German practitioner in Hamburg, that he had succeeded in propelling water from the pulmonary artery to the pulmonary vein in situ. If we also remember how long opposition continued in some quarters to Harvey's new concept, we can see that in this special instance, as in others less unique, evolution and acceptance of a new idea in physiology were not rapid.

One of Harvey's major proofs of the circulation, perhaps his chief one, was given by his simple experiment upon a superficial vein in a human subject. Cesalpino had observed that veins swell up on the distal side of a ligature but had not seen the implication of his observation, and Fabrizi had pictured the veins and valves in an arm so bandaged but had assessed the function of the valves along traditional lines. Harvey, by compressing an arm vein a little below a valve, clearing it of blood up to the valve, and then releasing the pressure, saw the direction of the blood flow and obtained an idea of its rapidity. Thereafter, by successive repetitions of the same procedure, aided by an arithmetical calculation, he showed that more blood passed through the vein in a given time than could be accounted for without a circulation. The essential concept that he supplied and which gave life to all the scattered anatomical facts already available, lay in his appreciation of the amount, velocity, and direction of the blood flow.

There is no need to repeat here the rest of a well-known story, but it is pertinent to mention a few points. The first is that Harvey obtained his evidence by direct observations on man and on lower animals, and that he made his range of the latter extremely wide. The second is that he realised the importance of quantitative data; we have already mentioned one instance, a further one is provided by his assessments of the heart's output, and others are not wanting. In both these respects his lead is still to be followed. In another one, namely, his concept of the heart as the dominant organ of the circulatory system, we must now change "dominant" to "most spectacular," for we now know that the heart's activity is itself dictated by the venous return.

We may conclude this section with two notes from Aubrey (1813, *2*, 385-6). The first says that "He did not care for chymistrey, and was wont to speak against them with undervalue"; it, therefore, suggests why it was left for later workers to appreciate the blood changes in the lungs, of which Leonardo de Vinci (see Franklin, 1933, 15) had earlier had some faint inkling. The second note records that on his death-bed Harvey presented his watch ("'Twas a minute watch, wth w^{ch} he made his experiments") to one of his nephews. So in this final glance we are again reminded of Harvey's zeal for exact quantitative recording.

In 1661 Malpighi (1628-1694) gave the first description of capillaries (those in the frog's lung), and in 1669 Richard Lower (1631-1691), whose outstanding achievements are still only imperfectly appreciated, published a short but remarkable treatise on the heart, etc., and added much of importance to Harvey's account. The modernity of Lower's outlook on many things is very striking, especially when one considers that only four decades had passed since the appearance of Harvey's book. *Inter alia*, Lower described the arrangement of the muscular layers of the heart, and gave definite proof of the myogenic nature of the heart beat and estimates of the heart's output and of the rapidity of the blood flow; he also narrowly missed discovering the inhibitory action of the vagi. He showed, further, that the blood becomes red in the lungs through admixture with air, and that venous blood owes its dark colour to loss of air. Finally, he claimed to be the real inventor of transfusion of blood from one animal to another.* In the nature of things, there cannot be another Harvey, and any modern investigator of the circulation might well be advised to take Lower as his pattern. But he will be far less likely to emulate Lower's all-round excellence than to raise his own standard in the attempt.

In 1688 the great Dutch microscopist, Antonj van Leeuwenhoek (1632-1703), greatly extended Malpighi's observations and gave a long account of the capillaries in different sites and in a large number of animals. The scope and thoroughness of his work brought about a general acceptance of the presence of capillaries in all tissues; it thus established the circulatory system as a closed one, and gave an impetus to the study of the interactions of blood and tissues.

There are several minor contributions of the seventeenth century which would find place in a longer account but which must be omitted here. Towards the beginning of the next century, to be precise, in 1710, John Floyer (1649-1734) ascertained that the blood formed one fourteenth of the body weight; the subject had been discussed by earlier workers, and Floyer is mentioned here chiefly because of his actual finding. Equally quantitative in his procedure, but of far greater genius, was the Reverend Stephen Hales (1677-1761), who in 1733 published records of the first measurements of blood pressure, as well as details about the variations in calibre of capillaries under different influences. He had measured the blood pressure directly in horses by means of glass tubes several feet high, and the results led to

* The first European similarly to appreciate the pulmonary vascular circuit (see, *inter alios*, Trueta, 1946).

* "Meanwhile, let it at least be attributed to the felicity of our Nation, or even to its praise, that, while *Harvey* first taught that the blood by its *Circulation* within its own vessels ensures life to the body, we also first revealed that it could be *transferred* outside the confine of its own body for the health of a second."—Lower, translated by Franklin (1932).

estimates of the work of the heart and to more accurate ideas of the peripheral resistance. His guiding principle may be given in his own words. "Since we are assured that the all-wise Creator has observed the most exact proportions of number, weight, and measure, in the make of all things, the most likely way to get any insight into the nature of those parts which come within our observation, must in all reason be to number, weigh and measure."

The great Swiss scientist, Albrecht von Haller (1708-1777), aided cardiovascular physiology mainly by his various summaries of, and guides to, the literature, but he contributed more directly by his embryological researches and by his experiments on the effects of respiration on the venous flow, etc.; in 1756, on the other hand, he stated that the capillaries are non-contractile and such was his authority that this view persisted, despite the more accurate observations of some later workers on the subject, until 1917. Apart from the above, Haller developed Glisson's concept of the "irritability" of tissues, *i.e.*, of their power to respond to stimuli of various kinds. According to an article, published anonymously by Harvey Cushing in *American Medicine*, 1901, October 5-12, Haller kept up his interest in the circulation even as he lay dying. "The story runs that with fingers at his wrist he watched the ebbing of his own existence as he had that of many another, searching for the last pulsation in his radial artery. 'The pulse is there.' 'It is still there.' Then, after a short time, 'Now I do not feel it.'"

In 1780 John Brown (1735-1788) substituted the modern term "excitable" for the older one "irritable." Other indirectly important contributions of the century were the work of various researchers, including Lavoisier, upon the constituents of the air, etc., the development of knowledge and ideas about the nervous system, and the early discoveries in the field of electricity.

In the early nineteenth century the ultimate cellular constitution of the body became known, and this knowledge, and the improvements in the achromatic lenses of the compound microscope, led ultimately to a completely new understanding of the animal fabric, so much so that it is well nigh impossible for us at the present day to imagine what men's ideas on the subject were before the advent of the "cell theory." With the new understanding, physiology became separated from anatomy* and, after a latent period varying very considerably in length in different countries and in different schools within those countries, it became experimental in our sense. There is no need to detail what these changes have meant in respect of our appreciation of the functioning cardiovascular system; it is sufficient merely to mention them and the hearer will do the rest for himself.

To compress the rest of the story into any reasonable length is difficult, for the contributions made in consequence of the above developments have been legion. But it may be possible in a comparatively brief space, at some sacrifice of mention of individuals, to demonstrate the major advances and trends.

Numerous instrumental advances (*e.g.*, the introduction of the stethoscope, the hypodermic syringe, the mercury manometer and kymograph, the induction coil, the electrocardiograph, optical recording apparatus, etc.), have given increased powers to the cardiovascular physiologist. The same is true of technical advances, such as the perfusion of isolated organs, and we need no reminding of Gaskell's and Ringer's work, of Starling's blood perfusion of the heart and lungs, and of all the more recent developments from it. We cannot list here all such additions to the physiologist's armamentarium, but Röntgen's discovery of X-rays in 1895 is of special interest to me in view of my personal approach, during the past fifteen years, to the solution of circulatory problems. On the other hand, the effective use of the rays in such research dates, in the main, from the invention of radiopaque media which can with comparative safety be intravascularly introduced into the body, and that achievement is a relatively recent one, more or less contemporaneous with the evolution of cineradiography as a practical research technique.

The use of anæsthetics was introduced into surgery about the middle of the nineteenth century, and somewhat later it was introduced into experimental physiology also; it resulted in the elimination of some complicating factors, but at the same time interpolated some new ones. We should remember this in our researches, for we are so accustomed to anæsthetized animals that we are apt to forget the departure from normal which is involved, *e.g.*, until recently the parts played by the carotid sinus and depressor nerves were stressed and that played by the vago-pressor reflex was also unrecognised, although in the active unanæsthetized animal the importance of the latter must obviously predominate, or there could be no rise of blood pressure during exercise.* We should also realise that the pre-anæsthetic literature contains observations which are of value, *i.e.*, while we must regret the cruelty involved in such experiments, the reports on them may be valuable counterparts to our own findings in anæsthetized animals, subjected to otherwise comparable procedures.

With the "cell theory," etc., instrumental and technical advances, and anæsthetics out of the way, we can further simplify the review of a vast field by saying that in the nineteenth century the main interest of the cardiovascular physiologist was in the heart and arteries, that the smaller and the most minute vessels came more into the picture with the work of Ebbecke (1917), Dale *et al.*, Krogh, and Lewis, and the veins with the later work of Fleisch and Gollwitzer-Meier. Arteriovenous anastomoses, though seen as early as 1707 by Leali, were only first described *in extenso* by Sucquet in 1862, while the general appreciation of their functional importance, in consequence of the work of Lewis and Grant and others, is a very recent development.

Still further to simplify this account, we can now discuss the blood volume, the blood pressure, and the amount and velocity of the blood flow. According to Erlanger (1921), the direct method of determining the blood volume was first employed by Lehmann and E. Weber in 1850, while the idea of its indirect determination seems to have originated with Valentin in 1838. Arthur Keith's estimates of the amount of the blood in the portal vein area and elsewhere are indicative of the interest taken in the distribution of the blood volume, and Wilson (1918), in a little known book, described the "blood cisterns" of the lungs, abdomen and periphery from which, in the "reaction state," blood is driven out into the muscles and brain. The concept of the spleen in particular as a blood reservoir can be traced back to the seventeenth century, and Erlanger (1921), in his general review of blood volume, noted a considerable amount of evidence for the view that there are stores of red cells subject to call. It was, however, Joseph Barcroft who first supplied unequivocal proof that the circulating blood volume is variable, and that there are various blood depôts in which up to about two fifths of the total blood can be stored when the body is at rest. Details of his work and of the subsequent contributions made by others are to be found in Franklin (1937), and one need only stress here that the new concept was one of the most important contributions to physiology, let alone to the circulatory story, in the period under review, and that the methods of its proof and of its publication brought it very speedily into current physiological thought.

A corollary to the above is that the total blood volume is quite insufficient to fill all the blood vessels of the body when these are fully dilated, or even the vessels of the brain, digestive tract, and muscles when these are simultaneously in great activity. When the vasomotor system is in proper working order the brain directs the distribution of the blood volume and, if digestive activity demands so much blood that the brain's own supply is unduly reduced, vomiting is provoked and the situation is thereby eased. When the vasomotor system is ineffective, *e.g.*, when it does not adequately compensate for hydrostatic effects in the upright position, the blood supply to the brain is reduced and syncope results; in consequence, the subject falls to the ground and in a more drastic way the hydrostatic effects are eliminated. If the total blood volume is reduced by hæmorrhage, the situation is worsened, *cæteris paribus*, in proportion to the amount of blood lost and one may find the superficial veins so constricted in a compensatory effort that it is hard to insert a needle into one of them and most difficult to transfuse through the needle. But there is no need to expand this subject when war-time experiences are of such recent date and so multifarious.

The blood pressure story is briefly as follows. No one followed Hales' lead in the eighteenth century, but Poiseuille in 1828 produced his "hæmodynamometer" in the form of a U-tube, filled with mercury, and with a hollow lead tip filled with anticoagulant solution for connection with the artery. This obviated the disadvantages of Hales'

* In many Universities, there was a combined chair of the Institutes of Medicine, or of anatomy and physiology. With the cleavage, histology stayed in some places with anatomy, in others with physiology.

* The credit for the recent realisation of the importance of the vago-pressor reflex goes in the main to Professor R. J. S. McDowall.

procedure, and in 1847 Ludwig added a float to Poiseuille's instrument, "had the genius to cause this float to write on a recording cylinder, and thus at one *coup* gave us the kymograph, or wave-writer, and the application of the graphic method to physiology" (Stirling). Accurate venous and capillary pressure measurements, as opposed to arterial ones, are of much more recent development, and are in large measure due to Landis. No one is likely to disparage blood pressure measurements in their right place, but the relative ease with which the arterial ones at least can be made, combined with a lack of realisation that the pressures are of comparatively little significance unless related to the causative mechanisms, has from time to time made physiologists of distinction utter words of caution on the subject. Thus Claude Bernard (1937, 45-6) wrote that "science, in Liebnitz's words, should become simpler as it extends. Physiology to-day is in a state of complexity which militates against its progress . . . The *circulation,* on which I shall discourse this year, is encumbered by an unparalleled mass of experimental work and needs to be freed from such incumbrance. There have been dissertations on instrumental methods and upon the absolute blood pressure. All this is without significance and disappears in face of the discovery of the vasomotor nerves. One must get away from all the trivialities and go for a few typical, classical experiments, performed under exacting conditions." Somewhat similarly, Jarisch wrote in 1928 that "For the development of the knowledge of the circulation it was certainly unfortunate that the amount of the blood flow is relatively so difficult, and the blood pressure relatively so easy, to measure. In consequence, the blood pressure manometer exerted an immediate fascination, though it is blood in quantity rather than blood under pressure that most organs require."

To measure the amount of blood flow Ludwig, in 1867, introduced his Stromuhr and it was modified in 1891 by Tigerstedt; a little later Hürthle produced his recording Stromuhr, and in quite recent times Rein brought out the Thermostromuhr. This last instrument has the advantages:— (i) that there is no interruption of the continuity of the vessel through which the flow is measured; (ii) that fairly rapid changes in the amount of flow are detectable; (iii) that a quantitative photographic record is obtained; and (iv) that the flows in a number of vessels can be simultaneously measured. This last, in particular, is of great importance if, as Hess (1930) stated, the final function of all the circulatory regulating mechanisms is the allocation of the quantities of the circulating blood. Some possible defects of Rein's technique have been mentioned by Anrep, who measures the blood flow (in perfusion experiments) by means of the hot-wire anemometer. Other possible sources of error are suggested in Franklin (1937, 278), and one major objection is that the vessel or vessels have to be exposed for the application of the Thermostromuhr(s), *i.e.,* that in an acute experiment the subject is no longer an intact animal.

For the measurement of the rate of blood flow Cybulski introduced in 1885 his photohæmotachometer; it was modified in 1924 by Klisiecki. A more satisfactory technique, when it is able to be used, is cineradiography combined with the intravascular injection of radiopaque substances. It has its own difficulties and a certain amount of imperfection, but it is certainly capable of revealing major changes in rate, and it has the definite advantage that it can be used in the intact animal. One could also, from a knowledge of the rate, and measurements of vascular calibre, get some idea of the amount of flow, but this again is more easy to state theoretically than to perform practically, and in some vessels there is very obvious streamlining, or the passage of different blood streams alongside one another at (probably) different rates.

We come next to a very important part of the story, namely, the control exerted by the nervous system upon the musculature of the circulatory system. As early as 1789 Edward Jenner wrote that "The blood-vessels are, you know, all connected with nerves; and consequently, irritable," and Valentin in 1839 stated that various vessels could be caused to contract by stimulation of the appropriate nerves, *e.g.,* he produced a contraction of the horse's abdominal vena cava by stimulation of the abdominal sympathetic nerve. In the next year Henle demonstrated the smooth muscle in the coats of the smaller arteries, and Stilling published a book in which he not only introduced the actual term "vasomotor," but also produced a schema of the vasomotor system, though the anatomical evidence for it was in large measure lacking. He stated that the blood

vessels are tubes of muscle fibres which differ in structure from skeletal fibres but have the same general property of contracting under nervous influence. Vascular muscle is not, however, under voluntary control, as is skeletal muscle. The vasomotor nerve par excellence is the splanchnic, though it also contains fibres serving other purposes. This nerve has as its chief function the maintenance of movements, tonus, and active contractions in capillaries, arteries, and veins. The vascular muscle can be reflexly excited through stimulation of a sensory nerve just as a skeletal muscle can. Finally, it is highly probable that the movements of skeletal and vascular muscle are produced through different classes of nerve fibres.

It is not clear that this very remarkable statement had any direct effect upon research, but it anticipated by only a few years several announcements of actual findings. The first was that of the Weber brothers, who in 1845 produced their evidence of the inhibitory action (a new concept of nervous activity) of the vagus upon the heart beat. They showed it first in frogs, but later extended their range to include fish, birds, and a variety of mammals. In 1849 Schiff found that stimulation of the terminal vagus fibres caused acceleration of the heart beat, and he therefore opposed the idea of the vagus as an inhibitory nerve. Two years later Claude Bernard commenced his pioneer researches upon the vasomotor system, though his real concern at the outset was temperature and not vascular control, and it was not until the beginning of 1852 that he himself began to appreciate the significance of his findings. He found that section of the cervical sympathetic nerve caused vasodilatation and rise of temperature, and in the same year that galvanic stimulation in the nerve produced the opposite effects. Meanwhile, Brown-Séquard in America had anticipated him in respect of the stimulation experiments, and had concluded that the effect of section of the nerve was a paralytic dilatation of the vessels. In 1853 Waller and Budge confirmed Bernard's and Brown-Séquard's results, and in 1856 Schiff performed experiments which foreshadowed the discovery of vasodilator nerves. The real credit, however, for making them an accepted physiological fact belongs to Bernard, who in 1858 finished his work on the circulation with the definite statement that the sympathetic is a vasoconstrictor nerve, and the chorda tympani a vasodilator one. In addition his finding that the blood pressure falls on transection of the spinal cord at the level of the sixth cervical vertebra (1858, 381) led eventually to the discovery of the vasomotor centre in the medulla. The remainder of the story includes more than can easily be stated here, but details about the nineteenth century discoveries are to be found in Franklin (1933), and the advances of the present century are perhaps well enough known for it to be unnecessary to catalogue them for the benefit of the reader.

We should, however, mention that in 1869 and 1870 Lauder Brunton and Schmiedeberg began to study the circulatory responses to drugs, and that the first active extract of the adrenals was made by Oliver and Schäfer in 1894, and produced a rise of blood pressure on being injected into the blood stream. In 1894-5 the same observers prepared an active extract of the pituitary gland, and in 1898 Howell investigated the pressor action of the posterior lobe. The later studies of the circulatory actions of other substances produced within the body, *e.g.,* of acetycholine, histamine, and in recent times hypertensin, should be mentioned but need not be described at length, for they are sufficiently well known without that. The same applies to the humoral theory of nervous transmission, the appreciation of adrenergic and cholinergic nerves, and the like.

After the long review given above, we need some general synthesizing concepts and we can find one such in Claude Bernard's *Pensées* (Bernard, 1937, 46-7). He wrote that it is right to regard the organism as a machine provided one realises that it is not a rigid mechanical one but an organic one, *i.e.,* one that is endowed with a flexible elastic mechanism in virtue of special organic processes which function within it without, however, transgressing the general laws of mechanics, physics, or chemistry. Helmholtz, Regnault and others, though physicists of eminence, recognised this necessary elasticity in organic mechanisms, and the consequence that the imperfection or elasticity of their means of action constitutes their real perfection. If the eye had been made like an optical mechanical instrument, it could not serve its purpose. If the circulation were regulated like a watch, it would soon be put out of order.

He realised, therefore, that the blood circulation is a labile affair. In so far, however, as one can gather from the literature and

from personal memory of current physiological thought over a period of years, this very proper concept of Claude Bernard remained unstressed for a long time, partly because of an undue precision developed from attachment to instrumental recording techniques, partly—no doubt—because of the fact that animals which are anæsthetized are a far cry from the same animals in normal bodily activity. If one recalls the physiological teaching current on the circulation in, say, 1921, one can appreciate the revolution in outlook which followed upon Barcroft's demonstration that the circulating blood volume is a very variable quantity. Another feature of the last twenty-five years has been the realisation that certain parts of the body, *e.g.*, the skin, the alimentary canal (Spanner), and the uterus (Schlegel), have their vascular apparatus so arranged that they can be well supplied with blood while they are active, and minimally supplied when they are off duty. The increased supply to active skeletal muscles has been noted from Harvey's time onwards, but even this did not cause any particular stress to be laid, a bare generation ago, upon the liability of the circulatory mechanisms.

Another concept is inherent in Claude Bernard's doctrine of the *milieu intérieur* and it is that, if the object of all the bodily mechanisms is to preserve the constancy, within narrow limits, of the cell environment, then it is the needs of the tissues (for fresh supplies, for elimination of waste products, etc., etc.), which dictates, reflexly or by means of circulating chemical substances, the activity of the cardiovascular system. This is a complete change of outlook from the earlier ideas on the subject, and it has a parallel on the metabolism side for, somewhat over a century ago, it was thought that the degree of oxidation occurring within the body was determined by the amounts of oxygen taken in and of oxidizable stuffs presented to the organism, and it was some time before physiologists realised that it was the activity of the tissue cells themselves which determined the amount of oxidation.

The function of the circulatory regulation as a whole was defined by Gollwitzer-Meier in 1931, and by Fleisch in 1935, in somewhat similar terms. The former wrote that it grades the blood supply to organs in accordance with their blood requirements, and the latter said that the object of all the regulatory mechanisms is that each tissue shall have brought to it in each moment of time just that amount of blood which is requisite for its activity.

(To be concluded)

THE JOURNAL

Contributions for the JOURNAL *should reach the Editor by the first Tuesday of the month for inclusion in the ensuing issue.*

THE LADIES CLOAKROOM

THERE is a ladies' cloakroom in the hospital. This may seem a most uninspiring remark, a truism, platitude and the like, but the fact remains that a ladies' cloakroom has been built by the hospital authorities, not in the form of a discarded air-raid shelter, as is the one used by the gentlemen, but almost like a club. The word club is used only to indicate to the male members of the hospital how comfortable it is, for clearly no lady can understand the meaning of the word. This cloakroom, I would have you know, is clean, tidy and equipped with such luxuries as lockers with keys, a bed for the ladies to rest upon when exhausted by the day's work, and a supply of cups, saucers, teapots and the ingredients necessary for occasional refreshment. This is not all. There is a good woman who spends all her time in the cloakroom and is kind enough to brew cups of tea as often as they are wanted, to listen to the scandal of the day and to sympathise with the ladies when such unfortunate accidents occur as holding a jumper over a gas ring.

The ladies in our hospital fondly imagine that they lead a hard life, but this is not to be believed, for does not even the hardest pillar of the hospital weaken with the batting of each new eyelash? They are little short of spoilt. The most revealing story that has yet come to light was when one of the original six ladies was asked by a Professor, his name discreetly withheld, whether there was not something that they would like, and she answered—could there please be some more armchairs in the cloakroom and no new lady students for a long time.

ST. BARTHOLOMEW'S HOSPITAL AND THE PLAGUE OF 1665

By GWENETH WHITTERIDGE, M.A., D.Phil.

PART ONE

THE year 1665 began with a spell of extraordinarily cold weather. Snow lay long in the streets and the Thames froze. The price of coal rose and the commodity was scarce. On March 13th John Kent, the surgeon in charge of the Kingsland "lazar house," dependant on the Hospital, made a request to the Governors of "Bart.'s" for a further allowance of sea coals "in respect of the present dear and cold times," for the use of the poor under his charge, and was granted a half cauldron (*i.e.*, one ton) of coals to be delivered forthwith and paid for by the Governors of the Hospital. The supply of coal ran low as the cold weather continued and on May 1st the Governors decided to send a ship to Newcastle to collect more, having determined that this was the cheapest and easiest method of obtaining coal. At this date, plague had been for many years past endemic in London in the spring and summer months, with occasional severe outbreaks, but the unnatural coldness of the season prevented its appearance early in the year 1665 and the citizens had no cause to suspect the occurrence of an epidemic surpassing in magnitude anything that had hitherto been known. It would seem that as soon as the thaw came at the end of March plague appeared, first in a few isolated cases outside the City in the parish of St. Giles' in the Fields. By May it was threatening the City, but while no parish except that of St. Mary Woolchurch reported infection, it was not taken very seriously. The Mayor indeed ordered the citizens to keep the streets clean, and the town ditch at the back of Christ's Hospital and behind Bart.'s was closed as a precautionary measure. By the middle of June the epidemic could no longer be ignored. It may have been the growing menace of the epidemic, as Norman Moore maintains, that led the Governors on June 21st to order Henry Boone, junior, one of the surgeons of the Hospital, to move into a house in Well yard adjoining the Hospital, but there is nothing expressed in the minute but a concern that by his residence at a distance from the Hospital he neglects his duty and the poor's business. Moreover it had been previously agreed with his father, who had also been a surgeon of the Hospital, upon his taking a house within the Close in Smithfield that there should always be in that house a surgeon ready upon all occasions for the Hospital service, but this house was now let to a coach and harness maker. Also, Mr. Boone, senior, had a house in Well yard which had been let to him "upon hopes and promise that he would live there himself for the better accommodation of the poor and this hospital," but neither he nor any other surgeon was living in that house, "whereby the Hospital and sick and lame patients are very much disappointed and neglected." And so Mr. Boone, junior, was cautioned that if he did not forthwith move into one of those two houses he would be discharged from his place and another surgeon chosen in his room. But a whole month elapsed and Mr. Boone did nothing about it until on July 31st he was summoned before the Governors' meeting in the Counting House and "had again admonition given him according to a former order." He then said he would come at once and acquaint his father with his intention. As we hear no more of Mr. Boone and as he was not discharged he presumably moved into the house in Well yard.

The first hint of the troublous nature of the times occurs in the Journal in a minute of the Governors' meeting on July 3rd, for on that day it was ordered that Edward Stanley, one of the beadles and the sexton of St. Bartholomew's the Less, should sleep every night in the room over the Apothecary's shop, "for the better and more safe securing of the Counting House and the Hospital in these dangerous times." This is obviously corroboration of the fact that thieves and robbers abounded in the streets of London during the height of the Plague. Further to this point we find the entry recorded on the same day that the Hospital back doors into Well yard shall be kept locked and bolted both night and day and be opened only between the hours of five or six and eight in the morning for the emptying of the poor's

urine. (The filthy condition of the streets had already been remarked on in May by a Mayoral Proclamation.) The Great Gate at the South door and the North door at the end of the cloisters is ordered to be shut by the Porter every evening at 8 o'clock until August 24th, after which date it is to be shut at seven, and only the little wicket doors are to be left open until the usual hours "during these contagious times." On July 17th, Jerman the Carpenter is ordered to make a new pair of gates or doors in the Counting House yard opening into Well yard, and the gates in their iron work and all other things are to be "substantial and well done."

By July the Plague had got a firm hold on the City. Deaths rose from 500 in the first week to 2,000 in the last, and these figures are based on the Bills of Mortality which are known to be inaccurate and to underestimate the number of plague cases. From the middle of June the Inns of Court were deserted and the lawyers departed to the country. The College of Physicians was closed and at the end of June thieves broke in and stole the contents of its treasure chest. The meetings of the Royal Society were suspended and most of the members left London. Everybody who could was beginning to leave the City. On July 27th the King left Hampton Court for Salisbury, not to return till the following spring. Parliament was prorogued and met in Oxford in September. Gaol deliveries and public executions were suspended. And all through the summer months the weather continued exceedingly hot and no rain fell till September. In August plague deaths rose from 2,000 a week to 6,000 and in September they reached the peak of over 7,000. After that, and before the month was out they began to decline and were down to 5,000 at the end of the month. By the end of October they had fallen to 1,000 a week. At the end of August Pepys wrote: "This month ends with great sadness upon the public, through the greatness of the plague every where through the kingdom almost. In the City died this week 7,496 and of whom 6,102 of the plague. But it is feared that the true number of the dead this week is near 10,000; partly through the poor that cannot be taken notice of through the greatness of the number. . . ." Though no figures for the total population of London at this date exist, it is evident that a very large percentage died in this year and that it was chiefly the poor who suffered.

St. Bartholomew's Hospital, whose chief care was for the sick poor, could not and did not remain unaffected. It is false to say that Plague patients were not admitted.[1] The evidence of the Journal is to the contrary. On July 31st, the two surgeons of the Hospital and the apothecary, Francis Bernard, informed the Governors of the necessity for appointing a surgeon in the interim of a General Court to officiate in the vacancy caused by the death of the surgeon, Mrs. Speares. And the Governors, "having respect to the present necessity," agreed that one Sanderson who was recommended for the office and then present should officiate until the next General Court was held and due election was made. Sanderson and his colleagues must have worked at least for a while among the plague stricken of the Hospital, for there is no further reference to the medical staff until September 12th. On that day Henry Boone and Thomas Tirpin, who was acting in the place of Mr. Woodall who was absent in attendance on the King (he was surgeon to Charles II) request the Governors for the appointment of one Mr. Gray to officiate the business for the "visited people," *i.e.*, visited with plague. Why Sanderson was away we do not know. Tirpin was unwilling to take charge of them because he was "but deputy for another and further that the business was too hot for him to act therein." Mr. Boone was unwilling to desert his employment, but asked to be excused from the special charge of the plague patients while offering to prescribe and provide things proper and convenient for the sick. It seems likely that he had in mind the care of the King's soldiers and sailors then lying in the Hospital and not affected with plague. Mr. Gray's offer of services was accepted and he undertook to officiate as surgeon "for the business only of the pestilence," during the pleasure of the Court, and he is called upon to enter on his office on the following day. For this work he is to receive "moderate compensation answerable to his deserts and pains" which is to be raised either out of the three surgeons' salaries or otherwise as the Governors think fit. Gray's appointment "for the present distemper of the pestilence" was confirmed a week later by the Treasurer, and at the

[1] W. G. Bell. *The Great Plague in London in 1665.* London 1924, p. 51 n.

same time it was stated that, whereas the two doctors were remiss to officiate or procure their business to be done as it ought to be, Mr. Francis Bernard, the apothecary, "whose abilities are well approved," should prescribe for the patients in the said doctors' stead until further order. The doctors' salaries were ordered to be suspended for the present. The Governors met officially to fill the vacancy caused by the death of John Speare on December 15th, when the plague had abated, and as on that day Robert Sanderson was confirmed in his office, his conduct in absenting himself in August cannot have been disapproved. The two doctors who were remiss were probably Dr. Micklethwaite and Dr. Tearne. They went into the country and there continued their practice until the late autumn of 1665. Their names and those of Sanderson and Boone are omitted from the list of gratuities awarded to the Hospital officers at the conclusion of the plague.

That cases of plague were admitted to the Hospital, if not earlier at least in August, is proved by an order issued on August 19th, in the presence of only three Governors, to the effect that the beadles Kingston and Lenton are to officiate continually and on alternate days about the hospital affairs, that they are to lock and unlock the back door and that they are to "do their business for those sick persons visited and others attending them as they shall be required by the Steward or Matron," and to continue in these services during the present infection.

On September 2nd, in the presence of four Governors, it was ordered that a letter should be prepared by the Clerk to be sent to His Majesty's Commissioners for the sick and wounded seamen lying in the Hospital to warn them that the Hospital was "visited." (The maritime war with the Dutch was resumed in 1665 and continued until 1667 in which year the Dutch fleet under De Ruyter sailed up the Thames and the Medway and burned and captured many of the British warships as they lay at anchor off Chatham.) But nothing came of this move. Three weeks later the Clerk was ordered to write to Mr. Thomas Woodall "now attending His Majesty," to tell him that the Hospital was visited, and to ask him to obtain a letter from the King to the Commissioners asking them "to forbear sending any sick seamen hither in these contagious times." By the beginning of October the letter was still not sent, and finally, on October 10th, the Governors decided against sending it. Presumably by that time the pestilence had considerably lessened. The sick and wounded seamen were probably admitted all through the months of the plague.

From this evidence and from other entries in the Journal and in the Burial Register of St. Bartholomew's the Less it would seem that the months of August and September were the peak period of the Plague in the Hospital. Whereas in normal years (*i.e.*, two or three years before and after the Plague) the number of burials in the months of July to December does not exceed seven in any one month, in 1665, in July there were 11 burials, in August 62, in September 60, in October 27 and in November 11. These figures include deaths from all causes among the parishioners and the patients and Hospital staff. There is only one entry of the following kind: August 12th, 1665, "Found dead, a female, who was buried in the little yard," though this must have been a fairly common occurrence during the height of the plague. Burials took place in the grave yard of the church, within the church itself and in the new yard at Bethlem where a great number of plague victims were interred in pits. It was on the site of what is now Liverpool Street Station.

(To be concluded)

ABERNETHIAN SOCIETY

The following addresses have been arranged:—

February 12th.—Professor E. T. C. Spooner. "The Clean Age."

February 26th.— Mr. W. D. Coltart. "Rehabilitation After Injury."

March 11th.—Dr. Aleck Bourne. "The Art of Living."

March 25th.—Professor A. M. Boyd. "Surgical Experiences in the Middle East."

The Committee is willing to consider papers of medical interest to be read before the Society at any time.

Anyone interested should contact the Hon. Secretaries—D. Smyly or C. C. Molloy.

CORRESPONDENCE

BRICKBAT

To the Editor, St. Bartholomew's Hospital Journal
Dear Sir,

With regard to the article entitled, "The American Loan," which appeared in the December issue of the JOURNAL, I feel that a protest must be lodged. The specious, but nevertheless fallacious narrative, whilst apparently possessing a humorous appeal for the baser elements of the community, has been a source of no little embarrassment to some individuals.

Particular objection must be voiced at the recondite patois in the narrative, which exists purely in the imagination of the author, and at the abusive appellations and nomenclature applied to certain students.

I trust that such offensive contributions in which personalities are palpably insulted under the guise of tomfoolery will be withheld from publication in this JOURNAL in future.

Yours faithfully,
"STRAIGHT BAT."

Abernethian Room,
Charterhouse Square.
December 16th.

STUDY GROUP

To the Editor, St. Bartholomew's Hospital Journal
Dear Sir,

As announced in a letter published in the July issue, under the heading "Medicine and Philosophy," a study group was formed, which has been discussing some of the problems encountered in the practice of medicine, such as those associated with pain, suffering, death and bereavement. Social problems were also discussed, and it was felt that we needed a wider knowledge of the structure of present-day English society. This term, therefore, we are planning a group to study this subject, chiefly from its development aspect. The first meeting will take place early in February, and we will be glad to supply further information to anyone who is interested.

Yours truly,
I. R. McWHINNEY,
D. SMYLY.

The Abernethian Room,
St. Bartholomew's Hospital.
January 5th.

WILLIAM SENHOUSE KIRKES

To the Editor, St. Bartholomew's Hospital Journal
Dear Sir,

Professor R. J. S. McDowall, of the Department of Physiology, King's College, W.C.2, wishes to reproduce, in the next edition of his *Handbook of Physiology and Biochemistry*, a photograph or engraving or other picture of William Senhouse Kirkes, of Bart.'s, who brought out in 1848 the first edition. I myself would like to acquire pictures of Kirkes, James Paget, and F. A. Bainbridge for our own Department of Physiology. If any of your readers can help Professor McDowall and myself in these connections, both he and I would be most grateful.

Yours, etc.,
KENNETH J. FRANKLIN.

Department of Physiology,
Charterhouse Square.
December 19th.

THE CHRISTMAS SHOWS

By G. HAVERFORDWEST
(pronounced Harvest)

THAT scathing criticism which Sophocles passed, however long ago, on a contemporary, remains no less familiar than significant: "He portrays men as they are; I portray them as they ought to be." It is immaterial that, in imputing such veracity to Euripides, the singer of Colonos was talking rubbish; the point is that Sophocles saw clearly what was the one unpardonable sin against art and human welfare.

This sin has always been notably avoided by the legends which, even in my distant and half-forgotten youth, were venerable and, like Red Riding Hood, Cinderella and the Babes in the Wood, embroidered events which are incontestable because time has erased the evidence for or against their actual occurrence; it was upon these tales that some, at least, of the best of 1947's Shows were based.

Your somewhat senile dramatic critic is happy to state that all the shows he saw this season were good and is unhappy only because time and decrepitude prevented him from seeing them all. It was doubly a pity therefore that, in the subsequent potpourri, so few were represented, the others having been prevented either by mere circumstance or the vast importance of private avocations. It is to be hoped that, next year, the potpourri on Saturday, January the first—for which, I hear, the Cripplegate Theatre has already been booked—will be ear-marked by all performers as a firm and unbreakable date.

I must reluctantly omit the invidious task of commenting upon each individual show and mention only that I enjoyed the Babes in the Wood whose performance was admirably continuous and contained many good things, not the least of which was the versatility of Mr. James, to whom goes the "Oscar" for the best individual performance of the season. But it was upon the performance of the Boy Babe that great-grandmother of an aged patient made a comment before which the most devastating analysis of any actor's performance pales into insignificance. She said: "Isn't 'e sweet—'ow I'd love to spank 'im."

To Salmonella goes the "Oscar" for the best show of the season because of its many witty lines, the magnificence of its "props" and, not least, because, public-spiritedly the whole cast, upon urgent summons, came "from Putney, Hackney Downs and Bow with courage high and hearts aglow"—one even came, edentulous, all the way from Lancashire—to give their show in its entirety at the Potpourri. I was delighted, therefore, that they were "inspired by British cheers and loud proceeding from the frenzied crowd."

The "Oscar" for the best single items must be shared between Say Ah's Ballet and the Residents' Radio Sketch; but there were other items, both in these shows and also in Red Riding Hood, the Water Babies and the Yellow Perils, which were very good.

I am glad, too, that the tradition of the "topical song" is continued in which the foibles of the great are described with much of that perturbing candour wherewith children everywhere appraise their associates.

The splendid element of unreality contained in the ancient fables of the nursery make these tales so admirable a frame within which to caricature the dullness of reality that it is surprising that that legend has not been used which our profession's detractors might consider the most suitable. In my memory, Ali Baba and the Forty Thieves has not yet appeared upon the boards of this hospital.

Yes, in the twilit evening of English literature you will find G. Haverfordwest (pronounced Harvest) clinging with unshaken ardour to unreality and regaling the readers of the JOURNAL with tales of improbable Christmas Shows wherein human students were on terms of friendly intimacy with the giants in the profession, the fairies in grey, stripes or pink and the ogres in—— a happy New Year to you.

TEN YEARS OF WAR SURGERY

By DR. J. TRUETA.

PART TWO

With the initiation of hostilities in 1939, I was able to report my results and to propagate the biological approach to wound treatment and the appropriate organisation of hospitals throughout the country; and I was deeply touched by the encouragement received from many leading British surgeons. I should like here to pay tribute to at least two of them, as their words and the place and the occasion in which they were pronounced constituted a great source of strength to me. One was Walter Rowley Bristow who, in proposing the vote of thanks after my first lecture to the Royal Society of Medicine on October 24th, 1939, said that "the principles outlined should revolutionise the organisation of the treatment of war casualties."[12] The other was Rear-Admiral G. Gordon-Taylor, who at the end of my second lecture to the same Society said that what I "had brought forward was novel and perhaps revolutionary, but methods of surgery are open to change."[13]

At the invitation of G. R. Girdlestone, I settled in Oxford at the beginning of the war and had the opportunity of renewing my surgical work, left interrupted since the end of the war in Spain. I had also the chance of working in two Oxford centres of medical research during the first part of the war, when, apart from those wounded in the retreat to and from Dunkirk, the only casualties treated at Oxford were road and industrial accidents, and a few airmen injured in crashing planes. I found in the Dunn School of Pathology not only all the facilities to investigate the mechanism by which immobilisation contributes to success in wound treatment, but also the invaluable help of Dr. John Barnes. The encouragement we received from Professor Florey,

then occupied with his work on penicillin, we shall never forget. We found that if a highly lethal dose of toxin, like tetanus toxin, was injected into an immobilized limb of a rabbit, this animal would survive for very much longer, some animals for as much as five times longer, than if the injection had been given to a limb which remained mobile. The same happened with some of the snake venoms. We pointed out in the paper giving account of our findings that immobilization with plaster prevents or much delays absorption through the lymphatics;[14] it was easy to assume that a similar mechanism could be responsible for the lack of toxæmia of many casualties encased in a plaster of Paris cast, in spite of the presence of some pathogenic bacteria in the wound. Together with Dr. Barnes, I had also the opportunity of investigating the effect of a tourniquet on the vessels of the hind limbs of rabbits, and we confirmed our belief that kidney failures following injury were due to the interference of the renal blood-supply by vascular spasm brought about by nervous stimuli originating in the injured part. This work was performed at the Nuffield Institute for Medical Research,[15] and has served as the starting point for a much wider research on the function and anatomy of the kidney, performed in conjunction with the newly appointed Bart.'s professor of Physiology Dr. K. J. Franklin, Dr. A. E. Barclay, Dr. P. M. Daniel, and Miss M. M. L. Prichard, and recently published in book form.[16]

The large number of casualties treated in the hospitals of this country and of North Africa, and later in Italy and the Continent, provided many occasions not only for testing the technique I have described, but also for improving it by supplementing the use of new antibacterial drugs. During the early African campaigns, it was thought by some that the sulphonamides would, perhaps, compensate for deficiencies in surgical methods; but this hope proved to be illusory.

Until that time it might have been believed that the results reported from Catalonia could have been due to some antiseptic power of the Mediterranean sun or to an assumed lack of agricultural development in Catalonia. But North Africa provided extreme conditions in both these respects; and in spite of that, sepsis had not disappeared.

It was fortunate that with the introduction of penicillin wise directions for its use were given by Professors Florey and Cairns during and after their journey in North Africa; this permitted the surgeons to take full advantage of this substance from the start. Thus penicillin was introduced only as an accessory to effective surgery; and it is due to this combination of adequate early surgery and properly administered penicillin that it has been possible safely to reintroduce early secondary suture, and thus to shorten the period of healing. But let there be no mistake! When penicillin is used as a substitute for effective surgery, failure and serious danger may supervene. On the other hand, satisfactory results may be attained by good surgery and aftercare with no contribution from antibacterial agencies other than the cleansing of the wound with soap and water. Many surgeons are convinced of that from their own clinical experience; I was able to contribute to an investigation performed in collaboration with other surgeons and with bacteriologists, at the Radcliffe Infirmary, Oxford, which confirmed this view. Two not dissimilar series of compound fractures were treated by the same surgeons, in one series the operation being supplemented by the local use of a sulphonamide compound and in the other without it. The clinical results were the same in both series.[17] But it would be a mistake to assume that proper surgery could succeed alone in all cases, particularly under conditions prevailing in war. Take as an example the rôle played by penicillin in making secondary suture safe. Before penicillin came into use, only carefully chosen war cases could be treated by early suture of the wound, the knee joint being one of these exceptions. But since penicillin came to the help of the surgeon, no wound ought to be left open for more than eight or ten days for fear of sepsis after its closure. And it is the duty of the surgeon to effect this in every case.

The surgical creed summarised here has been expounded during the war by many people. I was pleased to be able to contribute by some articles, among which was the description of "A Five-Point Programme," in 1942, in which it was stressed that:—

> "In presenting (this method) to the British surgeons after ten years of personal trial, in which the initial difficulties that accompany any new technique had been largely surmounted, I hoped that my technique would provide a starting point from which surgeons in this country could develop further improvements, and that they would not have to solve for themselves the problems that confronted me twelve years ago."[19]

In 1943 I published a larger book and finally, in 1944, on the eve of the continental campaign, in another paper I ventured to stress that:—

> "The help of a chemotherapeutic agent will never absolve us from the primary and overriding necessity of performing correct surgery. If the surgical treatment is good, the result will be good. If the surgical treatment is bad neither sulphonamide nor penicillin will atone for the error."[20]

The war is over, but at least some of its memories will, I hope, last. Not all that war brought upon us was to become useless in time of peace. Among these we must place the progress made in the treatment of wounds. Already a large measure of agreement exists among surgeons who have been trained in war. Let me mention a few examples. After the campaign in Northern Europe, the surgical consultants of the British and Canadian Armies expressed their conviction in a joint paper, that "massive tissue damage leads to a severe degree of 'shock,' against which resuscitation is often of no avail, and for which urgent radical surgery is the only life-saving measure." One other valuable lesson learnt—they say—"was the great importance of rest and immobilization in these cases, either in transport or post-operatively, and irrespective of whether complicated by bony injury or not."[21] When the results of this latest campaign are compared with the statistics of previous fights in the same regions of Flanders and Northern France, the gains appear beyond discussion. Among some 180,000 casualties reported, only some 300 cases of gas gangrene were observed. This was far below the previous experiences on the same field of battle and proves that it was not so much the climate or the highly cultivated lands which affected the incidence of anærobic infections of wounds, but the general medical approach to the whole problem. Similar experience is reported by American surgeons. The American Surgical Consultant to the "North African and Mediterranean Theatre of Operation" has stressed that:

> "The initial wound operation is directed towards the prevention of infection by a complete excision of tissue devitalized by the missile. To minimize the incidence and hazards of infection, primary closure by suture is strictly avoided. Temporary or transportation splinting, usually with plaster-of Paris, is employed."[9]

A fuller description of the method of treatment as performed by the American surgeons was due to the pen of another of its authorities. It reads:

> "The initial treatment of the wounded soldier consists of a careful débridement, or surgical excision of devitalised tissue. This tissue is largely muscle, the fibres of which have been killed by the enormous expansive force of the high-velocity projectile. Fascial planes are opened wide to relieve all tension. Every effort is made to conserve skin and bone, since they are essential to the proper support of the involved part. Easily removable foreign bodies and clothing are removed. A vaseline-gauze dressing is lightly inserted into the depths of the wound. The extremity is then incased in a circular plaster of Paris dressing to allow as comfortable transportation as possible."[22]

It would seem to-day fanciful to speak of the above described method as novel and even less as revolutionary. It is, simply, the routine technique now used by all surgons in all cases of serious wounds and fractures. And it is to be expected that it will also be the method of treating peace-time injuries, which, because they are less destructive than the injuries of war, will offer an even better chance of good recovery.

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SPORT

CROSS COUNTRY CLUB

LONDON UNIVERSITY CHAMPIONSHIPS

Held at Roehampton on Saturday, November 30th. 4¾ miles.

We had been training hard for this match and our hopes were high, although, admittedly, the opposition was strong.

The day was ideal for cross-country running, but the ground was still extremely hard and a number of our team were still suffering from foot injuries of one description or another.

Menon and Burn led the Bart.'s team throughout the race, with Glanville not far behind. Menon maintained his unbeaten record in again being the first Hospital runner home. His position in the match was 9th, covering the 4¾ miles in 27 mins. 10 secs. Other positions of the Bart.'s "A" team were: Burn 11th (27 mins. 17 secs.), Glanville 22nd (28 mins. 14 secs.), Matthews 29th (28 mins. 53 secs.), Dodson 35th (29 mins. 1 sec.), Schneider 52nd (30 mins. 2 secs.), and Zakon (30 mins. 37 secs.).

The team race was won comfortably by Imperial College with 41 points, King's College 2nd with 89 points and Bart.'s "A" 4th with 102 points.

"A" Team: H. E. Glanville, J. I. Burn, J. Dodson, P. D. Matthews, J. Menon, J. Schneider, and R. Zakon.

"B" Team: F. A. Almond, G. E. Clulow, D. Hennessy, A. Maude, and D. C. Morgan.

Fixtures next term include January 31st v. Bristol University and the Navy, and on March 13th the Kent-Hughes Championships.

TRAINING RUNS EVERY WEDNESDAY.

J. I. B.

SQUASH CLUB

Although a quick glance at the results for the first half of the season would scarcely fill one with optimism, there is yet much comfort to be gained from a review of the club's activities. At the start of the season, the outlook was indeed a gloomy one; both courts were unplayable, owing to need for repair, and it was feared that they would so remain until well into 1948.

However, we have been fortunate, and can now report that the courts are in excellent condition, and that we have the makings of a good team. The Squash Ladder is in full swing, and anyone, whether on the Ladder or not, who wishes to play in a match, should contact the secretary, who will then arrange a trial.

The first team have played 12 matches, winning 3 and losing the remainder. St. Thomas's and the London Hospital beat us quite comfortably. We had our usual 0-5 defeat by Wimbledon, who for their part were their usual half-hour late. Otherwise, the matches were all very equal, and we were unlucky to lose on two or three occasions.

The second team have played 6 matches, winning 2 and losing 4. They lost to St. Mary's Hospital, West London, London Hospital and to Lensbury. The latter was an enjoyable fixture, as it was a close match. They beat King's College Hospital and Paddington.

B. du H.

RUGBY FOOTBALL CLUB

We have just passed the halfway mark in this season's activities, and so far the results have not been very encouraging.

Much of our misfortune has been due to injuries, and we have not yet fielded the same team twice. Our captain, R. A. Struthers, has not played for many weeks, and is unfortunately still on the injured list.

The Annual Cornish Tour was held in November, and, while we did not have much success on the field, the good name of the Hospital was upheld in other ways!

Since Christmas, however, there has been a very marked improvement, and we have won three of the last four games. We look forward more confidently to the remaining games of this season.

The first round of the Hospitals Cup is to be played at Richmond on February 10th v. U.C.H. Do come along and support your Hospital!

W. H. W.

LAWN TENNIS CLUB

We have to report a moderately successful season. A long list of fixtures was arranged, but unfortunately, in the latter part of the season they were married by a lack of enthusiasm, to which the exceptionally fine weather contributed since many were away on holiday.

We were knocked out of the Inter-Hospital Cup in the second round after a hard fight against St. Mary's Hospital.

The Annual General Meeting was held on December 6th and the following officers were elected for next season: Captain, W. B. Davies; Vice-Captain: J. Cardwell; Hon. Secretary: R. A. Riseby-Prichard; Hon. Treasurer, G. Hirst.

At the meeting the hope was expressed that next season the club would receive the enthusiastic support of the pre-clinicals.

Honours for the past season were awarded to T. A. J. Prankerd, G. A. R. Giri, W. B. Davies, J. Cardwell, R. A. R. Prichard and J. W. Leach.

Finally, we should like to thank Mr. Fraser, our President, for his continued interest and support.

W. B. D.

ANNOUNCEMENTS

ENGAGEMENT

DR. L. LEVY and MISS C. KLEMPMAN. The engagement was announced on Friday, December 12th, 1947, between Leslie, only son of Mr. and Mrs. Max Levy, and Charlotte, youngest daughter of Mr. and Mrs. David Klempman, both of Johannesburg.

MARRIAGE

ASTON—GOODALL. On December 29th, 1947, in the Isle of Wight, John Nevile Aston to Marguerite Joan Goodall.

BOOKS RECEIVED

ESSENTIALS OF FEVERS, by G. E. Breen. 2nd edition. E. & S. Livingston, Edinburgh. Pp. 351. Price 15s.

DISEASES OF THE NOSE, EAR AND THROAT, by I. Simson Hall. 4th edition. E. & S. Livingstone, Edinburgh. Pp. 448. Price 15s.

ESSENTIALS OF MODERN SURGERY, by Handfield-Jones and Porritt. 3rd edition. E. & S. Livingstone, Edinburgh. Pp. 1256. Price 50s.

PATHOLOGICAL HISTOLOGY, by R. F. Ogilvie. 3rd edition. E. & S. Livingstone. Edinburgh. Pp. 459. Price 37s. 6d.
layman.

THE NURSING OF TUBERCULOSIS, by O. V. Buxton and P. M. Maculloch Mackay. John Wright & Sons, Bristol. 1947. Pp. 119. Price 7s. 6d.

SEX FULFILMENT IN MARRIED WOMEN, by Helena Wright. 1947. Williams & Norgate, London. Pp. 90.

A continuation and amplification of "The Sex Factor in Marriage" by the same authoress.

CONQUEST OF BRAIN MYSTERIES, by George Bankoff. 1947. Macdonald & Co., London. Pp. 171. Price 6s.

An authoritative manual about neurology and psychology intended to satisfy the curiosity of the

EXAMINATION RESULTS

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2nd B.M. EXAMINATION

Michaelmas Term, 1947

Medicine, Surgery and Midwifery

Fairbank, W. H. D. Hale, J. F.

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Michaelmas Term, 1947

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Eberlie, W. J. D.	Longmuir, I. S.	Thomas, J. P. D.
Griffith, R. H.	Middleton, H.	Wells, A. I.

Part II. Principles and Practice of Physic, Pathology and Pharmacology

Gillies, M. T.	Ingham, W. N.	Roxburgh, R. C.	Whitfield, D.
Hodgson, O. E. F.	Jenkins, J. S.	Shairp, B. E.	Wilson, H. L. J.
Holmes, C. B.	Payne, I. C. R.	Thomas, J. P. D.	

CONJOINT BOARD

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UNIVERSITY OF LONDON

EXAMINATION FOR THE ACADEMIC POST-GRADUATE DIPLOMA IN MEDICAL RADIOLOGY.

December, 1947

Ivey, I. R.
Marris, C. W. S.

SOCIETY OF APOTHECARIES OF LONDON

FINAL EXAMINATION

December, 1947

Surgery
Burrows, C. J.
Lapage, S. P.

Pathology, Bacteriology and Forensic Medicine
Burrows, C. J.

Medicine
Burrows, C. J.

Midwifery
Burrows, C. J.

The following was granted a Diploma:
Burrows, C. J.

VARICOSE ULCER WITH ECZEMA
Healed beneath Pressure Bandaging

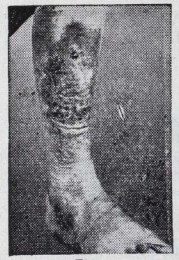

Fig. 1

CASE HISTORY

M.R. Aged 40. Housewife. Varicose ulcer with severe eczema right leg. (Fig. 1).

TREATMENT

August 9th, 1946.—Ulcer and surrounding skin cleaned with cod liver oil. Strips of 'Jelonet' were applied to cover the ulcer and the eczematous area, with a pad of cotton-wool over the ulcer only. The whole leg was bandaged with 'Ichthopaste' and then with 'Elastocrepe.' (Fig. 2).

Fig. 2

August 23rd, 1946.—'Ichthopaste' and 'Elastocrepe' bandaging repeated.

Sept. 13th, 1946.—The œdema was reduced and the leg much less painful. Calamine Lotion was applied over the whole area with a pad of cotton-wool and felt over the ulcer, and the leg again bandaged with 'Elastocrepe.'

October 4th, 1946.—Calamine lotion, pad of cotton-wool and 'Elastocrepe' repeated.

October 11th, 1946.—Repeated.

November 1st, 1946.—Condition healed. (Fig. 3). The patient was instructed to continue application herself of calamine lotion and 'Elastocrepe.'

COMMENT. In this case the eczema was more troublesome than the ulcer. Both responded to the soothing effect of 'Ichthopaste' and the firm pressure of 'Elastocrepe.' Details and illustrations above are of an actual case. T. J. Smith & Nephew, Ltd., Manufacturers of 'Jelonet,' 'Ichthopaste' and 'Elastocrepe' are privileged to publish this instance, typical of many, in which their products have been used with success, in the belief that such authentic records will be of general interest.

Fig. 3

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After the appearance of Part 1, the remaining three parts will be issued at approximately two- to three-monthly intervals.

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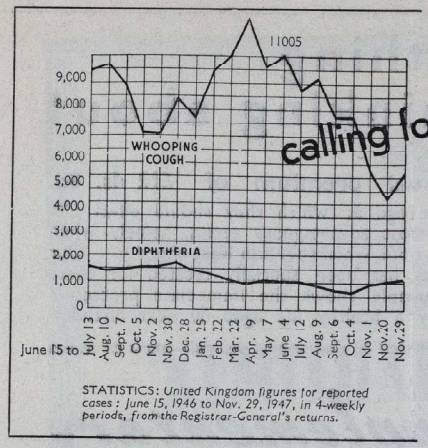

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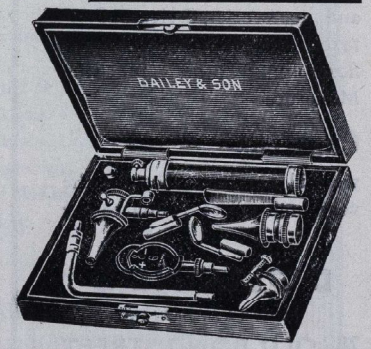

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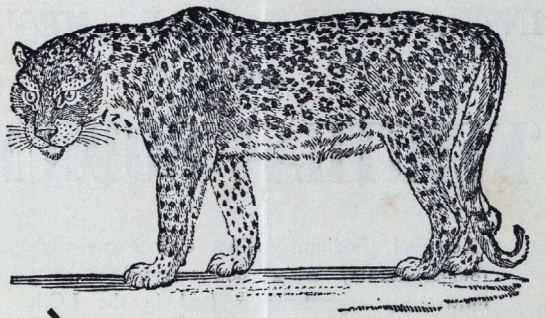

beautiful

From Bewick's "Quadrupeds" — 1792

ON THE LITHENESS of the leopard depends his safety; for, in the jungle, survival depends on adaptation to environment. Man, too, must adapt himself to the increasing pace of civilised conditions. Failure in the system of 'adaptation' may result in certain deficiency states. For some of these conditions the natural sex hormones are the most rational treatment. They can be employed to give temporary relief to the endocrine tissues or to provide extra stimulus to relatively unresponsive tissues.

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SAINT BARTHOLOMEW'S HOSPITAL JOURNAL

MARCH 1948

VOL. LII

No 2.

CONTENTS

ST. BARTHOLOMEW'S

HOSPITAL JOURNAL

Vol. LII MARCH 1st, 1948 No. 2

PERCUSSED

A BARRISTER who suddenly finds himself in the dock endures a double discomfort. He suffers the embarrassment common to lesser mortals in that situation, and added to this is resentment at finding himself in surroundings which are familiar, but in a situation where he loses his customary authority. In much the same way a doctor who suddenly finds himself at the wrong end of the stethoscope has the added displeasure of being in a situation where his former influence has waned. His demeanour, indeed, is rather that of a Pantomime Producer suddenly forced to play Dick Whittington's Cat.

His situation is admittedly difficult, but looking after him is undoubtedly more difficult still. Prescribing presents new problems. Thoughtless inclusion of *asafœtida* in the prescription will produce a bigger response than usual. Any flavouring will arouse suspicion, and colouring will be badly tolerated. It may be irksome to have to justify every line in the prescription, but with the present large-scale publication of medical textbooks for the layman, this will soon be a useful facility for every physician.

It is usually admitted that doctors are bad patients, but that it is good for them to be ill is another consideration. "Physicians," said Plato, "would acquire the greatest expertness if from their childhood up they not only studied their profession, but also came in contact with the greatest number of the worst cases, and had personal experience of every kind of malady, and were naturally not very healthy." These drastic suggestions open up interesting possibilities. Assuming he survived to years of discretion, such a physician might be most adept at eliciting physical signs which he could once have called his own. For the specialist in some branches there might be advantages. But it conjures up a hideous prospect for the anxious parent taking a problem child to the psychiatrist.

Indeed, there is no suggestion that the healthy physician constitutes a menace to the community. At the present time, when his patience or conscience is being so sorely tried by elaborate political schemes of doubtful application, it would be unfair to suggest that he should voluntarily sacrifice his health. So let us hope that observation and knowledge will long continue to be regarded as adequate substitutes for personal experience.

However, from a variety of illnesses a doctor often learns one thing—in addition, of course, to the popular virtues—and that is the value of the patient's own testimony. Too frequently this is accorded rather cursory attention. But if, throughout his professional career, he can recall baffled fury when his own diagnosis was ignored and later proved correct, this may initiate co-operation between him and his patients as nothing else could do. And perhaps he will be less likely to expect his patients only to reply to set questions, the answers to which are expected to confirm an early diagnosis. Only too often a patient is dismissed for treatment, and he goes away disgruntled because his presenting symptoms have been ignored.

There are many instances of lack of co-operation between the patient and doctor or nursing staff. Two only need be mentioned, both of which are similar, trivial, and yet of the sort that often occur. Both occurred in orthopædic hospitals in different parts of the country. In each case the patient was being treated for a kyphosis by hyperextension of the thoracic vertebræ on a padded Robert

Jones frame over a period of months. During treatment padding was added at intervals in the lumbar region, so that the patient started to develop a lordosis. Each patient complained bitterly that the padding was incorrectly placed, but was ignored. In one case the patient was inspected after three weeks by the surgeon in charge of the case, and was greeted with the words, "This padding's wrong. You must *insist* on having it in the right place." Here was a cheerful assumption that patients' complaints invariably receive the consideration that they sometimes deserve.

There are objections raised to taking the patient into one's confidence and demanding his co-operation. There is the view that it is not the patient's business; but since it is his disease the view is questionable. There is the objection that time is lacking, which usually implies the necessity for better allotment of the time available. There is also the possibility that patients may worry about their disease if they are well informed. Generally they worry more if they are kept uninformed. And well intentioned relatives are always available in abundance with suggestions which give a distorted and terrifying picture.

Indeed, it seems that patients worry more if information is withheld. Remarkable results are often obtained in hospitals and sanatoria where the patient is fully aware of the grave nature of his disease, but where his natural vitality and courage are aroused and enlisted, and enable him to co-operate more fully with his doctor. The courage of patients in adversity is generally underestimated, whereas their terror of the unknown cannot be over-emphasised.

Our barrister in the dock supplies a final analogy. It is usual for him in happier circumstances, if he is defending a client, to talk with him first and show him the kind of defence he will offer. If he presents his case without his client's knowledge, the client may be numbered among the witnesses who weaken his case. Indeed, his client is entitled to almost as much information as his colleagues. And yet it is not unknown for a doctor to excuse sparseness of information to his patients on grounds of professional dignity.

THE EARLY DIAGNOSIS OF MALIGNANT DISEASE

A Clinical Lecture given at 12 noon on Wednesday, November 5th, 1947.

By REGINALD M. VICK, M.A., M.Chir.

ALL through your years of training as doctors, you are being taught the signs and symptoms of malignant disease, when it has developed in the human body—and very little about the really early stages of the disease. It is obvious, from all we know about Cancer that there is, at the present day only one definite cure for this terrible scourge of humanity and that is surgery.

Only by the wide eradication of the growth either by the knife or the cautery—an operation often followed by Deep X-Ray Therapy or radium—can the disease be cured.

And another fact not nearly well enough realised is that these procedures are no use whatever unless the disease is in such an early stage that it can be eradicated by cutting it out. It therefore follows that unless we can diagnose the disease in its really early stages, we cannot cure.

Osler once described pneumonia as the "Captain of the men of death." With all the recent discoveries—sulphonamides and penicillin—with the use of cardiac stimulants—and with the modern standard of nursing—this is no longer true and I need not tell you that the mortality of acute pneumonia has fallen to very low levels. But the number of people who die miserably every year of cancer is enormous. And when you have looked after people dying of cancer you will soon realise what an agonizing death it is.

You need not be a very clever doctor to diagnose malignant disease when it has declared itself.

You don't need much clinical acumen to diagnose that a woman with a large lump in her breast and glands in the axilla which even the most clumsy fingers can feel and which even the most unobservant eye can see—has got cancer of the breast.

You won't find it difficult to decide that a man with a large lump in his abdomen wasted to a shadow has got cancer of the stomach.

Indeed the veriest tyro amongst clinicians, or even a man with no clinical knowledge at all, can diagnose what *has happened*.

But it requires a skilled observer to spot that a patient is beginning his journey to the grave—and to discover this while it is still possible to stop his chariot and take him out of it—deal with him and not only delay his journey, but, perhaps, give him many many more years of healthy life.

Let me for a moment analyse the reasons why malignant disease is often far beyond the realms of surgery before it comes into the hands of the surgeon.

Whose fault is it?

Often neither the G.P. nor the Specialist bears any responsibility because the patient does not go to the doctor at all until the disease has developed to such an extent that it is incurable.

Generally, this is due to either ignorance or fear.

Take as an example an educated woman who finds quite by accident that she has a lump in her breast.

What is her reaction? She may think "This is cancer." And fear will prevent her from rushing off to her doctor as she dreads to know the truth. If there is one thing more certain than another it is that firmly fixed in the minds of the lay public is the idea that if you have cancer you are bound to die of it. And this is, indeed, pathetic because it is not true. If an ignorant woman finds a lump in her breast, her reaction is that as it *does not hurt, it does not matter.*

Whereas, the truth of the matter is that she should say because it does not hurt, it *does* matter.

This brings out still another reason why cases come late, which is that *cancer in its early stages is nearly always painless.*

How can this state of ignorance be combated?

It would be possible to placard the walls of our great city with descriptions of the early stages of cancer—just as now we can read the advice to people who have strayed from the paths of virtue. It has been suggested that this should be done—or that, at any rate, such information might be made readily available at our hospitals. But it has not been done—I need not go into reasons—it was said that the psychological effect would be appalling—that we should create a nation of neurotic cancero-phobes and so on.

Be that as it may, this form of propaganda has been frowned upon in this country. In America, they are more realistic and if you glance through the pages of their excellent Geographical magazine, you will see amongst the advertisements of the Insurance Companies whole pages on the early diagnosis of malignant disease from the patient's point of view. Once, the dulcet tones of the Radio-doctor came over the wireless at some totally unsuitable time describing in his inimitable style the early signs of cancer of the breast, and making the very true statement that 90 per cent. of all tumours in the breasts of women are innocent. Next morning, I had eight cases of "lumps in the breast in women" in S.O.P.s—seven of them were innocent and one was an early carcinoma.

I often think that students do not realise that when a patient finds something the matter it is not his first thought "I must go and see the doctor," but rather "I wonder how I can avoid going to the doctor at all." It is not instinctive in a patient to rush off to the doctor.

In other cases, the delay is due to the dilatoriness or the ignorance of the G.P.

Far too often I have come across cases where the patient has been to the doctor and the doctor has temporised.

I have known patients with piles, which may be the first sign of carcinoma of the rectum, who have been treated without the doctor even making a rectal examination. The danger of temporising is that if the patient is told to come again he or she may neglect to do so. I have known cases where a patient with a lump in the breast has been told not to worry but to come back in *six months*. Could you imagine a better example of ill-advice?

I have even known cases where the Specialist is at fault.

I remember a foreman in Smithfield Market, with dyspepsia, who consulted an eminent physician. He was forty and had never had indigestion before. He was told that he had "functional dyspepsia"—a most unlikely diagnosis in a beef and beer foreman in Smithfield Market. This was back in the '30s. The patient suggested an X-Ray and the physician said, "What I don't know about functional dyspepsia isn't worth knowing and that is what is the matter with you." Three months later this patient was X-Rayed and came under my care with a carcinoma of the stomach already beyond the hope of cure by surgery.

He died miserably some months afterwards

—cursing the man who deprived him of his only chance of cure.

I could multiply these examples, but let us get down to brass tacks.

To take a simple example of what I mean. What is an early carcinoma of the female breast like ?

It is a tiny hard lump in the breast of a woman without any attachment to the skin or the deeper structures. There are no glands in the axilla either palpable or demonstrable at operation. And there are no symptoms.

If such a patient is treated by radical excision and deep X-Rays, what are the prospects of cure?

Dr. Jane Clayton Walker showed statistically that, if the glands are not involved and the proper treatment is carried out, 80 per cent. of such patients are alive and well without recurrence after five years—the so-called Five Year Cure of cancer. If the glands are involved, the almost exact reverse is true.

What can you—the new generation of doctors—do about it? Simply, *never ignore a lump in the female breast*, whether you think it is malignant or not. Deal with it at once or get the patient into the right hands.

There is no need to frighten the patient by using the word cancer. Just tell her that a lump in the breast in any woman must be dealt with—and that the sooner she has treatment the better.

Most women know that a lump in the breast matters, so that if you are a good doctor and have " gained the confidence of your patient," whatever that phrase may mean, she will obey you.

And you may have saved her life and health. You may have saved her from dying from recurrences all over her body. Many of these recurrences are very painful. They may fungate and the patient may languish in misery for months or even years—before the kindly hand of death ends her suffering.

Let us take another example, a very prevalent disease to-day.

Cancer of the Stomach

A man comes complaining of indigestion —and remember Lord Horder's aphorism, " If you have a patient over forty who complains of indigestion for the first time, assume that he has a carcinoma of the stomach, until you have proved that he hasn't."

This patient hasn't got a lump anywhere. All he says is that he has pain after food—that pain, most unfortunately in its early stages, may be relieved by alkaline powders. He has lost a little weight—not much. He has lost a little energy—he now only plays one round of golf, whereas he used to play two. His friends have noticed that he is off colour. You know how kind friends can be. And that's all.

This is the man whom you must have fully investigated. He must be X-Rayed, he must have a test meal—examinations for occult blood, and blood counts to diagnose a mild secondary anæmia, and so on.

Of course, if you do this, you will order a large number of normal X-Rays. But if, now and again, you catch an *early* carcinoma of the stomach, this does not matter. You have done a fine piece of work, and have given the patient his only chance.

And now with the advance of gastric surgery—with the modern types of anæsthesia, it is likely that he will be able to go through the drastic operation with perfect safety and emerge—not 100 per cent.—but cured.

Carcinoma of the Colon

This is a similar example. A patient has lost a little weight, has lost a little energy, has a mild secondary anæmia, and has developed some slight irregularity of the bowel. Instead of getting his bowels open once or twice daily, he misses now and again. He becomes slightly constipated, and has an occasional attack of diarrhœa.

This is the stage at which you must institute the very simple investigations that he requires—a barium enema and, if necessary, a barium meal. If the pictures are taken by a reliable radiologist—and there are such people—and he finds nothing the matter, then by all means treat him symptomically.

You must not wait until he has lost two stones, or until he has alternating constipation, diaorrhœa and a lump in his belly. Then he has become a candidate for heroic surgery—the heriosm being on his part, not the surgeon's and, as like as not, he will soon be glad to join the majority.

I could amplify this throughout the human body.

Carcinoma of the Rectum

Piles, or a slight discomfort, and early morning diaorrhœa—a most ominous and often early sign.

Then do your rectal examination, for many carcinomas of the rectum are within reach of the examining finger. Then do your sigmoidoscopy. Be quick off the mark, and hand over to the surgeon a case of carcinoma of the rectum without glandular involvement or other spread. A patient who, in these days of synchronised abdomino-perineal operation, may well be cured.

Adenoma of the Thyroid

This may be a precursor of the malignant disease Carcinoma of the Thyroid, one of its most terrible forms. A disease in which the patient may be strangled to death slowly. Don't ever let a patient " nurse " an adenoma of the thyroid.

Kidney

Hæmaturia, completely symptomless in character, may be the first sign of an early carcinoma of the kidney.

Therefore, *it is in such patients* that you must get on with your X-rays, your cystoscopy, your intravenous pyelograms, and your retrograde pyelograms.

You may find a carcinoma so small that the only sign is a slight deformity of the pelvis of the kidney—so small that, when you get down on to the kidney, it may look and feel quite normal and you may feel a certain amount of trepidation in removing it.

Prostate

Malignant disease of the Prostate may declare itself by the development of urinary obstruction at an earlier age than is usual with the innocent forms of enlargement of the gland. The most hopeful cases for cure are those in which the gland is removed and only then discovered to be malignant.

Stillboesterol has raised hopes that this scourge may respond to treatment other than surgery.

Carcinoma of the Tongue

This is an example of malignant disease which has become less common.

And why? Because its undoubted precursor in 60 per cent. of cases is syphilis, and that disease is now much more efficiently treated.

Carcinoma of the Gall Bladder

The relation of this form of cancer to Gall Stones is well-known, and if cholecystectomy is carried out early in all cases of gall stones the danger of cancer at this site is gone.

I have finished what I have to say. I chose this subject because, after a long experience of the horrors of cancer, I feel it is a very important one.

If, as the result of my lecture, I have got it across to you that to diagnose and treat (or send for diagnosis and treatment) a patient with Carcinoma somewhere in the body—*which has not declared itself clearly* and which is therefore *an early case*, means that you are a clever doctor, and have done your patient the very best turn that you could have done—then I have not talked in vain.

INCIDENT

THE bell rang—once. The door swung open with a creak. Jack and Lefty walked in.

Jack said, " He's cut his hand."

" I've cut my hand." said Lefty.

There was no one in the room. The rain dripped off their coats : blood dripped from Lefty's hand ; the tap dripped. The door swung open with a creak ; the dresser walked in.

" I've cut my hand," said Lefty.

" He's cut his hand," said Jack.

" Oh," said the dresser. He had a look. " Knife? "

" Goddam carving knife," said Lefty. The dresser walked out.

There were little puddles where they stood ; the tap dripped. The HS/D, the dresser and a nurse walked in.

" He's cut his hand," said Jack.

" I've cut my hand," said Lefty.

" With a carving knife," said the dresser.

" Oh," said the HS/D. He had a look. " Minor Ops. for suture," he said. " Take fifteen minutes."

" Where's the pub? " Jack asked.

" White Hart—'cross the road," said the dresser.

" Get me a double," said Lefty. They walked out.

The tap dripped.

(With acknowledgments to E. H.)

THE OLDEST HOSPITAL IN LONDON

MANY past and present students of St Bartholomew's Hospital must have been startled by the statement by "Londoner" in the *Evening Standard* on November 8th, that St. Thomas's was the oldest hospital in London. The publication of an attractive booklet, with the striking title, "The Story of St. Thomas's 1106-1947," by Charles Graves.[1] was clearly the source of "Londoner's" note. Mr. Graves suggests that nearly 1,000 years ago (actually 842 years) the Priory of St. Mary the Virgin, which was founded in the year 1106, had a hospital attached to it. He does not give any evidence for this statement, but an account is given by the late Professor F. G. Parsons[2] in his history of that hospital. Stowe. the Elizabethan historian of the City of London, recorded a conversation about St. Thomas's Hospital with Linstede, who was the last Prior of the Monastery of St. Mary the Virgin, commonly called St. Mary Overie. He said that a Saxon nunnery had been founded at Southwark, and a hospital had existed ever since. Professor Parsons, however, could not find any evidence of the existence of a Saxon nunnery. There is documentary evidence that a monastery for Augustinian Canons of this name was founded by William Giffard, Bishop of Winchester, in the year 1106, and its church is now Southwark Cathedral. Professor Parsons supposes that a hospital was founded at the same time, some seventeen years before Rahere founded St. Bartholomew's. An infirmary would certainly be provided for the canons and lay brothers, but there are no charters or documents to show that a hospital for the treatment of patients outside the monastery existed. The Monastery of St. Mary Overie was almost entirely destroyed by fire in the year 1212, and three years later, the Bishop of Winchester, Peter de Rupibus, founded the hospital and dedicated it to St. Thomas the Martyr. He thus commemorated St. Thomas á Becket, who had been murdered in the year 1170 and canonised three years later. In an appeal for funds with which to build the hospital, the Bishop said, "behold at Southwark the ancient spital built of old to entertain the poor was entirely reduced to cinders and ashes." This statement, one hundred and nine years after the foundation of the Monastery of St. Mary, is apparently the first clue that a hospital was attached to the Monastery and shows that the hospital had been in existence for a long time, but it is hardly enough to prove that it had been founded in 1106. Amicius was appointed Master of the hospital in 1215, and the names of previous Masters, if any, are not known.

The evidence for the founding of St. Bartholomew's Monastery and Hospital by Rahere in the year 1123 is much more precise, and is described by the late Sir Norman Moore[3] in his history of the hospital, and by the late E. A. Webb[4] in his history of the Priory. The history and date of the foundation is given in a vellum manuscript entitled "Liber fundacionis ecclesie sancti Bartholomie Londoniærum," once the property of the Priory but now, after four changes of ownership, in the British Museum. The original manuscript is missing but was copied in the time of Richard II. Internal evidence shows that the writer was a canon in the Priory in the time of the second prior, Thomas, who died on January 17th, 1174. Attached to the Latin text is a middle English version, and internal evidence again shows that it was made while Richard II (1377-1399) was on the throne. It makes very interesting reading.[5] The earliest document in the hospital is a legal one, sealed in the presence of Rahere in the year 1137. In this document Rahere ordains that Hagno, the clerk, shall pay fifty shillings a year for the use of the canons and the poor abiding in the hospital, thus proving that the hospital existed at this time. The earliest known charter is dated 1133, but the original is missing. Two copies exist; one made by John Cok, a Brother of the hospital, who was present at the coronation of Henry the Fifth in Westminster Abbey. This is preserved in the cartulary of the hospital, and Sir Norman Moore compared the copies of the other charters made by John Cok with the originals and found them very accurate: he copied Rahere's deed correctly and included the grammatical errors. The other is an authorised copy, undated, which was formerly kept in the Tower of London and is now preserved in the Public Record Office. In this charter, Henry the First confirmed the grant of lands to the Church of St. Bartholomew and to the poor of the hospital of the same church.

The names of the Masters of the hospital after Hagno, who was appointed by Rahere, are known. Many other documents showing the existence of the hospital in the twelfth century are preserved in the muniment room and have been published by Sir Norman Moore. These documents show conclusively that the Priory and Hospital of St. Bartholomew were founded at the same time in the year 1123.

The original hospital at Southwark, which was called St. Thomas's some time after 1173, may have been founded at the same time as the monastery of St. Mary Overie in 1106, but the documents necessary to prove it do not exist. They may have been destroyed in the great fire of 1212 but again there is no statement to this effect. Professor Parsons, in making his claim that his hospital was founded in the year 1106, is in a similar position to a man who believes on hearsay evidence and conjecture that he is the heir to a property or title, but cannot produce any title deeds or documents with which to substantiate his claim.

GEORGE GRAHAM.

1 The Story of St. Thomas's, 1106-1947, by Charles Graves, 1947.
2 History of St. Thomas's Hospital, by F. G. Parsons, 1932.
3 The History of St. Bartholomew's Hospital, by Sir Norman Moore, 1918.
4 Records of St. Bartholomew's, Smithfield, by E. A. Webb, 1921.
5 St. Bartholomew's Hospital Reports, 1885.

CIRCULATORY CONCEPTS

By Prof. K. J. FRANKLIN

An Address delivered to the Abernethian Society on December 11th, 1947

PART TWO.

The objectives of circulatory studies

Studies of the circulation of the blood have as their primary objective the acquisition of knowledge about the intact and unanæsthetized human being and lower animals at various stages of their lives, under all conditions from rest to full bodily activity, and over a wide range of variations in external environment. The knowledge required is as follows:—

(1) How, in what amount, at what speed, and at what pressure the blood is distributed to the various parts.

(2) The various details relating to its passage through the tissues or to its by-passing of them.

(3) Data about its return from the periphery (tissues, by-passes, and blood-depôts where such are present) and the reactions of the heart to such return.

As subsidiary objectives, of medical and veterinary importance, we may add the above, as affected by:—

(1) Disordered conditions of the body.

(2) Narcotics and/or anæsthetics.

(3) The administration of other substances by various routes.

(4) Hæmorrhage at varying rates and of various total amount.

(5) The transfusion of blood or of blood components.

The objectives in question, after a relatively short total research period, have been only imperfectly attained. In general, physiological knowledge can be acquired in one of two ways. The first of these is observation without interference and it has been called "zooscopy" (Franklin, 1933, 19); the second is what we call "experimental physiology" and it implies noting or recording the reactions of the body or of individual parts of it to artificial interference. It involves the use of techniques and of apparatus, and the stimulus to invent such has often been lack of knowledge or dissatisfaction with the data available as the result of previous experimental work. One might, therefore, be inclined to accept the dictum of a distinguished physiologist that "The history of the subject in the long view becomes a history of its technique and, if you have outstanding improvements in technique as your landmarks, you cannot go far wrong in following their lead as regards theoretical considerations." Three facts, however, are against this view. The first two are relatively minor ones, namely, that some techniques have been fortuitously introduced, and that others have been only secondarily

adopted for circulatory research. The third fact is much more important, namely, that a technique is usually produced in order to test a concept, *i.e.*, the real history is based upon the evolution of ideas and not upon the consequent invention of methods and of apparatus. "Ce n'est pas quand un homme produit qu'il travaille ; il a travaillé antérieurement quand personne ne s'en apercevait" (Bernard, 1937, 44). To evolve a technique and to explore its possibilities may be of service, at times even of considerable service, but it is a contribution with obvious limitation. To solve a problem by means of a variety of techniques is not only much more fascinating, but also much higher research effort. Finally, to produce a new concept or a new outlook which will inspire numerous researches is the most important contribution of all.

Some further matters for discussion.

In addition to the *credo* enounced in the last section, I should like to put forward some further material for discussion under the following heads:—

1. The advantages of radiographic and cineradiographic circulatory studies.
2. The lability of the blood distribution.
3. The principle of economical blood distribution.
4. The duality of the blood passage through certain organs.
5. The order of sacrifice, reversing the order of development.

Of these, items 2 and 4 deal with observations and concepts respectively of the whole Nuffield Institute team of 1945-7. The rest are more personal to myself.

1. **The advantages of radiographic and cineradiographic circulatory studies.**—After reading a paper, published in 1929 by H. M. Carleton, I became interested in the radiography of the cardiovascular system and thereafter (1933-), with Professor Robert Janker of Bonn, in the cineradiography of the circulation. As a result, one wing of the Nuffield Institute for Medical Research was in 1935 allocated to research by means of cineradiography and allied techniques, and in 1936 Dr. A. E. Barclay most generously came in as Hon. Radiologist. In so far as the circulation is concerned, the main outcomes have been studies of the fœtal blood flow and the changes at birth, and studies of the general circulation and of the renal blood flow. In the former, Sir Joseph Barcroft and Dr. D. H. Barron initially, and later Miss M. M. L. Prichard ; in the latter Dr. Josep Trueta and Miss Prichard initially, and soon Dr. P. M. Daniel, completed the research team.

My reason for turning to radiography and cineradiography was primarily dissatisfaction with the usual physiological techniques for studying the circulation. For these involved, in many cases, an opening up of the abdomen and/or the thorax, or worse, and in consequence wide departures from normal conditions. Further advantages of cineradiography were that the records were objective, and—in the case of the indirect technique—that movements within the body could be projected as movement on the screen. I was fortunate in that, about the time I began, Janker had got his indirect apparatus well beyond the experimental stage and that innocuous contrast media, suitable for intravenous injection, had been introduced. To Professor Janker, not only a very great radiologist but also a very fine friend, I owe a very great debt. The same is true of Dr. Barclay. To the other five colleagues whom I have mentioned above, I am also very greatly indebted ; this is particularly so in respect of the late Sir Joseph Barcroft and of Dr. Trueta, for from them I had not only the pleasure of co-operation, but also inspiration, and that is something of inestimable value.

After fourteen years' or so experience with such colleagues, I am convinced of the rightness of my original belief that radiographic and cineradiographic techniques, combined with the intravascular injection of contrast media, are in many instances the best means at present available for recording the circulation of the blood. *Ex umbris et imaginibus in veritatem,** but in rather a special sense!

2. **The lability of the blood distribution.**—In the early stages of our 1945-7 work, we deliberately took large-sized radiographs so that we might include as much as possible of the whole circulatory field of our experimental animals. In consequence, we became very conscious of the lability of the blood distribution. This lability, as I have already stated, was appreciated by Claude Bernard at a very much earlier date, without anything like our evidence, and in opposition to almost all

* *Ex umbris et imaginibus in veritatem* was the epitaph chosen by J. H. Newman for himself. In a more secular sense, it is a very apt description of our shadow-chase, by means of X-rays, for the truth about certain aspects of the circulatory story. One ex-Fellow of Oriel would perhaps indulge another in this re-direction of the Latin phrase !—K.J.F.

contemporary thought about the activity of the circulatory system. In more recent times, it was very considerably strengthened by Barcroft's demonstration of the wide variations possible in the circulating blood volume. But it can do with still further emphasis, and in our radiographic records it all but cries out loud for wider recognition than it has ever yet received. We have to realise that the blood distribution to the different parts of the body is fluctuating all the time and within very considerable limits, but probably a real appreciation of this lability of the blood flow is unattainable from the written or spoken word, and can only be gained from watching the projection of indirect cineradiographic records of the circulation under varying conditions.†

The principle of economical blood distribution. — Gollwitzer-Meier's and Fleisch's definitions of the objects of the circulatory regulation imply that, within the limits of the total available supply, the blood distribution to the tissues is very precisely adjusted to their fluctuating needs. The concept is potentially a most valuable one and expresses a principle which must have obtruded itself into the thoughts of many circulatory researchers. At the moment, however, it is probably to be regarded as an opinion with which, in the light of personal experience, one can sympathise but which needs to be more fully documented before it can be accepted as axiomatic.

Had it reached that stage, it could have helped to resolve two renal circulatory problems which we encountered. The first was posed by Claude Bernard's finding that in the unanæsthetized animal the renal vein blood could be red at the same time as the kidney surface also was red, and when little oxygen was being lost by the blood in its passage through the kidney. Apparently, the cortex was being supplied with more blood than was necessary to meet its oxygen requirements. If the principle of economical blood distribution is accepted, then this copious cortical supply had some other important function and the significance of red blood in the renal vein, under such circumstances, was nil.

† Such is certainly true of the movements of the bronchial tree, as all who have seen Robert Janker's superb film will at once admit. Those who have not seen it can have nothing approaching a true mental picture of the trachea, bronchi, and bronchioles in their living beauty of movement.

The converse picture, seen in so many of our renal experiments, of an ischæmic cortex suggests, according to the same principle, that under certain other circumstances the cortex does not need blood for its activity, or perhaps that the arrival of ever-fresh blood would temporarily militate against such activity. Here, certainly, any suggestions one may make must be purely hypothetical, but with that proviso one can put forward some possible explanations. The first is that the glomeruli may need occasional rest from their filtering activities, and that a short spell of ischæmia allows them this rest without causing any lasting damage through the temporary anoxia ; perhaps, even, an anaërobic phase is necessary for their recovery processes. A second possibility is suggested by Cruz Coke's finding that the precursor of hypertensin is produced in the anaërobic cortex ; he certainly rejoiced when he came and saw the as yet unpublished results of our work, for he was fresh from a Congress in America where he had been asked almost *ad nauseam* how the normal cortex could become ischæmic for the production of his precursor of hypertensin.

I could make other suggestions, but I have done what I wished if I have shown the applicability of the principle, once it has been proved beyond dispute.

The duality of the blood passage through certain organs.—This concept is based primarily on our renal findings in the intact animal, but gains in width of application in virtue of the anatomical and physiological discoveries made by other workers in respect of several further organs.

According to the concept (which we mention at present only with respect to the mammalian circulation, because that is the only one of which we have any great experience), each organ (? except the heart*) which is essential, because of its specialised tissues, to the full life of the animal has, passing through it or close to it, a basic blood route. It has also a derivative blood route which leaves the basic one on the latter's arterial side, traverses the specialised tissues of the organ and in so doing supplies them, and thereafter joins the basic blood route on its venous side.

The total blood supply to such an organ depends on a number of fluctuating factors and hence is subject to wide variations. The subsidiary flows through the derivative and basic routes also vary, according to circum-

stances, in the proportions of this total supply to which they give passage-way. One function of the basic supply may be to prevent too great a change in the temperature of the parts during the periods in which the derivative supply is cut.

The reason for the production of a concept is primarily to synthesize observed facts, and thereby to simplify a science. But it is also, in part, to suggest lines for further research, and at the Nuffield Institute we had in mind to test our new concept in circulatory studies of other organs (*e.g.*, the lungs, brain,† adrenal glands, uterus) which had never yet been investigated with so definite a directive.

† Professor Amoroso and I are also studying the flow through the lungs and brain.—K.J.F.

The order of sacrifice, reversing the order of development of the full circulation to organs.—This concept suggested itself to me because of our renal work and fœtal circulation work, considered together. Briefly, the order of development of the vascular reactions to the tourniquet on a hind-limb, together with accounts of traumatic uræmia, of hysterical anuria, and of shock in general, provide evidence that, in many instances of progessively increasing circulatory failure, the individual parts are sacrificed in a definite order with the result that the essential life of the organism is continued as long, and at as high a level, as possible. The order of sacrifice is skin, most muscles, kidney, cerebrum, and heart, with the places of other organs as yet unallotted. The dying Haller, as I mentioned earlier, noted that his radial pulse failed while his cerebral activity was obviously still at a comparatively high level, *i.e.*, at the stage in question the muscles of the upper extremity were being deprived of blood but his brain was not. The converse of the order of sacrifice is seen in pre-natal and immediately post-natal development. The heart is the first to "get going," so to speak, then up to birth there is increasing and ascending activity within the nervous system, late in intra-uterine life the kidney begins to function, at birth muscle tone develops at once, and within a few days of birth there is appreciable control of the skin blood flow.*

I put forward this concept even more tentatively than the previous ones, and it may well be attacked or demolished in subsequent discussion. But a scientist must develop ideas before he can put them to the test† and, if I divulge to you my untested ideas, it is only so that I can more thoroughly introduce myself to you in this inaugural lecture.

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*Incidentally, one may stress here the enlightenment that pre-natal studies are throwing, and will continue still further to throw, on post-natal problems. But that is by the way.

†As François Magendie wrote, "Une supposition n'est rien dans la science comme supposition, mais elle peut devenir quelquefois très utile en conduisant à faire des expériences pour la vérifier."

ST. BARTHOLOMEW'S HOSPITAL AND THE PLAGUE OF 1665

By GWENETH WHITTERIDGE, M.A., D.Phil.

PART TWO.

During the months of August and September the presence of plague in the Hospital prevented the Governors from carrying out all but the most urgent and necessary business. Because the hospital glazier, Hugh Tanner, had died, William Ryder and Thomas Tipping made suit to the Governors, on September 11th, to have the office; but their request was referred to a later date. However, a week later (September 18th) the Steward reported present need of a glazier, so William Ryder, without being appointed to the vacant office, was ordered to do the work that was needful. During this period no leases were granted, nor is there any reference to them in the Journal until November 23rd. The election of Governors was, on September 28th, deferred "in respect of the present mortality." On that day the Governors met, not as was their practice in the Counting House of the Hospital, but at the Green Man at Leytonstone in Essex. It is the only meeting of Governors recorded outside the Hospital.

The officials of the Hospital to die of the plague were the Beadles. As it was part of their duty to collect the sick from the streets of London they were obviously very open to infection. Edward Stanley, John Kingston and Thomas Lenton all died between September and November, 1665. Edward Stanley, oldest beadle and sexton of the church of Little St. Bartholomew, was by trade a stationer. He had married on May 26th, 1640, Elizabeth, daughter of William Smith, merchant taylor, and Grace his wife, and who had been baptized in Little St. Bartholomew's church on July 20th, 1623. He was elected sexton of the church in May, 1653 and beadle of the hospital in 1655. He died of plague on September 4th, 1665. His wife Elizabeth caught it, but recovered. On September 11th, the beadle John Hadden was bidden to officiate in the sexton's place "for the benefit of the widow Stanley now visited with the plague." When the hospital came to life again after the plague, in December of that year, we find the Governors concerned with her well-being, and "taking into consideration and pity the sad and poor condition and great charge of four children that the poor petitioner and widow of Edward Stanley, late sexton and beadle, deceased, are left in and no calling or means to get their bread, it was hereupon thought fit and ordered in compassion to the said poor widow and children's great necessities that Mr. Treasurer do pay unto her this next year as the gift of this Court (*i.e.*, of Governors) £4[1] by 20/- every quarter and the first payment to begin at Christmas next." Payments to her of 40/- are recorded in the Ledger in 1666 and in 1667 and she is described as "a poor woman that hath a great charge of children." She probably died at the end of 1667 as no further payments were made to her, and on January 11th, 1668, the Hospital took over the responsibility of a daughter, also called Elizabeth. "Whereas Edward Stanley, lately deceased, died very poor and left a wife and three children upon the charge and care of the parish, and that his eldest daughter was a poor simple creature and not fit for service . . .. the Treasurer and Governors, thinking she may be serviceable in some employment under the cook, hereupon ordered in compassion to the said poor orphan and distressed maid . . . that, so long as the overseers (*i.e.*, of the poor) pay 2/- per week to the counting house for her, she shall be kept at the charge of the hospital with meat, drink, clothes and lodging as other poor patients harboured in the hospital." On December 6th, 1669, she was appointed to ring the bell at meal times for the poor and for this to have 5/- per ann. "to buy herself stockings and shoes."

Of the other hospital beadles, Thomas Lenton, who died between August 19th and September 11th, was the youngest. His burial is not recorded in the burial register, but he may have been a son of Robert Lenton, "thredman," who was buried in the middle aisle of the church on October 16th and whose three sons, James, Joseph and John, were interred on October 29th, November 5th and November 16th, respectively.

[1] All figures should be multiplied by at least 20 to give any idea of modern values.

In his place as beadle, Austin Garland, one of the under-porters, was bidden to officiate on September 11th. On October 10th both Garland and John Hadden were discharged from their attendance on the persons infected with the plague, for "their business is required about the Counting House and to be sent abroad about the hospital's occasions to persons of quality." In their place Thomas Durant, a patient, was appointed to officiate about the "pest ward's occasions," for which he was to receive 1/- a week in addition to the 2/4 allowed him as a patient. These temporary arrangements held good until December 15th, when the Governors made formal election of the new beadles. John Hadden, beadle, became sexton in a contended election decided by a show of hands. Augustine Garland, "an ancient labourer belonging to the Hospital," was admitted as second beadle. Roger Petty, citizen and merchant taylor, was elected third beadle, to fill the place of John Kingston, deceased, and Thomas Durant, citizen and fishmonger, was elected to the place of Thomas Lenton, the youngest beadle.

On December 23rd, 1655, the Governors met to decide the recompense due to those who had served the hospital during the plague, "having a respect to their apparent danger, pains, diligence and faithful care in these late dangerous and pestilential times." To Thomas Gray, surgeon, "who hath in these late contagious times been employed in this hospital's service for the cure of all contagious distempers wherein he hath carefully discharged the same," is awarded £30. The salaries of the two doctors who had absented themselves, that is Dr. Micklethwaite and Dr. Tearne, were still suspended, and that year they received only their normal retaining fee of £33 6s. 8d. Francis Bernard, the apothecary, who had officiated and prescribed for the sick patients in their absence "wherein he hath been exposed to adventure his life," was to receive £25 "being the like sum he hath yearly paid unto him for the cure of out-patients." William Cawthorne, the Clerk, "who hath been in all these late dismal and contagious times personally acting in the hospital affairs to the great hazard of his life," received £30 and Thomas Poultney, the Steward, £40 "for his personal care in adventuring his life about the hospital affairs and business." The Renter, Peter Moulson, received £10. All these gratuities are accorded "for that they have severally acted in their own persons in the late dolorous dispensations and have been found faithful." And to the Matron, Margaret Blague, "for her attendance and constant great pains about the poor in making them broths, candles and other like comfortable things for their accommodation in these late contagious times," the Governors grant her petition for the extension of the lease of her son-in-law's house near the South Gate of the Hospital from 21 to 31 years. (All leases of hospital property at this date were made for a maximum of 21 years.) And lastly, Samuel Broadstreete, the Hospitaller, and James Pitts, the porter, received £5 apiece for their care about the Hospital poor.

It might well be expected that, during the months of the plague, the expenses incurred by the Hospital would show a marked increase, but the Ledgers do not bear out this supposition.

Perhaps the conclusion is the obvious one that the care of the plague stricken patients was rudimentary and that nothing but the simplest remedies were applied, for no others were known and it was impossible for the surgeons and physicians of that day to stop the course of the epidemic. The Journals provide us with abundant evidence of the concern of the Hospital for the well being of its patients. It was not negligent of those visited with plague and what could be done for them was done.

REMINISCENCE

Dr. Kates
Hates
To recall an occasion when, to a clerk, he said "No, Ben.
It is best,
When we look at the chest,
Not to sit on the abdomen."

J. McO.

CORRESPONDENCE

GHOSTS

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

Since you kindly published my article on Ghosts in your December number, it occurred to me that opportunities for psychic research might exist much nearer at hand than, say, Bisham Abbey and Glamis Castle. I have heard that the Nurses' Home at Bart's is haunted by a grey nun, whose gaunt figure has been seen stooping over the beds of ailing nurses from time to time, an alarming habit I am prepared to let pass without comment. But at Hill End — with its interminable passages enclosing deep pools of sinister darkness, its uneven wards full of mysterious corners, its enigmatic cats, and the bats that beat through the shadows of the corridors, with the utmost familiarity, in the soft dusk of a summer's evening—Hill End, I felt, must surely come up to the complete requirements of a Hertfordshire country house in lodging a ghoul. Investigation after dinner one evening now allows me to report (to anyone who may be interested) that our Sector Hospital is pretty well overrun with spooks.

I will not trouble you with the main body of apparitions that questioning revealed people heard their friends had seen not even with the apparently very horrible, white, flapping shape that has been spotted by three separate young ladies in the grounds of Highfields, the daytime residence of the night nurses. The most constantly believed-in spectre is the centre of the Legend of Hill End, which runs briefly like this:—

In the days long before Bart's arrived, shortly after the last brick had been set on the new building, a young nurse was one night strangled to death by a mental patient in a side room off one of the female wards. The tragedy was not discovered until daylight, by when it was quite impossible to trace which of the inmates had committed the dirty deed. The incident remained locked in generally agreed silence until we appeared suddenly in 1939. Shortly afterwards, one of the night staff noticed her probationer standing quite motionless in a far dim corner of the ward towards 3 o'clock one morning. After a few minutes the night staff left for the ward kitchen, leaving the other girl, her only companion, on duty, to look after the patients from her gloomy standpoint. The probationer, of course, she discovered in the kitchen, the other figure had vanished, and all hell broke loose. The ghost now opens doors and moves bedpans in the sluce room. It is quite genuinely believed to haunt the north ward of FG 1, and the glass corridor connecting FG with FH, where it was seen in 1940 by two separate night sisters.

One evening recently, when a gale was blowing up, when there were owls screeching round the bare trees, and when the moonlight shone thinly through scudding clouds, I inspected the pitch in this auspicious atmosphere but found no ghost. I was even shown the notorious side room, where I discovered on opening the door, the tall figure of a man, his hat over his eyes and his collar pulled up, silhouetted against the window. The light disappointingly revealed a collection of patients' clothes on a hat stand. Later investigations revealed that the murder had apparently not taken place in FG 1 after all, but in another ward —in fact, at the end of the evening I had to reach the conclusion that a nurse had been murdered in every side room in the hospital.

As an extension of the anti-climax, I am sorry to say that whoever the ghost that flits through the sluice room at night, no nurse has ever been strangled by a patient or otherwise at Hill End. I should still like to think that the spook will lend a little more importance to Hill End (which still contains almost half the entire hospital) in the eyes of some of our colleagues at Smithfield who seem to regard us as too terribly rural for decent inclusion in St. Bartholomew's at all. But dash it all, I hear the fellers at Bart's don't even dress for dinner! I can add, by way of further explanation, that the large trolley found in one of the anaesthetist's beds on Boxing Night was not moved by poltergeists, and low chanting during the hours of darkness is more likely to be the residents than the wraiths.

Yours sincerely,
ALAN TOIS.

M.O.
Hill End Hospital. 8th January, 1948.

SKIN GRAFTING AFTER EXTENSIVE BURNS

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

The earliest reference to this procedure appears to be that given by Mohammed about 620 A.D. in the Koran (chap. iv; George Sale's translation):—

"Verily those who disbelieve our signs, we will surely cast to be broiled in hell fire; so often as their skins shall be well burned, we will give them other skins in exchange, that they may taste the sharper torment; for God is mighty and wise."

This was an addition to the resources of Hell as described by Christ and his followers.

E. L. KENNAWAY.

Pathological Dept., St. Bartholomew's Hospital.
7th January, 1948.

THE AMERICAN LOAN

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

I am most sorry to learn that the article "The American Loan" has provoked such offence. In writing it, causing discomforture was far from the author's mind.

It was thought that a careful choice of names belonging to no one at Charterhouse Square, *at the time of writing* would have avoided this.

Contrary to rumours, the names, events and conversation described had no factual origin.

SECOND YEAR OBSERVER.

Abernethian Room. 5th February, 1948.

OBSERVATION

Sir Norman Moore had retired from the staff of the Hospital. He came into Luke Ward one day and asked Sister if he might sit and make notes from the records of one or two former patients. When Sister had sent for the records he required, he sat at her table in the front ward and wrote for a time. Sister returned just as he was finishing and asked if she could do anything more to help him. He turned towards the basins at the far end and said that he would like to wash his hands.

Sister told him that those basins were out of order, that she was expecting the plumber at any moment, that the basins in the back ward were in commission and, talking to him, she led him up the back ward. When he had dried his hands Sister had also dried up, so there was no conversation as Sir Norman returned down the ward, and he gave a brief glance to right and left as he passed each bed. Reaching the door, he said, "Goodbye and thank you very much, Sister. Tempora mutantur, et nos mutamus in illis: I see you have given up putting white covers on the Typhoid cases."

He left behind him a very anxious Sister: "Typhoid: in MY ward?"

Hastily, starting at No. 1 bed, Sister scanned the notes: "No — Sir Norman couldn't have meant No. 1. No, nor No. 2. Certainly not No. 3."

No. 4 was a recent admission: no diagnosis had yet been reached: a gastro-enteritis of sorts, and running a slight temperature: could he be the patient . . .? and then the door opened and Sir Thomas Horder entered with his H.P.

Sir Thomas enquired about No.1, then Nos. 2 and 3: coming to No. 4 he asked his H.P. what examinations had been carried out and whether a diagnosis had yet been made. His H.P. said, "Not yet," when Sister broke in, "May I speak, Sir Thomas? Sir Norman Moore was in the ward just now." "Yes, please, Sister: anything that Sir Norman Moore says is well worth hearing: did he examine this patient?" "No, Sir Thomas— but when he was walking down the ward he glanced at each patient and, as he went out of the door, he said, 'I see you have given up putting white covers on the Typhoid cases.'"

Yes — you are right — and so was Sir Norman Moore.

Third Chip.

PEACEFUL PERISTALSIS

"For centuries poets have sung of the deeds of heroes—activities of striped muscle. Our bodily wellbeing and efficiency depend largely on activities of plain muscle. What poet has sung its praises or penned an ode to peaceful peristalsis?"

Throughout the ages men have sung and taught
Of deeds of valour and of battles fought;
Alas! the only muscle which they laud
Is that which to one's wishes will accord.
They all ignore Smooth Muscle—call it tripe,
Yet it can agonise them by its gripe:
Unless to Pharmacology they've been,
And then the cure is plain—'tis atropine.
This Brave New World of hurry and of bustle
Might learn, instead of sneering, from Plain Muscle:
Though slow, it nearly always does its stuff,
And if the action is not strong enough
Try Epsom Salts, whose bulk th'intestine fills,
Or Senna Pods, or number nine in pills.
Emetics now, like strong saline or so
Cause antiperistalsis down below;
The same effect is often got at sea,
And then what price the Strong Right Arm—for he
Instead of fighting foe—to left, to right,
Is lying in the scuppers, out of sight.
Could Drake have sunk th'Armada full five fathom
If troubled all the time by bronchial spasm?
Or Gaul have been divided in three parts
If Cæsar's bladder worked in fits and starts?
An arm did Nelson lose, yet victories won,
But if you lost a yard of jejunum
How many battles would you win?—Not one!

C. McKinna.

BOOK REVIEWS

THE ESSENTIALS OF MODERN SURGERY, edited by R. M. Handfield-Jones and A. E. Porritt. 3rd edition. 1948. E. & S. Livingstone Ltd., Edinburgh. Pp. 1256. Price 50s.

The third edition of this popular textbook will doubtless receive a warm welcome, for one of the most outstanding faults of the preceding volumes has been remedied. Addenda have been made to many chapters dealing briefly with operative procedures to which reference is made in the general body of the chapters. These notes contain nicely the amount that the dresser requires to know, and greatly enhance the value of the book.

A useful chapter has been added on Chemotherapy, Sulphonamides, and as one would expect from this school, a competent survey of the uses of Penicillin in Surgery. There is also a new chapter on Amputations.

One minor defect in an otherwise excellent book is the binding, which is much too frail for a volume of this size. This complaint at such a time is futile, but important since this factor will contrast adversely on the export market with books from other countries.

We may recommend this book to all who are starting their surgery as up-to-date, well written, and most attractive to study.

THE APPENDIX, by R. J. McNeil Love. H. K. Lewis, London. Pp. 181. Price

It is a commonplace in medical teaching that common complaints are the worst taught. Welcome therefore is a work by the able hand of Mr. Love on such a frequently diseased organ as the Appendix. The author deals very fully with all aspects of appendicular disease, with emphasis perhaps on the conservative treatment of the 48 hours old localised case. An apostle of long standing of this method Mr. Love, as far as the present generation is concerned, must be largely preaching to the converted, and it is unlikely that this volume will reach the backwoods to convert the rest. Detailed criticism can only be levelled at small points: one would like to see more stress on the diagnosis and treatment of Acute Appendicitis in Children, with mention of abdominal tuberculosis in the differentiation. Acute Non-Specific Mesenteric Lymphadenitis is a common disease which is rarely mentioned in textbooks: its description here, while welcome, might be fuller. Rightly decrying the classic Fowler's position, an illustration of the position he prefers would be an improvement, likewise one expects mention of the use of anticoagulant and vein ligation in post-operative thrombosis. The Section on Appendicostomy, now outmoded, might have been omitted, but in general however this is a valuable book, which should be read by the student and recently qualified house surgeon.

RETROPUBIC URINARY SURGERY, by Terence Millin. 1947. E. & S. Livingstone, Edinburgh. Pp. 206. Price 25s.

This is a well produced and amply illustrated monograph in line with all publications of E. & S. Livingstone, Ltd.

It affords an excellent description of the author's operation, removal of the prostate through the retropubic approach. It also gives a description of his operation for stress incontinence in women, through the same approach. It adds, however, very little to the author's clear descripton of his operation in the Lancet, in December, 1945.

DISEASES OF THE JOINTS AND RHEUMATISM, by Kenneth Stone, D.M., M.R.C.P. Pp. IX+362, with 58 figures including 16 colour plates. 1947. William Heinemann, London. Price 30s.

This is a useful and thoughtful book on a subject which is very difficult because of its diversity, complexity and elusiveness. The book is too discursive for the undergraduate, but can be recommended to graduates. One of its virtues is its insistence upon the place of rest and active movements rather than the wizardry which is so popular with the friends of patients and so profitable to the wizards. On the other hand the author fails to define the place in treatment of such well-tried and often legitimate methods as radiotherapy and operation. The style is lucid and the illustrations are good.

H.J.B.

CAMBRIDGE GRADUATES CLUB

The Fifty-Ninth Dinner of the Cambridge Graduates Club of Saint Bartholomew's Hospital was held at the Mayfair Hotel on the evening of Wednesday, January 21st, 1948.

Mr. Reginald M. Vick was in the Chair and there were 83 members and seven guests present. The guests were Sir Alfred Webb-Johnson, Professor Barnard (Dean of Saint Thomas's Hospital Medical School), Dr. Dalzell (Physician Superintendent of Friern Hospital), Professor Paterson Ross, Mr. Basil Hume and the Dean and Sub-Dean of Saint Bartholomew's Hospital (Dr. Harris and Dr. Aldren Turner). Because of the restriction of numbers, only official guests were entertained at the dinner. After the loyal toast, the Chairman proposed the toast of the Club in a cheerful speech. He told his audience that this was, indeed, a very happy and historic occasion the springing to life again of this famous Club. Its last dinner had been held in 1938. The Club had been founded in 1876, and had held a dinner each year—except during the two world wars.

He referred sympathetically to the 34 members who had died since the last dinner, and mentioned especially Dr. John Barris, Sir Walter Langdon-Brown, Dr. F. G. Chandler,

Sir Henry Gauvin, Dr. W. S. A. Griffith, Mr. L. B. Rawling and Sir Humphry Rolleston. He described the Club as unique, in that all Cambridge Graduates who come to Bart's automatically become members—without entrance fee or subscription. The Club's only function is to bring Cambridge Bart's men together annually in convivial surroundings and it has fully served its purpose throughout the years. He welcomed some of the more prominent Cambridge men present, amongst them Dr. Morley Fletcher (the father of the Club), Dr. Graham, Sir Alan Moore (whose father, Sir Norman Moore had occupied the Chair in 1877, 1886, 1893, 1899 and 1908), Dr. Henry Burroughes (for 23 years secretary of the Club), Sir Harold Gillies (the doyen of plastic surgery), Major General Eric Barnsley and Dr. A. C. Roxburgh. The rest of his speech was an ardent appeal to the younger generations of Cambridge Bart's men to keep the Club alive and flourishing in the years to come. The toast was received with enthusiasm. Dr. George Graham then proposed the toast of the Guests in a felicitous speech, in which he referred to the age old controversy as to whether Bart's or Thomas's was founded first, on which subject no decision was reached. Sir Alfred Webb-Johnson and Professor Barnard replied for the guests. Dr. Geoffrey Evans proposed the health of the Chairman, which was received with musical honours. The Chairman replied briefly and proposed the toast of the Senior and Junior Secretaries of the Club, Mr. H. Jackson Burrows and Dr. Kenneth Black. The Senior Secretary replied suitably, regretting the absence of the Junior secretary through illness.

After dinner, many of the members were entertained at Dr. Geoffrey Evan's house where was told the famous fairy story of "Hairy Rouchy," which has now become traditional in the Club and which was told year after year by Sir Norman Moore. Major General Barnsley recited some of his own verse, and the evening ended to the spirited singing of "Green grow the rushes, O!"

There is no doubt that the whole meeting was an unqualified success and it is hoped that, should the restrictions on numbers be removed, even more successful dinners will be held in the future.

SPORT

HOCKEY CLUB

With eight of last season's cup-winning team still available, we have not had so far the success expected. Difficulty has been experienced particularly in filling the vital centre-forward position where last year's captain, G. Dixon, was so invaluable. This in spite of the example of J. Fison who, unfortunately, is ineligible for cup games. The right-wing position on the other hand, vacated by H. Giles, is almost too well provided for by J. Godden and P. Hawkes, whilst the competition between J. Milligan and H. Whitting for the inside position makes team selection even more difficult.

A newcomer to the team this year is N. Hicks, whose excellence in goal has done much to prevent the opposition from scoring and also in helping us to forget that J. Hindle is no longer a regular player. Hindle's influence, particularly after the game, was directed towards the maintenance of that somewhat indefinable thing called "team spirit," which has not been so much in evidence as last year.

We all hope and believe, however, that under J. Platt's captaincy we will once more rise to the great occasion and keep the cup for a fourth year.

It would perhaps be invidious to mention any name above the others, but the evergreen A. Dossetor, on his return to regular hockey, has been an inspiration to all of us.

Among those who have played for the 1st XI are J. W. Platt (capt.), G. Hirst, E. J. Griffiths, J. W. Mellows, A. E. Dossetor, M. D. Mehta, A. J. McDonald, N. Hicks, J. Milligan, P. Hawkes, H. Whitting, J. Godden, J. B. Dossetor, R. Morgan, B. Arthur, J. Fison, N. Fison.

Space does not permit of mention of the happy band of 2nd team players who have been persuaded into taking such violent exercise with varying degrees of difficulty by their energetic secretary, D. Aubin. They have, however, had many enjoyable games, and it is certain that without their support the Hockey Club could not look forward with so much confidence into the seasons ahead and rely on them for help in the 1st team when needed.

Games won: Lloyds Bank, Kingston Grammar School, London Hospital. Games lost: Lensbury, Rochester and Gillingham, Sevenoaks, South Saxons, United Banks, Gravesend, Birmingham University. Fixtures yet to be fulfilled: Cambridge University Wanderers, Emmanuel College (Cambridge), Kingston Grammar School, R.N.B. (Chatham), Beckenham, Bandits, N.P.L., Reading University, Lensbury, United Services, Eastern Command, Inland Revenue, Vauxhall, Bromley, South Saxons, G.W.R.

G. H.

SWIMMING CLUB

Matches during the coming season have been arranged as follows:—

March 9th v. St. Mary's Hospital I.
May 18th v. St. Mary's Hospital II.
May 25th v. Imperial College I.
June 22nd v. King's College Hospital.
June 29th v. King's College.

The Annual General Meeting will be held in the Committee Room at 12.30 a.m. on Wednesday, March 3rd.

G. C. H. C.

THE 13TH DECENNIAL CLUB

THE inaugural meeting of the 13th Decennial Club was held on December 5th last, under the entirely approving gaze of the portraits in the Apothecaries' Hall and Dr. H. V. Morgan.

In his appreciative and appreciated address from the Chair, Dr. Morgan explained that this, obviously the most illustrious of all decennial clubs, was additionally distinguished by being the last to claim entirely male membership. (The 14th club, when it eventually comes to be formed, will be as open to young women as Roedean, though probably more fun.) The chairman added that members joining the Hospital in 1945 could, if they wished, enter the next club. The remainder will have to wait until the survivors are down to five in number, when the rules allow them to take refuge with their successors. By that time there will be no point in the matter anyway.

This being the youngest of all Decennial Clubs, many of the members present were still tied to their Mother Hospital's apron strings. Nevertheless, there were a number of three-or-four-year old reunions, although equal pleasure seemed to be derived from a get-together after as short as six weeks. Even though friendship is a hardy plant, I'm sure you'll agree it is never the worse for an occasional good watering.

Membership of the club is open to all joining the Hospital between 1935 and 1945, and who have since qualified. Students may join on qualification. If there is anyone eligible for membership who has been sufficiently tempted by the above account, or for any other reason wishes to join, he need do no more than write to The Secretaries, 13th Decennial Club, St. Bartholomew's Hospital, E.C.1, who earn our warmest thanks for their hard work and initiative in establishing the club and arranging its first meeting.

BOOKS RECEIVED

MODERN TRENDS IN DERMATOLOGY, by R. M. B. MacKenna. Butterworth and Co., London. 1948. Pp. 432. Price, 42s.

MEDICINE, Essentials for Practitioners and Students, by G. E. Beaumont. J. and A. Churchill, London. 5th Edition, 1948. Pp. 831. Price, 30s.

A SUMMARY OF SURGERY FOR NURSES, by Selwyn Taylor. Faber, London. 1948. Price, 5s.

REMEDIAL EXERCISES FOR CERTAIN DISEASES OF THE HEART AND LUNGS, by Hester S. Angrave. 3rd Edition, 1947. Faber. Pp. 181. Price, 10s. 6d.

AIDS TO GYNÆCOLOGY, by W. R. Winterton. Baillière, Tindall and Cox. 10th Edition. 1947. Pp. v plus 184.

PRACTICAL HISTOLOGY FOR MEDICAL STUDENTS, by D. T. Harris. H. K. Lewis. 4th Edition, 1947. Price, 12s. 6d.

THE PSYCHOLOGY OF THE ADOLESCENT, by Leta S. Hollingworth. Staples Press, 1947. Price. 10s. 6d.

THE STORY OF ST. THOMAS'S, 1106-1947, by Charles Graves. Produced by Adprint Ltd.; distributed by Faber & Faber. Price, 8s. 6d.

ANNOUNCEMENTS

BIRTH

MARTIN-JONES.—On December 10th, 1947, at Salisbury, to Margaret, wife of Dr. J. D. Martin-Jones, a daughter—Gilian Elizabeth.

THE TWELFTH DECENNIAL CLUB

The 12th Decennial Club will meet this year on Friday, April 23rd, at 6 p.m., at the Worshipful Society of Apothecaries of London, Blackfriars Lane, by kind permission of the Private Court.

This will be an informal meeting at which a buffet supper will be served.

Our last meeting in 1946 was attended by 100 members and was voted a tremendous success. Please make a note of the date *now* in your diary. It will be necessary to give some idea of numbers to the caterers, so please let me have a postcard saying if you can or cannot attend.

The price will be rather more than previously, as the hall has to be paid for.

C. K. VARTAN,
25, Harley Street, W.1.

ABERNETHIAN SOCIETY

The following addresses have been arranged:—

March 11th.—Dr. Aleck Bourne.
"The Art of Living"

March 25th.—Professor A. M. Boyd.
"Surgical Experiences in the Middle East."

THE JOURNAL

Mr. D. Munro-Faure has been appointed Assistant Editor.

Contributions for the JOURNAL *should reach the Editor by the first Tuesday of the month for inclusion in the ensuing issue.*

We regret that recently increased printing costs have compelled us to raise the annual subscription from 15*s. to* £1 1*s.*

EXAMINATION RESULTS

UNIVERSITY OF LONDON

SPECIAL FIRST EXAMINATION FOR MEDICAL DEGREES.

December, 1947.

Boomla, D. F. — Elliott, C. J. R. — Maskell, J. F. A. — Page, A. R. W.
Brydson, M. D. — Hick, B. D. — Maunder, D. C. — Penty, P. R.
Duffy, T. A. — Jackson, D. A. T. — Mellows, J. W. — Staunton, M. H.
Whitting, H. W.

The following External Candidates have completed exemption from First Medical :—

Cuthbert, D. M. — Lamplugh, A. N. — Watts, M. B.
Johnson, R. J. R. — Lascelles, B. D.

The following Higher School Candidates have qualified for exemption from First Medical :—

Davies, G. — Jones, H. S. — Lodge, A. B. — Taylor, M. G.

M.S. EXAMINATION.

December, 1947.

BRANCH III (OPHTHALMOLOGY)
Banaji, P. B. — Dobree, J. H.

December, 1947.

M.D. EXAMINATION.

December, 1947.

BRANCH I (MEDICINE)
Atkinson, W. J. — Dunlop, E. M. C. — Taitlow, W. F. T. — Weitzman, D.
Blanshard, T. P. — Fagg, C. G. — Thompson, J. W.

BRANCH II (PATHOLOGY)
Discombe, G.

BRANCH IV (MIDWIFERY & DISEASES OF WOMEN)
Hans, S. F.

EXAMINATION FOR THE ACADEMIC POST-GRADUATE CERTIFICATE IN PUBLIC HEALTH.

Cowin, P. J. — Evans, D. G. — Holtby, G. R. — Roden, A. T.
Dowling, M. A. C.

CONJOINT BOARD

FINAL EXAMINATION.

January, 1948.

PATHOLOGY
Davies, H. F. — Evans, C. M. W. — Morgan, D. J. R. — Read, P. A.
Drake, P. H. — Holtby, M. C.

MEDICINE
Bomonji, T. R. — Douglass, D. J. — Johnston, M. E. — Rees, E. G.
Cathcart, D. B. — Hill, P. G. — Moser, J. B. — Vazifdar, J. S.
Clifford, W. E. — Jenkins, J. S. — Powell, F. J.

SURGERY
Amos, J. A. S. — Moser, J. B. — Sahakian, J. G. — Weller, M. A.
Glanvill, M. E. — Sacks, D.

MIDWIFERY
Cotes, J. E. — Gai, P. N. — Lawrence, N. — St. John, J. M. S.
Davies, H. F. — Hawkes, P. H. R. — Mead, J. H. — Taylor, G. B.
Dawson, W. G. — Heighway, J. D. — Millard, I. L. — Thomas, O. G.
Evans, H. A. — Hindle, J. F. — Rees, J. D. — Young, R.

The following students have completed the examination for the Diplomas M.R.C.S., L.R.C.P. :—

Bomonji, T. R. — Glanvill, M. E. — Moser, J. B. — Powell, F. J.
Cathcart, D. B. — Jenkins, J. S.

ROYAL COLLEGE OF PHYSICIANS

January, 1948.

The following Candidates having satisfied the Censors' Board are proposed for election as Members :—

Borrelli, V. M. — Dipple, P. E. — Mason, R. M.
Borrie, P. F. — Mark, P. M. C. — Weatherhead, A. D.

ROYAL COLLEGE OF SURGEONS

Subject to the approval of the Council of the Royal College of Surgeons at a meeting held on 21st November, 1947, the following are entitled to the Diploma of Fellow :—

Acharya, B. S. S. — Burke, J. — Greig, M. T. — Sapsford, D. P.
Banerjee, S. — Connolly, R. C. — Pearce, H. A. — Simmons, G. H. A.
Bateman, A. D. — Fuller, R. C. — Rickham, P. P.

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CONTENTS

responsible will be dubbed tyrannical by the young and impudent by the old, even if they are excused by the discerning on grounds of inexperience.

Since treatment is defined as the mode of dealing with a person, the treatment of a patient with a boil is not the kaolin poultice but the way it is applied. This quibble is not concerned with psychosomatic medicine, but serves to emphasise that it is treatment which is at fault if the patient is disgruntled, perhaps by too obvious haste, or offended, as by hearing a voice declare "There's a boil next door."

Many are the ways in which a patient may be caused unnecessary discomfort. The object of the injunction, "Come and look at this—it's an interesting case," justly resents this impersonal reference to himself. The wag with his enquiry, when a seedy looking clerk leads in a case, "Which is the patient?" embarrasses the patient as much as he cheers his colleagues. Indeed, laughter at a medical quip is often assumed by the patient to be at his own expense, particularly a hearty crescendo when he has just left the room. Intelligent patients may find discussion of their symptoms in terms of transparent euphemisms more alarming than "the round, unvarnished tale"; others, again, even in a crowded accident box, will be distressed by requests couched in the imperative.

These may be petty instances, but are important apart from their ethical implications. For although the reputation of a hospital is maintained by members of the staff in their hundreds, it is assuredly fostered by the patients in their thousands.

KETOSTEROIDS IN HEALTH AND DISEASE

By ALICE M. ROBINSON

THE systematic study of the steroids of human urine is just twenty years old. In 1928, Loewe showed that it was possible to prepare extracts from normal male urine that would induce growth in the capon's comb. Stimulated by these observations and by parallel developments in the field of urinary oestrogens, Butenandt and his associates undertook the isolation and identification of the androgens of normal male urine.

The Search for the "Male Hormone"

Butenandt used as his starting material in his search for the androgen of human urine what he believed to be the most suitable source—the urine of very "virile" males (in fact a collection from the urinals of Berlin Police establishments). From many thousands of litres of urine he finally isolated an androgenic substance which he recognised as belonging to the class of substances known as steroids. He named his first pure substance "androsterone." Shortly afterwards he isolated a second closely related compound, now called dehydro*iso*androsterone, which also has androgenic properties.

Butenandt's androsterone was at first widely believed to be the same as the substance that gave potency to testicular extracts when tested on the capon's comb. But careful comparisons between the urinary substance and testicular extracts revealed important differences. Besides the capon's comb the seminal vesicles of castrated rats can also be used as test-objects for androgens. Parallel tests showed that testicular extracts that were equally potent with a given weight of androsterone when tested on capons were more active in promoting growth of the castrated rodent's seminal vesicles. Moreover, the testicular activity was destroyed by alkalies whereas androsterone was stable. In addition, even in the comb test itself, a given weight of crude testicular extract was more active than the same amount of pure androsterone. It was clear, in fact, that the high androgenic potency of testicular extracts could not be due to androsterone.

Laqueur and his colleagues, working in Amsterdam, undertook the isolation of the testicular androgen and succeeded in obtaining in 1935 a new steroid hormone of high potency both in the comb and seminal vesicle tests. In view of its origin they named it testosterone. This substance has been widely recognised as being the true testicular hormone and Butenandt's androsterone is now considered to be one of the metabolic products of testosterone.

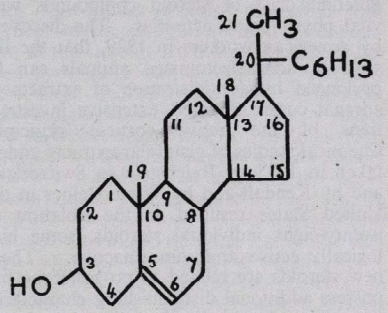
Complex Nature of Urinary Androgens

Butenandt's pioneering researches on urinary androgens were followed by intensive search in both normal and pathological urines for other steroid substances and the list of steroids now known to occur in the urine of normal or diseased persons is a long and impressive one. A number of these compounds closely resemble androsterone in chemical structure. In particular they all

bear a ketonic group at the carbon atom conventionally numbered seventeen. As a convenient generic name for this class of substances the designation "17-ketosteroids" was coined. Four different 17-ketosteroids are now recognised as existing in the urine of normal men and women. Two of these are the pair originally isolated by Butenandt, namely androsterone and dehydro*iso*androsterone; the other two are stereoisomers of androsterone. That is to say, they differ only in the spatial arrangement of their groups. Two of these substances are precipitable with digitonin (dehydro*iso*androsterone and *iso*androsterone) and are called beta-17-ketosteroids; the other two (androsterone and aetiocholane-3-(alpha)-ol-17-one) are not precipitable and are alpha-17-ketosteroids. Normally, the alpha-17-ketosteroids account for about 90 per cent. of the total.

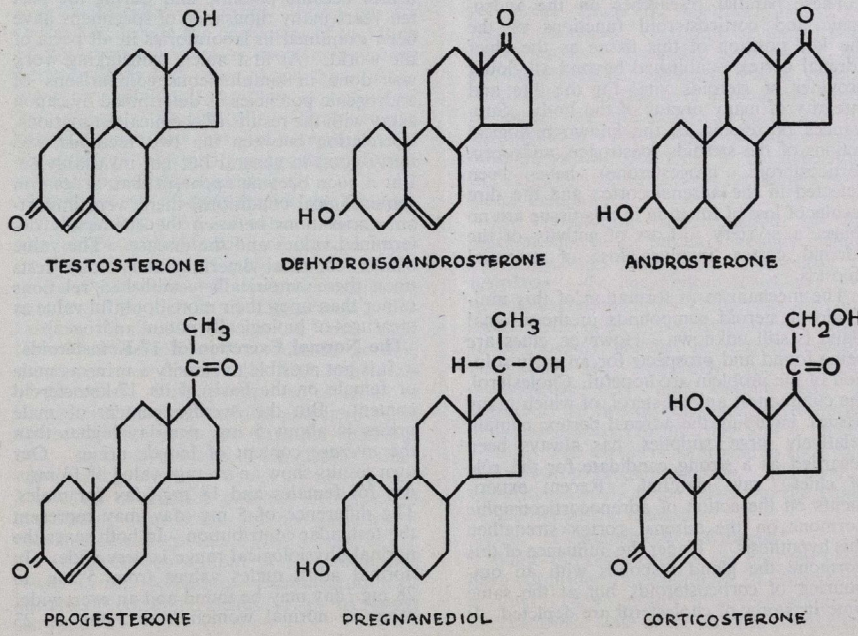
The Adrenals as a Source of Androgens and Corticosteroids

The studies of the Callows and of Hirschmann on urines from ovariectomized women and from eunuchs established a most important point. These researches made it clear that the adrenals and not the gonads are chiefly responsible for the production of urinary androgens. The urinary output of these substances remains at normal levels in subjects deprived of their gonads. All later studies of adrenal hyperplasia or neoplasia have amply confirmed the adrenal cortical



CHOLESTEROL

RELATION BETWEEN CHOLESTEROL AND SOME IMPORTANT STEROIDS



TESTOSTERONE DEHYDROISOANDROSTERONE ANDROSTERONE

PROGESTERONE PREGNANEDIOL CORTICOSTERONE

origin of the greater part of the urinary 17-ketosteroids.

While these researches were establishing the fact that the adrenal cortex is the most important source of androgenic steroids in the body, researches into another aspect of the endocrinology of the adrenal cortex showed this tissue to be a producer of a different class of steroid compounds with vital physiological activities. The discovery by American workers in 1929, that the life span of adrenalectomized animals can be prolonged by administration of extracts of adrenal cortex initiated extensive investigations of the active cortical principle. Chemical studies of glandular extracts undertaken in 1935 by Reichstein in Switzerland and by Kendall and by Wintersteiner in the United States resulted in the isolation of twenty-eight individual steroids, some biologically active and some inactive. These new steroids are related to progesterone but possess additional distinguishing characteristics. The physiologically active compounds were of two types. One promoted the retention of sodium and chloride ions by the kidney, the other promoted the enzymatic conversion of proteins into carbohydrates.

These parallel researches on the androgenic and corticosteroid functions of the the key position of this tissue as the chief adrenal cortex established beyond all doubt provider of steroids vital for the life and integrity of many organs of the body. Substances possessing all the known biological actions of the steroids (oestrogen, androgen, corticosteroid, progesterone) have been detected in the adrenal cortex and the dire results of loss of function in this tissue are no longer a mystery. Loss of activity of the adrenal cortex involves loss of essential steroids.

The mechanism of formation of this multitude of steroid compounds in the adrenal gland is still unknown. However, clues are being found and prospects for an early solution of the problem are hopeful. Cholesterol, the commonest animal sterol, of which many tissues, including the adrenal cortex, contain relatively large supplies, has always been regarded as a strong candidate for the rôle of chief "raw material." Recent experiments on the action of adrenocorticotrophic hormone on the adrenal cortex strengthen this hypothesis. Under the influence of this hormone the gland responds with an outpouring of corticosteroids but at the same time its stores of cholesterol are depleted. It is interesting that the amount of ascorbic acid in the gland decreases simultaneously. It seems possible that this vitamin plays an essential part in the remarkable steroid metabolism of cortical tissue. In experiments directed along a different line it has been shown that administration of cholesterol "marked" with isotopic atoms leads to the formations of pregnanediol in the urine bearing the same marked atoms. Since pregnanediol is the metabolic end-product of progesterone this implies that cholesterol can serve as a source of this important steroid.

Measurement of 17-Ketosteroids

Proof of the adrenal origin of 17-ketosteroids led to the suggestion that their quantitative estimation might be of value in diagnosis. Such estimation was impracticable so long as biological assays remained the only method for quantitative determination. The need for a chemical method of measurement was urgently felt. A careful study by the Callows of a colour reaction first discovered by Zimmermann led to a practical method for the relatively rapid chemical estimation of urinary 17-ketosteroids.

With the advent of a colorimetric method a wide survey of normal and pathological urines became possible and during the past ten years many thousands of specimens have been examined in laboratories in all parts of the world. At first much painstaking work was done in simultaneous comparisons of androgenic potencies as determined by capon assay with the results of chemical estimations. Correlation between the two methods was fairly good in general but not invariably so. But it soon became apparent that, at least in some clinical conditions, there were important correlations between the chemically determined values and the disease. The value of the chemical determination today rests upon these empirically established relations rather than upon their more doubtful value as measures of biologically potent androgens.

The Normal Excretion of 17-Ketosteroids

It is not possible to classify a urine as male or female on the basis of its 17-ketosteroid content. But the *average* content of male urines is about 5 mg. per day higher than the *average* content of female urines. Our own results show an average value of 13 mg./day for females and 18 mg./day for males. The difference of 5 mg./day may represent the testicular contribution. In both sexes the normal physiological range is very wide. In normal adult males values from 5 mg. to 28 mg./day may be found and an even wider range in normal women from 3 mg. to 23 mg./day is observed. This wide range must be borne in mind when interpreting cases suspected of abnormality. The excretion in any one individual is relatively constant and rapidly fluctuating excretions are rarely encountered. Our present knowledge of excretion in normal subjects is by no means complete. The data tend to be crowded in the age group 20 30 years. At both ends of the age-scale our knowledge is much more meagre. In children the excretion increases up to the age of puberty. Values of 1.5 mg./day in children of 4—7 years; 4.0 mg. at 7—12 years; and 8.2 mg. at 12—15 years are quoted. We are almost completely ignorant of the excretion of newborn infants.

Excretions in old age are still largely unexplored though recent advances in our knowledge of prostatic disease make such information of great importance. In an effort to fill this gap we have recently carried out a study of the excretion of 17-ketosteroids in men of the older age groups using material available in this Hospital (non-endocrine diseases). This work has shown that the excretion is low in childhood, rises rapidly at or about puberty, and reaches a maximum in middle age. After the 4th decade there is a gradual decline in output. From the 4th to the 8th decade the coefficient of variation of the excretion remains constant and men between 70 and 80 years of age show just as great an individual variation in output as men between 30 and 40. These results should form a firm basis of comparison for the study of excretion in prostatic disease which is now being undertaken.

Excretion of 17-Ketosteroids in Disease.

In considering the excretion in disease we may adopt a classification of adrenal hypo- or hyperfunction. Hypofunction includes Addison's disease and also cases exhibiting anterior lobe deficiency (Simmonds's disease). In Addison's disease the chief feature is destruction of adrenal cortical tissue and we accordingly find low levels of excretion. Output from males tends to be higher than from females and here again this excess may represent testicular contribution. In the later stages of the disease values approaching zero are found in both sexes. The effect of anterior pituitary deficiency is presumably caused by absence of adrenocorticotrophic hormone. This is reflected in the extremely low output of 17-ketosteroids found in this condition. Administration of adrenocorticotrophin leads to an increased output.

In hyperfunction two types must again be considered. The first in which the defect is primarily in the adrenal, the second in which the abnormality is one of the anterior pituitary lobe. Excretions of 17-ketosteroids in prepuberal virilism in girls caused by benign hyperplasia of the adrenal cortex may be extremely high—more than 100 mg./day. Such high values are also associated with cortical carcinoma. But qualitative examination of the steroids from proved cases of benign hyperplasia has shown that, with few exceptions, androsterone is the component that is augmented and that it is this substance that is chiefly responsible for the high total output. Virilism in the adult woman usually results in excretions at or above the upper normal range. Values up to 40 mg./day are regularly encountered. Unlike prepuberal cases, adult virilism does not lead to the very high outputs of more than 100 mg./day.

Carcinoma of the adrenal cortex in females of all ages is almost always associated with high excretions of 17-ketosteroids. Values of over 1 gm./day may be found. A few exceptional cases have been reported in which the output has not exceeded normal limits. A common factor (of great diagnostic significance) is the greatly increased excretion of dehydro*iso*-androsterone. Excessive amounts of this steroid are, in fact, characteristic of cortical carcinoma. The rarity of adrenal carcinoma in males has limited the opportunities for investigation. The existing data suggest that adrenal cortical carcinoma in the male does not resemble the tumour in the female in its sterol metabolism.

In considering hyperfunction of the anterior lobe of the pituitary we may include basophilic and acidophilic hyperplasia or neoplasia. In basophilism (Cushing's syndrome) excretions up to 40 mg./day are common. Extremely high outputs are not found. In acromegaly, normal or slightly elevated excretions are frequently found. But occasionally very high outputs can be detected. In two of our cases, for example, a male excreted 110 mg./day and a female 70 mg. The excess of androgen in each case was shown to be androsterone. The level of excretion appears to be related to the phase of activity of the disease.

17-Ketosteroid "Patterns"

While the researches of the past ten years have confirmed the usefulness of estimations of total 17-ketosteroids in investigations of the functional state of the adrenal cortex they

have also revealed the limitations of the method. Although a simple determination of the total excretion may (in the case of cortical carcinoma) give information of great value, in many cases it may be of little diagnostic help. The differential determination of alpha- and beta-ketosteroids has also been employed as a method of gaining additional information. But even this refinement often fails to reveal anything of clinical significance.

The substances normally measured as "total 17-ketosteroids" in urine comprise a complex mixture of closely related substances. It has already been mentioned that the complex contains four main constituents in normal urine. In addition there are other compounds present in small amounts. Complete analysis of normal urine extracts reveals at least eight substances. It has long been realised that among the components of this complex there may be members that, although quantitatively minor constituents, may be qualitatively important indices of change in cortical function. The present trend of research on the ketosteroid complex of urine is therefore in the direction of separation and estimation of each individual constituent of the complex.

Separation of the individual components can be achieved by the use of chromatographic technique. That is by adsorption of the total complex on columns of aluminium oxide and selective elution of the individual components by suitable solvents. By this method the total complex can be resolved into a characteristic "pattern." While such a procedure is obviously much more elaborate and time-consuming the information it yields is much greater. The "patterning" of urinary steroid complexes is clearly the method of the future. It is along these lines that we are at present developing our own work in a study of patterns shown by urines from cases of prostatic disease and the changes in pattern produced by effective treatment with synthetic oestrogens. Such studies promise to throw light on the problem of the mode of action of oestrogens in prostatic cancer.

Corticosteroids in Urine

It will be seen from the foregoing account of the development of our knowledge of adrenal androgens that a rapid advance occurred as soon as a chemical procedure for their detection and estimation became available. This has recently been paralleled by a similar development in the corticosteroid field which may act as an equal stimulus to research on these substances.

Human urine contains substances resembling in chemical characteristics and biological action the corticosteroids that were mentioned earlier as having been isolated from the adrenal cortex. Urinary extracts have been prepared that are effective in maintaining life in adrenalectomized animals, in protecting such animals against cold, in preventing water intoxication, and in depositing glycogen in the liver. Biological assays show that these substances are excreted in increased amounts by post-operative, burned, or otherwise damaged persons. Recently it has been found that these "cortin-like" substances in urine can be satisfactorily estimated by chemical methods. All active corticosteroids have reducing properties and they can be estimated, after suitable extraction procedures, by micro-reduction methods such as those used in the estimation of blood sugar.

Although these researches are still in the exploratory stage some interesting results have already come to light. The normal output of corticosteroids in adults of both sexes is about the same and amounts to about 0.25 mg./day. The physiological variation is wide (0.1—0.4 mg./day). Of conditions so far investigated that lead to increased excretions of "cortin-like" substances. Cushing's syndrome is outstanding. In one patient an output of 12 mg./day was observed, that is, about fifty times the normal excretion. This may be exceptional, but two of our own cases showed excretions of 5 and 6 mg./day, and all have been high.

Adrenal cortical hyperplasia or neoplasia does not appear to increase the corticosteroid excretion but does increase the output of 17-ketosteroids. On the other hand, in Cushing's syndrome, the corticosteroid output is very greatly augmented while the 17-ketosteroid excretion is but little elevated. It appears probable, in fact, that the corticosteroid production and the 17-ketosteroid production (or at least production of 17-ketosteroid precursors) are not necessarily linked. Furthermore, it is possible that there are two distinct adrenocorticotrophic hormones elaborated by the anterior pituitary, one of which stimulates corticosteroid production and the other androgen production in the adrenal cortex. The androgenic stimulation that can occur in acromegaly and the increased corticosteroid production in basophilism are very interesting in this connection.

Studies in the physiological functions of the adrenal cortex are revealing, almost daily, new and unsuspected aspects of its manifold activities. Apart from its rôle in regulating the body's reaction to stressful circumstances, its probable involvement in such processes as control of circulating lymphocytes, formation of gamma-globulin, and formation of antibodies, indicates that the results of future research on the biochemistry of the adrenal cortex must be of profound importance to medicine. In this field, as in many others, the pursuit of knowledge for its own sake has already paid higher dividends of "useful" results than have many investigations devoted only to "practical" ends.

SHAKESPEARE AND MEDICINE

By M. J. Clarke-Williams.

"I will buy nine sparrows for a penny. And his pia mater is not worth the ninth part of a sparrow."—Troilus and Cressida, Act II, Sc. I.

As far as we know there were no representatives of the medical profession among Shakespeare's intimate circle of friends that foregathered at "The Mermaid" in the early years of his career in London. He undoubtedly met many doctors and, as a student of mankind, Shakespeare did not overlook the medical profession in his all-embracing study of the people who made up the society of his day. But his capacity for character-drawing was not applied to the doctors that appear in his works, with only one exception, Dr. Caius. In the complete canon of thirty-seven plays only five doctors appear; of these only one, Dr. Caius in "The Merry Wives of Windsor," has any part to play in the plot. Dr. Butts, the King's physician, is mentioned by name in "The Famous History of the Life of King Henry VIII," but in what is called in theatrical parlance a "super's part." Of the other three doctors, two appear in "Macbeth," and one in "King Lear." There is one other character, Cerimon, who "studied physic, through which secret art, by turning o'er authorities," made himself familiar with "the blest infusions that dwell in vegetives, in metals, stones." Of his work in "Pericles, Prince of Tyre," we shall see more later. Friar Lawrence in "Romeo and Juliet" was conversant too with "baleful weeds and precious juiced flowers." To say that Shakespeare did not think very highly of the state of medicine in his day (an argument based almost entirely, I believe on ". . . throw physic to the dogs, I'll none of it . . .") is, I think, false. For in June, 1607, Shakespeare's eldest daughter, Susanna, married a certain Dr. John Hall, of Stratford-on-Avon. Dr. John Hall was later to become a very famous physician and author of a medical classic of his day, "Select Observations." In accordance with the time-honoured tradition here, I searched to discover some connection existing between Dr. John Hall and St. Bartholomew's Hospital; but was unable to find any! But I am open to correction from one better versed in History than myself. Now that Shakespeare was very fond of his eldest daughter and his medical son-in-law is shown by his will, bequeathing them the bulk of his property. Susanna had always been Shakespeare's favourite; and that he had long talks on medical subjects with his son-in-law cannot, I think, be doubted; for it was in the following year, 1608, that "Pericles, Prince of Tyre" was completed and first performed. It is surely pertinent to assume that the frequent analogies and references to Medicine reflect the medical opinions held in Shakespeare's time. The examination of certain of these will throw some light on the state of medical knowledge in the late sixteenth and early seventeenth centuries.

In the tragedy of "Troilus and Cressida" one, Thersites, described in the list of dramatis personæ as a "deformed and scurrilous Grecian," though by no means a physician, has among his streams of invective as good a catalogue of the ailments afflicting man as one is likely to find outside a text-book. Patroclus is the object of his curses in the following passage:

> "Now the rotten diseases of the south, the guts-griping ruptures, catarrhs, loads o' gravel i' the back, lethargies, cold palsies, [raw eyes, dirty-rotten livers, wheezing lungs, bladders full of imposthume, sciaticas, limekilns i' the palm, incurable bone-ache, and the rivelled fee-simple of the tetter,][1] take and take again such preposterous discoveries!"

A formidable list indeed! It is not difficult to guess what most of these diseases were, but the exact nature of "the rotten diseases of the south" and the "limekilns i' the palm" eludes me. Put into present day medical terminology an *imposthume* is an abcess or collection of purulent matter, and the *tetter* was a diseased thickening of the skin. Earlier in the play "rank Thersites opes his mastic jaws" to curse the whole Grecian camp with "... the Neapolitan bone-ache! for that, methinks, is the curse dependant on those that war for a placket."[2] The incurable bone-ache is therefore none other than Spirochætal infection, brought over just one hundred and ten years earlier from the New World by Columbus's sailors. Incurable, for it was still more than three hundred years before Chemotherapeutics were discovered. Though scarcely medical, the following three quotations introduce diseases which were recognised in Shakespeare's time:

"... pours't in the open ulcer of my heart ..."

"... what grief hath set the jaundice in your cheeks?"

"... add more coals to Cancer when he burns."

In Therapeutics, a large number of herbal preparations, infusions, distilations, etc., were known, chiefly from the study of herbs by the monks. Friar Lawrence tells us:

"O mickle is the powerful grace that lies
In herbs, plants, stones and their true qualities ...
Within the infant rind of this small flower
Poison has residence, and medicine power;
For this, being smelt, with that part cheers each part,
Being tasted, slays all senses with the heart."

To Juliet he gives these fateful instructions:

"Take thou this vial, being then in bed,
And this distill'd liquor drink thou off:
When presently through all thy veins shall run
A cold and drowsy humour; for no pulse
Shall keep his native progress; but surcease:
No warmth, no breath, shall testify thou livest ...
Each part, deprived of supple government
Shall, stiff and stark and cold, appear like death
And in this borrow'd likeness of shrunk death
Thou shalt continue two and forty hours."

The nature of these drugs is a matter for conjecture, but it is probable that at basis they represent known herbs, though the details are embellishments of Shakespeare's ever fertile imagination. In "Hamlet," also, we find this description of the action of a drug Hebenon; The Ghost speaks: (I quote from the First Folio of 1623)

"With iuyce of curfed Hebenon in a violl,
And in the porches of mine eares did poure
The leaprous diſtilment; whoſe effect
Holds ſuch an enmity with bloud of Man;
That ſwift as Quick-ſilver, it courſes through
The naturall Gates and Allies of the Body;
And with a ſodaine vigour it doth poſſet
And curd, like Aygre droppings into Milke,
The thin and wholeſome blood: ſo did it mine;
And a moſt inſtant Tetter bak'd about
Moſt Lazar-like, with vile and loathſome cruſt,
All my ſmooth Body."

Psychology and Psychiatry, subjects yet unborn, and indeed diseases of the brain generally, were not considered within the province of the doctor at all. In the sleep-walking scene in "Macbeth" we find:

"This disease is beyond my practice; yet I have known those which have walked in their sleep, who have died holily in their beds." "... More needs she the divine than the physician."

A little later Macbeth enquires of the same doctor the state of health of Lady Macbeth:

Macbeth:
"How does your patient, doctor?"
Doctor:
Not so sick, my lord,
As she is troubled with thick coming fancies
That keep her from her rest.
Macbeth:
Cure her of that.
Cans't thou not minister to a mind diseased,
Pluck from the memory a rooted sorrow;
Raze out the written troubles of the brain,
And with some sweet oblivious antidote
Cleanse the stuff'd bosom of that perilous stuff
Which weighs upon the heart?
Doctor:
Therein the patient
Must minister to himself.[3]
Macbeth:
Throw physic to the dogs. I'll none of it.
... If thou could'st, doctor, cast
The water of my land, find her disease
And purge it to a sound and pristine health,
I would applaud thee to the very echo,
That should applaud again ...
What rhubarb, senna, or what purgative drug
Would scour these English hence?"

It would appear from this that the standard cure for an illness in Shakespearean days was a purge; yet, to digress from Shakespeare for a moment, Nicholas Breton writing in 1616, says: "An unlearned and so unworthy physician is a kind of horse-leech, whose cure is most in drawing of blood, and a desperate purge, either to cure or kill, as it hits." Quite the opposite view!

Another doctor appears in "Macbeth" besides the "Scotch" one from whom the above quotations are drawn; an English doctor who speaks to Malcolm in the scene in the English King's palace:

Malcolm:
"... Comes the King forth, I pray you?
Doctor:
Ay sir; there are a crew of wretched souls
That stay his cure: their malady convinces
The great assay of art; but at his touch,
Such sanctity hath Heaven given his hand,
They presently amend."

The disease to which the doctor refers is tuberculosis of lymphatic glands, then known as "the King's Evil" or Scrofula, which was very prevalent in those days.

Macduff:
"What's the disease he means?
Malcolm:
'Tis called the evil:
A most miraculous work in this good king;
Which often since my here-remain in England,
I have seen him do. How he solicits Heaven,
Himself best knows: but strangely-visited people,
All swoln and ulcerous, pitiful to the eye,
The mere dispair of surgery, he cures,
Hanging a golden stamp about their necks,
Put on with holy prayers: ..."

Besides this "mere dispair of surgery," there is but little reference to Surgery in the Shakespeare Canon. The "Cæsarian" operation, which was performed when "Macduff was from his Mother's womb untimely ripp'd," plays an important part in the fulfilment of the prophecies of the three witches, and the ultimate downfall of the tyrant Macbeth. And King Lear, in his madness, cries out, "Let me have a surgeon for I am cut to the brains." Surgery, though in its infancy, was widely practised in those days.

Of Dr. Caius and Dr. Butts there is little to be said; the former was too amourous, and the latter too much tied in the tentacles of politics for either to be concerned with the medical side of their profession. Lastly, Cerimon, the unqualified dabbler into the mysteries of physic, a lord of Ephesus.

Cerimon:
"... 'Tis known, I ever
Have studied physic, through which secret art,
By turning o'er authorities, I have,
Together with my practice, made familiar
To me and to my aid the blest infusions
That dwell in vegetives, in metals, stones;
And I can speak of the disturbances
That nature works, and of her cures; which doth give me
A more content in course of true delight
Than to be thirsty after tottering honour
..."

Several servants bring in a chest, which has been tossed up upon the shore; within which on opening is found King Pericles's Queen. A letter written by King Pericles, requests that he that finds the chest should bury it as befits a Queen. But—

Cerimon:
"... For look how fresh she looks! They were too rough
That threw her in the sea. Make a fire within:
Fetch hither all my boxes in my closet.
Death may usurp on nature many hours,
And yet the fire of life kindle again

The o'erpress'd spirits. I heard of an
Egyptian
That had nine hours lien dead,
Who was by good appliance recovered.
Enter servant with boxes, napkins and fire.
Well said, well said; the fire and cloths.
The rough and woeful music that we
have
Cause it to sound, beseech you.
The viol once more: how thou stirr'st,
thou block!
The music there! I pray you give her
air.
Gentlemen,
This queen will live; nature awakes; a
warmth
Breathes out of her: she hath not been
entranced
Above five hours: see how she 'gins to
blow
Into life's flower again! . . .
. . . to the next chamber bear her.
Get linen: now this matter must be
look'd to,
For her relapse is mortal. Come, come;
And Aesculapius guide us!"

Much of the foregoing, I think, Shakespeare learnt from John Hall, though it is unlikely that it presents an exact picture of the standard method of resuscitation in the early seventeenth century! We are not, unfortunately, told the contents of the viol, that did such miracles.

There are many other references to diseases, treatments and medical analogies in other plays of Shakespeare's, that it would be tedious to explore in full. One notes that physicians, even in those days, experienced the same difficulty in persuading patients to have their conditions treated early! For

". . . like the owner of a foul disease
To keep it from divulging, let it feed
Even on the pith of life . . ."

It is certain, however, that despite the primitive state of medical knowledge and the quaintness of some of the lines of treatment, most citizens in Shakespeare's England would cry with consternation like mine Host of "The Garter."

"Shall I lose my Doctor? He gives me
the potions and the motions . . ."!

NOTES:

[1] This part of the speech does not appear in the First Folio Edition of "Mr. William Shakespeare's Comedies, Histories and Tragedies, published according to the True Originall Copies" in London by "Ifaac Iaggard and Ed. Blount" in 1623.

[2] Placket is a Petticoat.

[3] Compare with Agamemon's reference to Ajax: "He will be the physician that should be patient."

"GOODNIGHT CHILDREN"

A Comedy in Three Acts
by J. B. PRIESTLEY

THE second post-war production by the Hospital Dramatic Society shewed further and decided promise which it is hoped will be steadily maintained. In the first place, the play chosen had a large cast which gave more scope for trying out possible future stars, and in the second place, the stage of the Rudolf Steiner Hall was morespacious than that at King George's Hall and hence movement of the players was less restricted.

The play is a little joke on the part of Mr. Priestley and has many a sly dig at the B.B.C. quite characteristic of the author. The setting is a Broadcasting Studio in a rural town and the main theme a broadcast of local features, particularly the playing by an ancient rustic of a weird musical instrument called a "serpent." Several entertaining cameos of the reactions of various members of the broadcasting staff are skilfully interwoven. By the end of the second Act the little joke has almost entirely fizzled out and in consequence the third Act drags.

In a large cast, all of whom did well, I hope I shall be forgiven for singling out those who, to me, showed especial histrionic ability. Miss Aileen Ryan as Paula Leeds (a Producer) had repose and good voice inflexion and emerged with flying colours. Successes were also scored by Miss Wendy Cook as Hetty Lodore (an Actress) and Miss Marjorie Franklin as a temperamental Russian pianist. Dennis Bartlett gave an excellent impersonation as Fairfax Haycraft (an Announcer) and George Marsh had his good moments as Bob Dinty (an Actor). In the comedy roles of Mathew Punnett (an Ancient Rustic) and his daughter Daisy, Gordon Goff and Miss Nancy Heywood were highly amusing without overplaying. There was a certain slowness in taking up cues and at times inaudibility due, no doubt, to first-night nerves.

The setting was adequate and once again Robin Hindley-Smith proved himself a very efficient Producer. Althogether a most enjoyable evening.

H. G. REEVES.

TOBACCO SUBSTITUTES

By G. A. HARRISON, M.D., F.R.I.C.

RECENT increases in the price of tobacco must have stimulated many observations and experiments with substitutes. The collection and processing of material takes time, and it is difficult for one man in his spare minutes to acquire much information in a single season. Publication of results, negative as well as positive, should therefore be helpful to others.

These experiments started just after the April budget of 1947. The plan of campaign was to try anything available in the garden, to pay particular attention to solanaceous plants and to limit processing to simple air-drying and cutting up.

ROCK ROSE

The first experiment was with a rock rose (*Cistus*: a white species) which had been killed by the severe winter and was covered by leaves already air-dried. It was a simple matter to gather these, rub them between the hands and pass them through a sieve with pores about half an inch across, and try a pipeful. It was a pleasant surprise to find that the smoke was quite smooth, and not in the least acrid or irritating to the throat; it was slightly reminiscent of Friar's balsam. Cistus contains an oleoresin, ladanum, or labdanum, which used to be in the British Pharmacopœia about 1850 as a stimulant expectorant. I had a hundred or more pipefuls, but eventually tired of it because it was rather sickly, sparked like a bonfire, burned too quickly, and repeatedly gummed up the pipe-stem.

RHUBARB

The next experiment was on rhubarb which is available early in the season and has large leaves. These were cut and spread on a wooden floor to dry. After several weeks, when brown and leathery, about a dozen at a time were folded into packets and compressed between two boards in a vice for one to seven days. The resulting cakes were cut into thin slices with a sharp carving knife and rubbed between the hands. The product was brown and not unlike tobacco in consistency and appearance: moreover it smoked well in a pipe, though it had a slightly unpleasant tang. It was smooth, non-irritating to the throat, and did not burn too quickly. So I had three pipefuls one after another, and a few hours later had abdominal pain and diarrhœa. It seems therefore that the purgative action of rhubarb may be produced by smoking the leaves but the observation needs confirmation. I did not smoke it neat again, but have used it exensively in small amounts, of the order of 1 in 100, to counter a slight sickliness of other ingredients, and without any ill-effects.

While these experiments were going on, several other leaves were laid out to air-dry. Each was tried first in a pipe, but since September several have also been made into cigarattes. Results by the two methods generally were parallel. By air-drying I imply that leaves were left until they felt and looked dry. If exposed too long they became brittle and went to a powder when handled. Several were still green when smoked. I have only dried one substitute (carrot leaves) quickly in an oven; it became brittle and powdered too easily.

For cutting up the substitutes, a knife, scissors or a marmalade-cutter have been used; the last was much the best and quickest of available appliances, but the blades periodically had to be taken out and re-sharpened. Rhubarb leaf is the only one I have made into a cake.

Gradually I have learned to assess substitutes or substitute mixtures under three headings:

1. as fuel which should burn slowly
2. as flavouring agent
3. as binding agent.

The remaining observations will be considered under these headings.

Burning Material

POTATO leaves took a long time to dry, and there was much stalky matter to discard. The "leaflets" were rubbed by hand. The product was brown, had a peculiar tang which I found unpleasant, and smoked neat gave me a slight headache. I have used a trace (about 1 to 100) successfully as flavouring agent, but otherwise advise caution until further experiments have been made.

TOMATO leaves, "dry" but green and freed from stalk, had a most unpleasant taste, so I discarded them. They were sickly, but a few pipefuls produced no dire results.

BEETROOT leaves were liable to mildew, unless fully separated when drying. They burned well and slowly but had a peculiar tang, very like that of potato and unpleasant to me. They were used a little as "burning material," about 1 in 4, and may be worthy of further experimentation.

VEGETABLE MARROW leaves were green and hairy, unpleasant to rub by hand, and almost tasteless.

PARSNIP leaves remained green and had a slightly sickly taste which was easily countered by a trace of rhubarb. They might well serve as burning material but have not been tried out properly.

MILFOIL OR YARROW leaves were recommended by a writer in one of the daily papers. They are finely divided and many have to be processed to produce only a little substitute. They had little taste and served well as burning material.

CARROT leaves have been used extensively, much more than any others. I have smoked them in more than 1,000 cigarettes and in many scores of pipes. The divided leaves were stripped from stalky matter, spread on paper on a wooden floor for about two weeks, and sliced in a marmalade-cutter. They were still green when smoked, were smooth and non-irritating to the eyes and throat, and had only a very faint taste of carrots which could be completely masked by a trace of rhubarb. I preferred them with added flavouring agent and a binding agent (see D.T.M. Cigarettes below). They tend to break into tiny bits some of which get into the mouth, so for the best results a filter-tip should be incorporated in the cigarettes, or a mouthpiece or holder should be used.

Leaves from several trees have been recommended from time to time. I will only mention those I have smoked personally; all were "smooth" and not in the least acrid, in contradistinction to the straw, paper and string smoked in schoolboy days. WILLOW (? species) was introduced to me by A. Wild, Esq., of Orpington. Its leaves fell early in the drought of this summer and were brushed up, stored in sacks, and cut up as required. They were a silvery-brown and had a slightly bitter somewhat aromatic taste (see also Peach and Willow mixture below). Other leaves picked off the ground in the autumn and smoked were VIBURNUM LANTANA (Wayfaring tree), POLYGONUM (a non- climbing species) and PEACH (leaves turned yellow). All were satisfactory.

Flavouring Agents

LAVENDER smells delightful in a bonfire, but its leaves had a nasty acrid taste in a pipe even when the proportion was small. FRENCH LAVENDER was better and is worthy of further trial. GARDEN MINT had a very powerful nauseating taste and even traces were objectionable to me. WATER MINT (*Mentha aquatica*) on the other hand had a pleasant taste when small amounts were incorporated in the smoking mixture, the flavour being similar to that of the garden variety in mint sauce. The leaves had to be air-dried for several weeks when they became green-brown, and were separated by hand from the considerable proportion of stalk—a laborious and slow process. Flavouring is unnecessary with Willow leaves. Real tobacco has been mixed in varying proportions with substitutes, but in my opinion each spoils the other.

Binding Agents

With the exception of rubbed rhubarb-cake, all the materials mentioned tended to become "bitty" and to fall out of cigarettes, and to produce a shower of sparks from a pipe. Something to "bind" them was clearly needed. Luckily I remembered the huge quantity of fluff available in the bulrushes, or more correctly, reed-maces (*Typha latifolia*) growing in two ponds in the garden. Also I had observed how difficult it was to burn a bulrush head in a bonfire. This fluff has been so successful that I have not tried anything else. It was tasteless, was an excellent binding agent, made the substitute much more springy and pack better in both cigarettes and pipes, and slowed down the rate of consumption considerably. Incorporated in a cigarette it made the ash longer—up to three-quarters of an inch—which is often regarded as evidence of high quality. The fluff was lightly rubbed between the fingers so as to separate it as much as possible and thoroughly mixed with the burning material and flavouring agent. Very little was needed; one head was enough for 500 to 1,000 cigarettes. More is recommended for pipe tobacco-substitute but an excess made both pipes and cigarettes draw badly and irritated the throat.

D.T.M. Cigarettes

D stands for DAUCUS or carrot leaves, T for TYPHA or bulrush fluff, and M for MENTHA aquatica, or water mint leaves. I have not weighed or measured the volume of each ingredient yet, but as a rough guess I suggest 10: 1: 1 by volume. About 0.1 part of rhubarb leaf was added as a rule. Cigarettes were made in the usual way with papers (1½d. for 60, *i.e.*, ½d. for 20) and a machine (present price 1s. 0d.: one made many hundreds of cigarettes, so ½d. for 20 is an exaggerated estimate). Provided all other materials were from the garden, the cost of D.T.M. cigarettes was not more than 1d. for 20!

Peach and Willow Mixture

The willow leaves tended to curl up and slicing was difficult. Addition of peach leaves produced a mixture easier to cut up in the marmalade-shredder, and improved the name of the blend! The consistency was made better by bulrush-fluff, as described above. The only cost was that of the matches and pipe. An excellent substitute for the latter was made from an old mouthpiece and a hollowed-out cotton reel.

Cigarettes were made from this mixture, but with more difficulty than in the case of the D.T.M. brand. I am "very partial" to the taste of P. and W.

Conclusion

I have been astonished at the pleasure to be obtained from smoking several of the materials discussed above, and am confident that really good substitutes for tobacco are a practical proposition. Experiments have been made on only a fraction of the things available in the garden. I think it unlikely that nicotine is responsible for the pleasures of tobacco, though it is undoubtedly the cause of most, if not all, of the undesirable effects such as faintness, sweating, nausea, vomiting and diarrhœa. These signs and symptoms have been absent in my experiments except in the case of rhubarb which caused diarrhœa.

Conversely I have been caught twice by a sudden change back to tobacco. In the first instance a single pipeful of a fairly strong mixture produced all the symptoms mentioned. In the second instance chain-smoking five cigarettes of a well-known brand on an empty stomach produced faintness, sweating and nausea. I used to smoke at least 50 cigarettes a day together with about 4 ounces of pipe-tobacco a week, and have smoked for over thirty years. There is no doubt that the smoking of substitutes is an easy way of getting rid of the tobacco habit.

I have never grown any tobacco and shall not whilst experimenting with substitutes.

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CHRISTMAS SHOWS AT HILL END

By DIABOLO

CHRISTMAS, 1947, is nearly forgotten, and it is not without significance that an account of the Christmas show at that remote outpost, Hill End, should present itself with the daffodils. "Candid Cabaret" was its title, and the Cabaret Club itself would find difficulty in producing a review with such a delicate candour as its *motif*.

No one would ever have suspected that the Resident Staff, as they went soberly about their daily duties, could in a flash have transformed themselves into a caste which Hermiones Gingold or Baddeley would have used as a body without further ado in the West End. Some might have gone so far as to say that the talents of their producer, the Senior Resident, were curiously wasted in his present occupation: others might marvel, as many have in the past (not without envy), at his versatility.

The opening chorus struck the keynote. They "Really couldn't put it in the Show" was its title; yet reading between the lines we caught surprising glimpses of the lives of great men. Then in "Oh! What a Beautiful Mornin'" we were reminded dramatically of the effects of good living. The horror of Ian Jackson, hungover in bed at an early hour, even caused a recent Partial Gastrectomy in M.E.2 to vomit bile-stained fluid. However, a bright duet from Daniel and Ostlere quickly relieved us from gloom and Peter Weston's presentation of "The Stars of Tomorrow" made us realise what an awful lot Carol Levis had to learn. Martin Birnstingl as the "Hundertaker's Hassistant" especially astonished those who didn't know him as well as others.

And so it went on. There were, of course, highlights, but it was difficult to distinguish them among the consistently polished numbers which hit us in quick succession. We learnt why "Mr. O." didn't want to join the Army, and why the Popular Press stood where it did. Later we caught a glimpse of the After Life and understood at last why prominent surgeons and anæsthetists (not to mention nurses who visit M.O.Q.) take the downward path which leads to eternal, but not altogether unpleasant, damnation.

Then in a final rousing song the whole caste paid tribute to the "Mother of Hospitals," and demonstrated all the Things we Really Stood For. Particularly we rose as one man to Ray Daniel as the well-known Sister who "had been running a ward of her own accord since 1864."

Good things, they say, come to an end. This show did much too soon, we felt. Though in the Great Metropolis they didn't

deem it worthy to invite up to the Cripplegate Theatre, we must say we country hicks enjoyed ourselves throughout in no mean way. In fact, as we saw "Candid Cabaret," we strangely pitied those to whom Hill End conjures up merely the hazy recollection of a forgotten period.

CORRESPONDENCE

INFORMATION

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

May I suggest that an improvement will be possible regarding the handling of Admission Cards to the outpatients' department.

At the present moment a patient is often just told that he or she should have an operation. The patient is then given an admission card with the "Early" and "When Convenient" labels crossed out and the "Urgent" label underlined—and often a "Very" prefixed. The diagnosis is also written on the card, an example of which is "Ca. Rectum" or even "Carcinoma of the Rectum." The patient is then told to take the card to the Welfare Department: on the way they are often seen to scrutinize the cards. Even if they do not understand the significance of the diagnosis, there is now easy access to medical dictionaries.

At present patients are unnecessarily worried by reading half understood medical terminology. Surely the patients should either be told the severity of their illnesses more exactly, or it should be made certain that the diagnosis and urgency of the case is withheld from them completely.

Yours sincerely,
J. D. B. ANDREWS.

The Abernethian Room. March 4th, 1948.

HISTORY

To the Editor, St. Bartholomew's Hospital Journal

Sir,

I am very delighted to read in your current (February) editorial of the delivery of lectures on the History of Medicine at Bart.'s: this is a stage I have long advocated in letters to the *Lancet* and *British Medical Journal*, published a few years ago.

I feel sure that our ancient hospital, the cradle of British Medical Science, should have a medical historian within its walls to unfold the fascinating story of our art from the historical viewpoint. One wonders how many students go through their training and know anything of the thrilling story of Bart.'s all down the centuries, let alone the vast panorama of medical history itself. One of the most delightful volumes I know is Singer's History of Medicine.

After all, if theological students pursue courses in Church History, and legal aspirants study Roman and Greek Law, why should not doctors be aware of the origins and development of their very honourable calling? I feel such knowledge is all the more desirable nowadays with the grim possibilities of a soul-destroying State Service being fostered on to the profession and the public, whose servants we are.

I am, Sir,
Yours, etc.,
J. B. GURNEY-SMITH,
F.Ph.S. (Eng.), F.S.A. (Scot.).

Long Grove Hospital, Epsom. Feb. 6th, 1948.

DUPLICATE BRIDGE

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

A Duplicate Bridge Club has now been formed in the Hospital. Meetings are held on Mondays and Tuesdays in the small A.R., Charterhouse Square, at 5 p.m. We will be glad to welcome anyone interested in playing bridge at these meetings.

We are arranging talks from leading players and, later in the term, hope to enter several teams for an Inter-Hospitals Knock-out Competition.

Yours faithfully,
R. H. B. SACKS.

WOUND TREATMENT

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

I have read with great pleasure in your pages Dr. Trueta's address to the Abernethian Society on Ten Years of War Surgery. This letter is only a small footnote to his remarks. During the 1914-1918 war the principles of wound-treatment eventually comprised (1) the removal of foreign bodies and the excision of contaminated tissues, (2) the occasional division of skin and fascia to permit free drainage (débridement), and (3) the avoidance of any primary sutures (except in a few situations including lips and eyelids). By such means gas gangrene and dangerous sepsis were usually avoided; but the value of immobilisation in the absence of fracture was not generally understood, and it is mainly to Dr. Trueta that we owe its recognition now.

The neglect of surgeons to use complete rest as a cure for inflammation is surprising; in earlier days its desirability was often mentioned but it was seldom practised. Lord Lister many years ago realised that tuberculous joints might recover if properly immobilised; and this mode of therapy was greatly amplified and taught to the world by Sir Robert Jones. Yet students at the end of the last century were still told at St. Bartholomew's, and other important centres of learning, that tuberculosis of the hip-joint was incurable and as fatal as a cancer. The revolution in prognosis caused by Sir Robert Jones's energetic teaching has been vast. Its author extended the principle to broken bones, and by providing for the immediate fixation in cases of gun-shot fracture of the femur the mortality of this injury was at once reduced from 80 per cent. to 30 per cent. No doubt Dr. Trueta's teaching of the value of immobilisation when treating wounds apart from fracture is now universally accepted, too, as a fundamental surgical practice.

Incidentally in a note quoted on p. 17 from an American article (for which Dr. Trueta is not responsible) the oft repeated error appears of confusing the excision of devitalised tissue with the opening of skin and fascial planes; surely the latter process, and not the former, should be described as débridement?

Yours truly,
HAROLD BURROWS.

LIBRARY LIGHTING

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

Would it be seemly to use valuable space in the Journal to ask you if you suppose that the lighting in the Library might one day be made sufficiently bright for us to read the excellent books and journals there in reasonable comfort?

Yours sincerely,
H. W. BALME.

36, Colney Hatch Lane,
Muswell Hill, N.10. February 10th, 1948.

BOOK REVIEWS

EXPERIMENTAL PHYSIOLOGY FOR MEDICAL STUDENTS, by D. T. Harris. 4th edition. J. & A. Churchill, London. Price

In this manual of experimental physiology the author has attempted to write a comprehensive survey which will describe a broad field of experiments, and yet still be understood by the beginner. In order to include a large number of experimental techniques and descriptions, Professor Harris has had to write a book of very considerable length, just three hundred pages. This may detract from its merit in the eyes of many medical students, who already find their syllabus rather large. Indeed, its very completeness might daunt many beginners in this subject.

The principal change from the previous edition is the incorporation in many of the experiments of much electrical apparatus, some of it by no means simple. Professor Harris assumes that "students coming along today possess a first-hand acquaintance with radio devices," and accordingly, with the very minimum of instructions and with diagrams which are often found hard to follow, describes experiments that would be beyond the capacity of many students. For instance he states, page 54: "Any student can assemble a single stage balanced amplifier." However, for those who wish to acquire a little extra knowledge of this aspect of experimental physiology, this book has the great advantage of being completely up-to-date.

There are questions posed at the end of the practical exercise, many of them well calculated to make the student think carefully about the problem involved and apply his existing knowledge. However it seems a pity that there is not a list of answers as some problems might prove puzzling; for instance page 132: "Devise a method of applying thermocouples to the measurement of rate of blood flow in an intact vessel."

Taken as a whole this is a stimulating book containing much that is of real value for all interested in physiology. However it is not a book whiich can be confidently recommended to all beginners but rather to those who already have a grounding in the elements of experimental work and wish to extend their knowledge further, either for their own interest or with a view to the ultimate acquisition of a B.Sc. These latter will certainly find many problems whose solution should extend considerably their experimental ability.

THE ART IS LONG, by William Edwards. M.D. London: Andrew Melrose. Pp. 160. Price 10s. 6d.

Dr. Edwards, who will be remembered by readers of the JOURNAL as a most informative contributor, has written this book with the intention of shewing to the public what sort of work men in all branches of medicine do, and he has succeeded admirably. He has neither fallen into the pit of emotionalism on the one hand nor the abyss of obscurity on the other. The book is written in an easy readable style that will make immediate appeal to the man in the street and should do much to correct some of the fanciful ideas which he entertains about the profession.

The book is divided into six parts. The first deals with various types of G.P. in a singularly vivid manner, which indeed is to be found throughout the book. The second presents a sketch of the Student and House-man. The statement that "the medical student is the Aunt Sally of every sort of doctor in this book" will draw warm approval from that sorely overburdened creature. Part three describes all the various sorts of specialists, part four the health service doctors, part five tells of research, and part six is entitled "Doctors at War."

The result is a book which covers thoroughly enough for anyone outside the profession all the sorts of work which may be included under the term "Medicine." Here is a salutary antidote to highly-coloured "Popular Medicine," which presents the patient with nothing which will make him anxious, but which encourages him to pick the right man for his case, and gives him better understanding of what is being done for him. Dr. Edwards is to be congratulated on writing a most useful book. Would that every member of the public took so reasonable a view of his health service as this book seeks to inculcate.

HONOURS AND APPOINTMENTS

Dr. Charles F. Harris, Dean of the Medical College, has been made an Officer of the Order of Orange Nassau by the Netherlands Government.

Professor Geoffrey Hadfield has been appointed Sir William H. Collins Professor of Human and Comparative Anatomy of the Royal College of Surgeons.

Surgeon Captain L. F. Strugnell, R.N., has been promoted Surgeon Rear Admiral, and appointed Deputy Medical Director of the Navy.

Surgeon Commander G. F. Abercrombie, V.R.D., has been promoted Surgeon Captain R.N.V.R., and is now P.M.O. of London Division R.N.V.R.

Surgeon Commander E. B. Pollard has been promoted to Surgeon Captain, R.N.

ANNOUNCEMENTS

FORTHCOMING ELECTION

Sir Archibald McIndoe, our Plastic Surgeon at the Hospital, is the candidate from Barts at the forthcoming election to the Council of the College of Surgeons. It may be noted that plastic surgery has never yet been represented on the Council.

We wish Sir Archibald every success at the election.

BIRTH

WELLS-COLE.—On February 9th, 1948, at Lincoln, to Peggy, wife of Dr. G. H. Wells-Cole, a daughter.

CHANGE OF ADDRESS

Mr. D. F. ELLISON NASH has removed to 43, Wimpole Street, W.1.

THE ABERNETHIAN SOCIETY

Programme for April:—

April 22nd.—Philip Mitchiner, C.B., C.B.E., T.D., F.R.C.S., M.D., Surgeon at St. Thomas's Hospital. Subject: "Meanderings."

SPORT

HOCKEY CLUB

The Hockey team have reached the final of the Hospitals' Cup.

1st Round—bye.
2nd Round v. K.C.H. ... won 7—3
Semi-final v. Middlesex ... won 3—1

The Final v. Guy's Hospital will be played on Tuesday, March 23rd at Motspur Park and it is hoped that we will have full support in our attempt to keep the cup at Bart.'s for the fourth successive year.

FENCING CLUB

Substantially reinforced, both in membership and in enthusiasm, we opened the new season in September under our new Instructor, Mr. W. G. Howson. From the very beginning Mr. Howson impressed upon us most energetically the necessity for speed and accuracy in the use of all weapons, and our first fixture this year sadly testified to our lack of these qualities. This was

THE LONDON UNIVERSITIES CHAMPIONSHIPS—(Monday, February 9th). Rather a disheartening evening during which we witnessed what we can only describe as very bad fencing.

v. WESTMINSTER HOSPITAL—(Wednesday, February 11th). We are still thankful to this fixture for obviating our despondency; and on this occasion we did very well against a strong team of good stylists. Some good fencing was seen on both sides, and though we lost 10—6, a good standard was achieved, and we had a most enjoyable evening.

v. ETON COLLEGE. Against a team with the menacing reputation of fighting an average of two first class fixtures a week, and of being unbeaten for 2½ years, we did not allow ourselves to indulge in any exuberant speculations. At Windsor, however, we surpassed our most hopeful expectations. In the foil we did fairly well, but we would have drawn or even won the epée had it not been for two rather dubious "double hits." In the sabre we fought well, but here again not a small element of bad luck worked against us, Moynihan and Rosen losing no less than five matches between them on "assault points." Major Laxton, Mr. Howson's successor at Eton, presided.

The team: A. R. Moynihan (F.E.S.), R. Lindon (F.), D. Stathers (F.E.), H. Horwitz (F.S.), R. I. Rosen (F.E.S.).

A. R. M.

R.U.F.C.

1ST ROUND

On February 10th Bart.'s played University College Hospital and won easily with the score 27—0.

Much of the praise goes to the forwards, who worked very hard, both in the set scrums and in the loose. The backs had more of the ball than usual, with the result that, but for bad handling, the score would have been doubled.

Tries were scored by:—Meas (2), Wilkinson (2), Griffiths, Morgan and Ricthall. Baker converted two tries and Griffiths one.

2ND ROUND

This game, about which there had been much publicity, was played against Guy's Hospital on February 26th.

The grand support from the touchline was most welcome and helped the team to put up a very plucky resistance, and the spectators were rewarded by seeing a most exciting game.

It would be unfair to mention any individual players. The whole team played its capacity, combining well and defending magnificently.

At half time the score was Bart.'s 0—Guy's 6 (2 penalty goals).

It was only during a lapse of about five minutes early in the second half that our line was crossed. After that, the game was more even and there were several attacks by both teams, but no further scoring.

Final result: Bart.'s 0—Guy's 9.

W. H. W.

SWIMMING CLUB

The following Officers for 1948 were elected:—

President: Mr. Reginald M. Vick.
Vice-Presidents: Prof. A. Wormall.
Prof. A. V. Caye.
Mr. T. O. McKane.
Secretary: G. C. H. Chandler.
Asst. Secretary: M. D. Brydson.
Treasurer: F. Dunn.
Ex-Officio Members: R. V. Smith.
Miss P. Ogden.
Captain of Swimming: F. Dunn.

SUPERFICIAL PHLEBITIS

Ambulatory Treatment With Elastoplast Bandaging

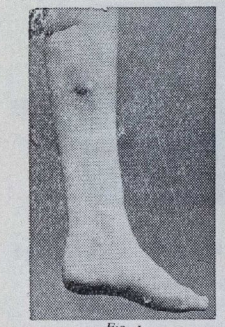

Fig. 1

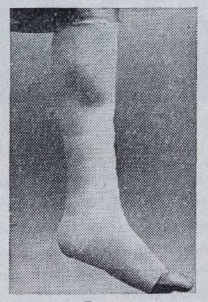

Fig. 2

CASE HISTORY

L.L. Aged 42. A female Sugar Packer. Whilst at work on June 16th, 1946, she cut the outer side of her left ankle : shortly afterwards a septic eczema of the ankle area supervened. On July 26th a large clot appeared in the internal saphenous vein on the inner side of the calf (*Fig.* 1).

Treatment. *August 9th*, 1946. A well-bevelled adhesive sponge rubber pad was placed over the clot, the eczema was covered by layers of Viscopaste and the leg firmly bandaged with Elastoplast from toes to knee (*Fig.* 2). *August 23rd*, 1946. There was no pain or soreness in contrast to the presence of both before treatment. Eczema was cleaned with calamine in oil, and dressed with Jelonet and Ichthopaste. The pressure pad was re-applied and the leg again firmly bandaged with Elastoplast.

August 30th, 1946. Treatment repeated. *Sept. 27th*, 1946. Clot completely disappeared, leg comfortable, eczema largely cleared up and internal saphenous vein sclerosed and obliterated (*Fig.* 3).

Comment. An example of ambulatory treatment of Phlebitis by local pressure over clot and firm bandaging, resulting in its speedy obliteration and in the restoration of the leg to normal condition. Details and illustrations above are of an actual case. T. J. Smith & Nephew, Ltd., Manufacturers of Elastoplast, Viscopaste, Jelonet and Ichthopaste, are privileged to publish this instance, typical of many, in which their products have been used with success, in the belief that such authentic records will be of general interest.

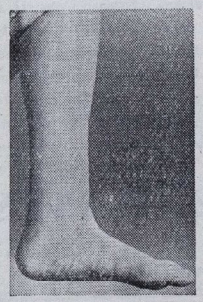

Fig. 3

The Exoma Press, Ltd., 255/7 Liverpool Rd., N.1.

SAINT BARTHOLOMEW'S HOSPITAL JOURNAL

MAY 1948

VOL. L II No 4

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O T I T I S M E D I A

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ST. BARTHOLOMEW'S HOSPITAL JOURNAL

Vol. LII MAY, 1948 No. 4

SCIENCE

THE last woman who was burned as a witch still serves as a warning to those who would keep their special knowledge to themselves. The objection to witches was not so much the fear they aroused, or the damage they caused, but popular resentment was incurred by supposedly valuable information being kept secret by women. The witch's strongest challenge came from the scientist. His information was free to all, his premises were published, and ability to share his secrets was limited by intellectual capacity rather than supernatural grace. As science advanced, witchcraft regressed. However, the cloak of secrecy is still preserved by superior knowledge, and the modern lady who practises the art of healing can disguise her methods with technical jargon, prescriptions and proprietary names as effectively as she ever did with bits of bat or newt. This she does with the sanction of her generation and the full co-operation of the drug manufacturers. Sorcery has finally surrendered to science.

The surrender has been so complete that the scientist commands more respect than the witch ever inspired terror. Popular misconceptions about the scientist are as rife to-day as was superstition in the days of Cromwell. The attitude of the scientist is believed to be coldly critical, unbiased and detached ; even outside his own subject, his verdict is often regarded as absolute and his pronouncements as unerring. The research worker will be the first to admit that his observations are frequently coloured by prejudice and personal opinion ; neither will he deny that the experimentalist can often modify or interpret his results to suit his fancy. In medicine it has happened not only among the inexpert that a diagnosis has been made on observation, and the physical signs elicited to fit. Conclusions can easily precede experiments and observations, and the scientific method is open to distortion until it relies for its practise exclusively on robots and automatons.

The popular conception of the scientist as unerring cannot be dismissed as a polite expression of the public's gratitude. It is due to popular clamour and admiration for technical achievement, combined with and to the scientist's proclivity for speaking with apparent authority outside his own subject. It is often regarded as ludricous for the philosopher to criticize scientific and technical progress, which comes within his province. And yet by popular consent the pronouncements of the scientist are expected to encroach on the realm of the philosopher. The conjecture of the scientist is now regarded with the awe that was once reserved for a major prophet. So it is that the present century includes as many scientists foretelling greater technical achievements, as pessimists warning us of the holocaust which these same achievements must inevitably bring in their train. It is mortifying for the scientist to be told that a Natural Law of compensation will ensure that a civilization founded on technical ingenuity will bring about its own destruction.

Another reflection of modern confidence in the scientist is the claim that the role of spiritual counsellor and advisor has now been assumed by the doctor. At the same time the incidence of nervous disorders has apparently increased as rapidly as the numbers of terms used to describe them. Whether these considerations are related is

safely in its glazed showcase in the Clerk's office and to outdate almost every known surviving English inkstand of whatever material. From the nature of things, the only inkstand likely to have survived so long, must be of metal and in the case of Silver, I can only recall one of earlier date, 1615, and this is incomplete. The Bond inkstand is a plain oblong piece with gabled cover, which is engraved with the arms of Bond "Argent on a chevron sable three bezants" and crest "a lion sejant argent," and the inscription "The guifte of Mr. Martin Bonnde" and the date 1619. It stands on four ball feet which may possibly be of a later date and the interior is divided into a lengthwise compartment and three small square ones, two of which contain detachable cover plates for ink bottles which are probably also of a later date. A modern penrack has been fitted to the long division but in spite of these slight additions, we have in this Inkstand, one of the earliest of English "Standishes" as they were then known. Captain Alan Sutherland-Graeme, the well-known pewter expert, does not know of any other example between this and one of about 1680-90.

Martin Bond, the donor, was a typical London merchant. He was the son of William Bond, Alderman, merchant adventurer and sheriff and who was described on his monument in St. Helens', Bishopsgate, as "most famous in his age for his great adventures both by sea and land." Martin was born in 1558, the year of Queen Elizabeth's accession, and was, like his father, a merchant adventurer and a member of the Haberdashers' Company. He was Captain of the train bands of the City and marched at their head to the review at Tilbury by Queen Elizabeth in 1588 when the Armada threatened, and he remained Chief Captain till his death. He laid the foundation stone of the new Aldgate in 1607 and from 1620-1643 was Treasurer of St. Bartholomew's Hospital. He died in 1643 and has an elaborate monument in St. Helen's, Bishopsgate, where he sits in armour in a tent with sentries. and servant and horse outside. His portrait, bearded, ruffed and grave of countenance still looks down from the walls of the Clerk's office on the Inkstand he gave below on the table.

The earliest piece of Silver in the hospital's possession is a plain George III Mug bearing the London hallmarks for 1764 and the makers' mark of David Whyte and William Holmes. (Fig. 4.) This bears the inscription "The Gift of Robert Taylor to Bartholomews Hospital" and is known as the Renters' Mug. Norman Moore in his History of the hospital says: "A silver cup for the use of the renter was given by Mr. Robert Taylor April 2. 1765. Was this for him to drink to and be pledged by the tenants when they brought their rents?"

Associated with the Mug are the pair of Old English flintlock Pistols which are also traditionally held to have been for the self protection of the Renter on his cash-collecting perambulations. The Renter is first mentioned in 1554 and the office finally lapsed in 1912, the duties reverting to the Clerk of the Hospital.

The next oldest piece is a Cup and Cover of 1812, made by the famous silversmith, Paul Storr, the leading craftsman of his day who worked extensively for the Prince Regent and is well represented in the Royal Collection. The Cup is engraved "Presented to John Abernethy, Esq., F.R.S., by his Pupils of the years 1812-13 as a testimony of their respect and gratitude." It also bears Abernethy's arms and is decorated in the classical taste of the time with anthemion or honeysuckle ornament and has a laurel wreath on the cover. (Fig. 5. p.69)

A rather similar piece is a silvergilt Cup and Cover of 1813, the gift of Thomas Henry Allen Poynder, a Governor. Its decoration is rather more elaborate, with handles rising from Satyrs' masks at the sides, and applied bands of masks and foliage: it is engraved with the arms of the Hospital, Poynder's arms and the inscription recording its presentation. Other large decorative pieces are three early Victorian silvergilt Dishes given by various donors about 1844, with chased centres representing respectively the Good Samaritan, the Plague of London, and (rather unexpectedly after the former two subjects) the Election of the Prince Consort as a Governor of the Hospital. With these is a large vase-shaped Ewer of 1839, presented by Matthias Prime Lucas in 1844.

An interesting souvenir of a great name in British nursing is a small circular Inkstand with lions mask handles, engraved "James Paget F.R.S. from Florence Nightingale in grateful acknowledgement of most kind assistance September 1859." There are also a number of modern pieces of plate given

ST. BARTHOLOMEW THE LESS.

HOSPITAL TREASURES

Fig. 1.

Centre—One of a pair of Charles II Flagons, 1682. *Right*—A Charles I Communion Cup and Paten Cover, 1645.

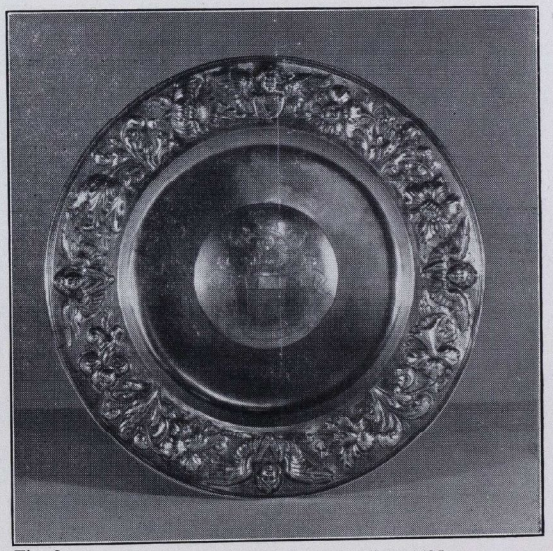

Fig. 2. The Earl of Ailesbury's Almsdish, 1685.

HOSPITAL TREASURES

Fig. 3.

Martin Bond's Pewter Inkstand, 1619.

Fig. 4.

The Renter's Mug, 1764, and the Renter's Flintlock Pistols.

and bequeathed by various donors which need not detain us.

In the Clerk's Office is a fine Old English Bracket Clock by Thomas Tompion, the father of English clockmakers. This was bequeathed to the Hospital in 1941 "under the will of Mrs. F. M. L. S. Withers in pursuance of the expressed wish of the late Dr. F. E. Withers, sometime a student of the Hospital." The clock is in ebonised wood case and has a gilt face decorated with cherubs' heads in the spandrels, and silvered dial. It is signed "Tho. Thompion Londini fecit." Tompion was a rare example of an English craftsman who won due fame in his own lifetime, and was described as a "great Clockmaker" in the records of the Clockmakers' Company in 1671. He worked for Charles II, made the Clock for St. Paul's Cathedral, and examples of his work are at Windsor Castle and Buckingham Palace. He died in 1731 and was buried in Westminster Abbey.

One other interesting item deserves mention. This is a gold Medal of Henry VIII known as the "Supremacy of the Church Medal." It bears on the obverse the bust of the King wearing a jewelled cap, ermine robe and collar of rubies. The inscription reads HENRICUS. OCTA. ANGLIAE. FRANCI ET HIB REX. FIDEI. DEFENSOR. ET. IN. TERR. ECCLE. ANGLI. ET. HIBE. SUB. CHRIST. CAPUT. SUPREMUM (Henry VIII, King of England France and Ireland, defender of the faith, and under Christ the supreme head on earth of the Church of England and Ireland). (Fig. 6.) On the reverse are Greek and Hebrew versions of the same inscription and the date, 1545. It is said to be by Henry Bayse or Basse, and is a rare medal of which only a few examples are known, one being in the British Museum. The present example was given to the Hospital in 1866 by Thomas Brown whose collection of coins was sold at Sotheby's three years afterwards. Such is a brief catalogue of the older and more interesting possessions of the Hospital and St. Bartholomew the Less. Taken as a whole they reflect a number of aspects of English history and London life in the past with which the great house of healing, which shelters them, has so much in common.

My thanks are due to A. H. E. Baldwin, Esq., for information on the Henry VIII Medal, Captain A. Sutherland Graeme, F.S.A., for assistance with the Pewter, and the Guildhall Library for the note on John Jones.

DROPPING STITCHES

Dear Dr. Abernethy, at last I shall respect
The sundry exhortations, by the people we elect.
My coat shall to the cloakroom, my ashes to the tray,
I shall not kick the furniture, shall throw my cards away
Behave with all propriety, dumbfoundly shall sit,
As our feminine invasion crouch in silent rows and knit.
The "Ides of March" have fallen, as our suffragettes sustain
Their infiltration movement, to the chant "one pearl, one plain."
Bart.'s, this is our warning, in danger let's be cool.
For else we lose our freedom, in the snares of winding wool!

G. G.

ABERNETHIAN SOCIETY

The following meetings have been arranged:—

May 13th—Debate.
Motion—"That the cultivation of Health is outside the Province of Medical Science and Art."
Proposer—Dr. Scott Williamson of the Pioneer Health Centre.
Opposer—Dr. Geoffrey Evans.

May 27th—Dr. Philip Hamill—"The Medicines we Give and (sometimes) Take."

HARVEY CUSHING AND HIS BOOKS

An Address read before the Abernethian Society on July 10th, 1947

By JOHN F. FULTON, M.D.

PART ONE

I DEEM it a great honour to be asked to address the Abernethian Society which among student organisations has an almost unique record both in terms of its continuity and in its humanistic influence alike on student and staff of this great Hospital. Your secretary has invited me to speak on the subject of Harvey Cushing's library, but before dwelling on this theme I should like to say a few words about Dr. Cushing's association with Bart's.

Over the years he had many warm friends connected with the Hospital. Sir D'Arcy Power, Mr. George Gask, Mr. James Paterson Ross, and Mr. Geoffrey Keynes, to mention only a few. Dr. Cushing who, as you know, was Surgeon-in-Chief of the Peter Bent Brigham Hospital, and Dr. Henry Christian, the Physician-in-Chief, established the custom of having an outstanding physician or surgeon take over their respective services each year, usually for a fortnight. Rather late in life Sir D'Arcy arrived in Boston to act as Surgeon-in-Chief *pro tempore* at the Brigham Hospital. It was some time after he had retired from active surgery in London, but quite undaunted by this circumstance and filled with the enthusiasm that any younger man might derive from a new experience, he took over the responsibilities of the surgical service and for two weeks he utterly delighted the students of the Harvard Medical School and also the staff of the Hospital with his clinical acumen and remarkable rich fund of anecdote. He was not entirely familiar with the somewhat involved ritual and paraphernalia of an American surgical amphitheatre, but he adapted himself to this with the spiritual calm of a much younger man. When he departed, Dr. Cushing and his surgical colleagues felt that they had had a richly rewarding and an unforgettable experience.

Before Sir D'Arcy's visit, Mr. George E. Gask had come in 1921 to act as *remplaçant* on the Brigham surgical service, and this visit proved to be the beginning of Dr. Cushing's close association with Bart's, as recorded in his Annual Report of that year.

While preparing Dr. Cushing's Biography, I discovered that one of the richest sources of information concerning his activities lay in these Brigham Annual Reports. Official documents of this character, which by many are looked upon as a tiresome but necessary evil, are usually tossed off the last week in June without too much regard to content, literary form, or posterity. Dr. Cushing took another view of them. He always had much on his mind that would have been inappropriate for a public lecture or a scientific paper, and his annual reports proved to be something of a safety valve in which he could bare his soul with the knowledge that they would be likely to fall into sympathetic hands. Accordingly, we find in them bursts of enthusiasm, protests, flights of fancy, and much else. Under the last category are some of the things he said concerning Mr. Gask's tour of duty as Surgeon-in-Chief:

> *Surgeons-in-Chief Pro-Tempore.* In view of the approaching celebration of our tenth anniversary our youth is made the more apparent by the fact that St. Bartholomew's Hospital in London is planning to celebrate its octo-centenary the coming June. We have a special interest in this for the reason that one of the surgeons to this famous hospital, Mr. George Gask, two years ago temporarily occupied the position of Surgeon-in-Chief to the Brigham Hospital. For a two-weeks' period the past summer the writer returned this visit and was honoured by being asked to sign the Register of St. Bartholomew's Hospital Medical School, thereby becoming a "perpetual student" of Bart's.
>
> The experience was a most informing one and if Mr. Gask gained from his sojourn with us a fraction of what I gained from occupying his post in exchange, it makes certain that we have hit upon a very satisfactory way—indeed the only way—whereby a teacher in one school and hospital may acquire in a short time as an actual participant in its activities an indelible impression of the character and personality of another institution. With this, the confused and hazy impressions which are usually carried away by the peripatetic visitor at a succession of schools and clinics are in no way to be compared.
>
> The customs and traditions as well as the organisation of these two hospitals are as different as could well be imagined. At St. Bartholomew's—a hospital for centuries before it came to establish a medical school within its walls—one of the several surgical services has recently been put on a full-time basis as a teaching unit under Mr. Gask. In contrast, at the Brigham Hospital—an independent foundation which nevertheless becomes by force of circumstances a university teaching hospital—the entire surgical staff give their full time, though on a more generous financial basis than that accepted by the single teaching unit at St. Bartholomew's. The difference in these two programmes was commented upon in an earlier (1920) issue of this Annual Report.

These brief excerpts will give you some idea of Dr. Cushing's interest in Bart's. But it is of the man and his books that you have asked me to speak to-day.

The collecting instinct was in Harvey Cushing's blood. His great-grandfather, David Cushing, a country practitioner of South Adams, Massachusetts, brought together a sizeable library for his times, many items of which have come to rest either in Harvey Cushing's library or in his father's collection now in the Cleveland Medical Library. David Cushing had collected some of the most authoritative texts of 18th century Edinburgh medicine, and individual volumes show signs of extensive use. Erastus Cushing, Harvey's grandfather, who in 1835, when a young physician had taken his family to settle at Cleveland in the Western Reserve, leaned heavily on his father's library and made many additions of his own. Harvey's father added to this inheritance through his own long-continued interest in the pre-Jennerian inoculation tracts and in Benjamin Franklin. He brought together a large body of Franklin-iana which he left to the Western Reserve Historical Society.

Having thus inherited a tendency to collecting, Harvey was next exposed to the acquisitive habits of his older brothers and cousins. As the tenth and last child, he fell heir to thriving collections of beetles, butterflies, stamps, coins, and botanical specimens of all descriptions and of course he had to continue the work. He was particularly interested in botanical specimens, and he vied with his father in studying and collecting leaves. The leaf books, in which he preserved representative specimens for reference, were bulging before he went to Harvard Medical School, but at the Arnold Arboretum he found a rich field for further collecting, and he used to pilfer leaves from rare Oriental trees and innocently send them back to Cleveland for his unsuspecting father to identify.

As an undergraduate at Yale College, Cushing was essentially undistinguished academically and his two visits to the Yale Library during his four years' residence would not indicate a consuming interest in books at this period. His extensive collection of dance programmes, clippings concerning Yale's victories and defeats on the baseball diamond and football field, was probably unique only in that it was carefully and chronologically preserved in two large scrapbooks with a thoroughness unusual for a boy of that age. Unusual, too, was his preservation of practically all the letters he received from his family during his college years. They in turn kept a very complete series of his letters from Yale, the Harvard Medical School, and the Hopkins. The collector's instinct that Cushing was to develop so intensively in later life can easily be traced to this family habit of preserving things and perhaps to the fact that books had been a part of his surroundings since childhood.

At the Harvard Medical School and during his early years at the Hopkins, when he was still financially dependent upon his father, H.C. was too poor to buy books other than the necessary texts. Although his father had had heavy responsibilities (seven of his ten children lived to maturity, and four of his six sons went on to graduate schools), he also was a somewhat stern parent with Puritanical ideas about the dangers of over-indulgence, so that for one reason or another H.C.'s monthly allowance never covered more than the bare necessities, nor did he get money for these until he wrote for it and accounted for every penny of his last cheque.

Two of the books he acquired during Medical School were Osler's *Principles and Practice of Medicine* (a first edition which has unfortunately disappeared) and a copy of

Senn's *The Pathology and Surgical Treatment of Tumors*. This latter book, well grangerised, has survived and in it we found a photograph of the first case of brain tumor with which he had had contact as a student assistant to Dr. John W. Elliot. If he did not collect books as a medical student, he was most meticulous in the preservation of his notes on lectures and laboratory experiments. On his departure for New Haven in 1933 he pitched these early student notebooks into the wastepaper basket, but fortunately they were saved by his secretary and they proved invaluable when the time came to reconstruct his years in the Medical School. Here for the first time one finds evidence of his extraordinary artistic talent so well exemplified in the quick sketches that he made of his patients seen in clinic.

After finishing the Harvard Medical School and a year's interneship at the Massachusetts General Hospital he proceeded to the Hopkins in September of 1896, and soon thereafter came under the influence of Osler and Welch, whose broad interest in books and in the historical approach to medicine is so widely known. During his four years as Halsted's assistant-resident and resident, Cushing was so heavily involved with surgical responsibilities that his bookish tendencies, though subtly encouraged by Osler, had little opportunity for full expression, and it was not until after his year in Europe in 1900-01, when he returned to Baltimore to live next door to the Oslers at 3, West Franklin Street, that he began to collect in earnest. One of his first acquisitions was a copy of the 1543 *Fabrica* of Vesalius which W. G. MacCallum had found in an Italian blacksmith shop and brought back to him. Later he acquired the second folio edition as a gift from Dr. Howard Kelly—a princely gift indeed! "So in those early days," Cushing wrote, "historically significant books might find their way to one's shelves, even though with an instructor's salary of $100 per annum there might be cobwebs in the purse." In 1910 Cushing went to Europe and all during that year he followed the trail of Vesalius and brought back from Italy and Switzerland photographs and other memorabilia of the great anatomist.

SERVICE COMMEMORATING THE CENTENARY OF THE BIRTH OF SIR FRANCIS CHAMPNEYS, BT.

A SERVICE commemorating the centenary of the birth of Sir Francis Champneys, Bt., was held at the Priory Church of St. Bartholomew the Great on Thursday, March 25th, 1948. The service was conducted by the rector, the Rev. Dr. N. E. Wallbank, assisted by Canon E. F. Donne. A large gathering paid tribute, and amongst the congregation were Mrs. Attlee and Lady Cripps. A long procession was formed in the Great Hall and passed, by way of the Henry VIII Gate, through Smithfield to the parish church. Representatives of the Dominions headed the procession and were followed by, amongst others, Sir William Fletcher Shaw, Lord Moran, Sir Alfred Webb-Johnson, Lord Horder, Sir Maurice Cassidy, Mr. William Gilliatt, Mr. Arnold Walker, Sir Weldon Dalrymple-Champneys, Miss G. V. Hilliers, the President of the Royal College of Nursing, Miss Pye, the President of the Royal College of Midwives. Then followed the Dean of St. Paul's, Sir Eardley Holland, Professor E. C. Dodds, Mr. J. P. Headley, Professor Winifred Cullis, representatives of the Consultant staff of St. Bartholomew's Hospital, members of the active staff and of the Obstetrical and Gynaecological Department, Dame Ellen Musson representing the Royal College of Nursing, Sir Allen Daley, Mr. A. J. McNair and other distinguished members of the medical and nursing professions. Winchester College and Brasenose College were also represented. The Matron of St. Bartholomew's Hospital followed with a long column of Sisters and nurses. After them came midwives from the Royal College of Midwifery, and nurses from the Royal College of Nursing.

This splash of colour on a perfect Spring morning was most impressive, and in the Priory Church the setting was magnificent, with the brilliant sunlight of early Spring streaming through the windows to bring into contrast the blue of the Sisters and the scarlet of the medical representatives against the background of Caen and Reigate stone. The music of the hymns the processional hymn and the anthem, had been composed by Sir Francis Champneys. The choir consisted of the London Singers directed by Norman Lilly. All present were much impressed by the quality of the music and by the superb singing of the choir.

The lesson was read by Lord Moran and the address was given by Sir William Fletcher Shaw. In his address, Sir William recalled the ancient lineage of Sir Francis—one of his ancestors had been Lord Mayor of London in the sixteenth century, and another had been connected with St. Bartholomew's some years previously. The father of Sir Francis Champneys had been a scholar of Brasenose, Vicar of St. Pancras, Canon of St. Paul's Cathedral, and became Dean of Lichfield in 1868. Sir Francis, himself, was a scholar of Winchester, an Exhibitioner of Brasenose, and came up to Bart.'s in 1871, where he became a close friend of Robert Bridges. Influenced by Matthews Duncan, he chose midwifery and gynaecology as his speciality, and was appointed to the staff of St. George's Hospital and of the General Lying-in Hospital, York Road. After Matthews Duncan's death, Champneys was recalled to St. Bartholomew's, where he remained an active member of the staff until his retirement in 1913. In his early days he had a great reputation as a clinician, but his operative scope was restricted because abdominal operations were only performed by the surgeons to the hospital, most of the gynaecological work being performed by Harrison Cripps. Throughout his life Champneys found his great interest outside medicine in music, and those present at the ceremony had an opportunity of judging the high quality of his compositions. Outside St. Bartholomew's, Champney's became the leading obstetrician and gynaecologist in the country, with an international reputation. Yet his great work was administrative. He took an active part in the formation of the Royal Society of Medicine and became Chairman of the *Journal of Obstetrics and Gynaecology of the British Empire*. In the formation of the College of Obstetricians and Gynaecologists his advice and help were of the utmost value. His great claim to fame is, of course, his work in persuading the Government to pass the Midwives Bill in 1901, and of acting as Chairman of the Central Midwives Board for the first twenty-eight years of its existence. For years Champneys had fought, against most active opposition, to institute a roll of qualified midwives, with the intention of reducing the maternal mortality and morbidity rate, and the infant mortality rate. The value of this work has become more and more apparent as the years have gone by, so that the Centenary celebration was a fitting tribute.

W. S.

CORRESPONDENCE

EARLY DIAGNOSIS OF MALIGNANT DISEASE

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

I read with great interest Mr. Vick's lecture on the Early Diagnosis of Malignant Disease, but is he not a little too dogmatic in stating that surgery is the one and only cure for cancer? There are a few types of cancer where Radiotherapy alone is equally efficient and for various reasons preferable.

Yours sincerely,
MALCOLM DONALDSON.

149, *Harley Street, W.*1.
15*th March*. 1948.

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

If a Dermatologist may be permitted, I would like to congratulate you upon your publication of a Surgical lecture.

I refer to that of Mr. Reginald Vick on "The Early Diagnosis of Malignant Disease," in the March number of the JOURNAL.

To me its seems that Mr. Vick has, in a masterly manner, put into a compact space, in clear and simple language, all the essentials of a knowledge and experience of malignant disease, in a lecture which is not only a gem of its class, but a valuable lesson on a very important subject.

It might indeed be said, without exaggeration, that it is an essay which should be commended to every practitioner—general and "eminent."

Yours truly,
H. G. ADAMSON.

The Abbey,
Bourne End, Bucks. 21*st March*, 1948.

SKINGRAFTS AND SMOKE

To the Editor, St. Bartholomew's Hospital Journal

Dear Sir,

Your correspondent, Sir Ernest Kennaway, quotes a violent operation suggested by Mohammed, and then tells us that this was "an addition to the resources of Hell as described by Christ and His followers." The implication is as unjust as claiming that Bullrush Fluff cigarettes are an addition to the resources of Sir Walter Raleigh.

It is possible that the current idiom in the time of Christ employed exaggerated metaphors, and it is not unlikely that the Hell described by Christ was a figurative antithesis to an ideal of spiritual perfection. To lay undue emphasis on this teaching about Hell is to depreciate the value of Christ's spiritual and philosophical teaching to Christian and non-Christian alike.

The resources of Hell as described by Christ in the New Testament are much less elaborate than Sir Ernest would have us believe.

Yours, etc.,
J. McO.

The Abernethian Room. 29*th March*.

TYPOGRAPHY

To the Editor, St. Bartholomew's Hospital Journal
Dear Sir,

Impeccable though the late Editor's taste usually is, I feel he was mistaken in changing the type used in the JOURNAL.

The cover remains as it was, simple, restrained, yet pleasing in its effect. The headlines have suffered a change, I think, for the worse. In the first place the type itself is not good. In the second place the type does not fit the cover design or the general appearance of the JOURNAL.

The small type is better in that it is larger, but the design is no improvement.

The general typographical lay-out remains good.

If a change is desired, might I suggest one of the less exotic Gill types? I am no expert, but some of them are very pleasing. Perhaps an experiment might be tried and a Gallup poll taken to make the final decision.

Yours faithfully,
BERNARD REISS.

The Abernethian Room,
St. Bartholomew's Hospital.
23rd March, 1948.

RECENT PAPERS BY BART'S MEN

*ABRAHAMS, SIR ADOLPHE. Inaugural address, October, 1947. *Broad Way*. Dec. 1947, pp. 155-9.

* —— Pyrexia and differential diagnosis. *Clin. J.*, 77, Jan.-Feb., 1948, pp. 4-7.

*BELLWOOD, K.B. A note on chronic catarrhal tinnitus, and a method of treatment. *J. Laryngol & Otol*, 61, Dec., 1946, pp. 636-40.

BETT. W. R. Some thyroid pioneers. I. Theodor Kocher (1841-1917). *Med. Bookman & Hist.* 1 Nov., 1947, pp. 29-31; II. Walter Holbrook Gaskell, 1847-1914. *Ibid.* 1, Dec., 1947, pp. 25-7; III. William Stewart Halsted (1852-1922). *Ibid.* 2, Jan., 1948, pp. 31-3.

BLACKBURN, G. *See*, HUME, J. Basil, and——

*BOYD, A. M., and others. Action of tetraethyl ammonium bromide. *Lancet*, Jan. 3, 1948, pp. 15-8.

*CHRISTIE, RONALD V. Penicillin in subacute bacterial endocarditis; report to the Medical Research Council on 269 patients treated in 14 centres appointed by the Penicillin Clinical Trials Committee. *Brit. Med. J.*, Jan. 3, 1948, pp. 1-4.

*EVANS, GEOFFREY. Flatulence. *Clin. J.*, 76, Nov.-Dec., 1947, pp. 199-204.

HAYWARD, G. W. Tetraethyl ammonium bromide in hypertension and hypertensive heart failure. *Lancet*, Jan. 3, 1948, pp. 18-20.

HUME, J. BASIL and BLACKBURN, G. Synchronous combined total gastrectomy. *Brit. Med. J.*, Nov. 22, 1947, pp. 817-9.

*JEWESBURY, E. C. O. Atypical intracerebral haemorrhage. *Brain*, 70, iii, pp. 274-303.

JONES, F. AVERY (and V. C. Robinson). Wernicke's encephalopathy simulating diabetic comma. *Lancet*, Dec. 20, 1947, pp. 907-9.

KELSALL, A. R. (G. Higgins, and others). Ascites in chronic disease of the liver. *Quart. J. Med.*, 16, Oct., 1947, pp. 263-73.

*KENNAWAY, SIR ERNEST L., and N. M. A further study of the incidence of cancer of the lung and larynx. *Brit. J. Cancer*, 1, Sep., 1947, pp. 260-98.

MAXWELL, J. PRESTON. Osteomalacia. (Summary.) *Proc. Roy. Soc. Med.*, 40, Oct., 1947, pp. 738-40.

MAXWELL, JAMES. The early recognition of chest disease. *Clin. J.*, 77, Jan.-Feb., 1948, pp. 1-4.

NIXON, J. A. The rise, fall and revivals of hospitals. *Med. Bookman & Hist*, 1, Nov., 1947, pp. 25-8.

O'BRIEN, J. R. (G. Higgins, and others). Ascites in chronic disease of the liver. *Quart J. Med.*, 16, Oct., 1947, pp. 263-73.

*PARKINSON, T. Rarer manifestations of herpes zoster; a report on three cases. *Brit. Med. J.*, Jan. 3, 1948, pp. 8-10.

PEACOCK, A. (and F. L. Davies). Prolapse of the lower lumbar invertebral discs: an anatomical and clinical study. *Lond. Hosp. Gaz.*, 50, vi, 1947, pp. ii-xvi.

RODGERS, H. W. Gastroscopy in the diagnosis of gastric cancer. *Brit. J. Radiol.*, 20, Dec., 1947, pp. 502-4.

*TIDSWELL, T. H. Chronic lymphatic leukaemia in man of 84. *Brit Med. J.*, May 10, 1947, p. 641.

*TUCKWELL, E. G. The thoraco-abdominal wound: some observations on 20 personal cases. *Brit. J. Surg.*, 35, Oct., 1947, pp. 197-201.

*WEBER, F. PARKES. Amyoplasia congenita. *Med. Press*, Dec. 31, pp. 593-5.

* — Renal angiospasm and renal cortical anoxia. *Med. Press*, Dec. 24, 1947, pp. 572-5.

WITTS, L. J. (G. Higgins, and others). Ascites in chronic disease of the liver. *Quart. J. Med.*, 16, Oct., 1947, pp. 263-73.

* Reprint received from the author and herewith gratefully acknowledged. Please address reprints to the Librarian.

THE JOURNAL

Contributions for the JOURNAL should reach the Editor by the first Tuesday of the month for inclusion in the ensuing issue.

BOOK REVIEWS

RECENT ADVANCES IN PATHOLOGY, by G. Hadfield, M.D., F.R.C.P. and L. P. Garrod, M.A., M.D., F.R.C.P. Fifth edition. Pp. 363, 60 illustrations. J. & A. Churchill, London.

The fifth edition of this popular work preserves the same general structure as the previous one. The chapter on Vitamin deficiency diseases has been omitted and replaced by one on the modern aspects of liver disease. This latter, together with the rewritten chapter on Bright's disease form the outstanding features of the present edition. Many minor additions have been made throughout the text, the modern aspects of inflammation such as leukotaxin and the Duran Reynals phenomenon being extended, and details of necrosin being introduced. The authors are to be congratulated on the amount of information that has been compressed into the chapters on experimental cancer research, including the interesting work with such compounds as 4-aminostilbene and 2 acetylaminofluorene. The production of tumours remote from the site of administration of these substances is of great importance as well as of great complexity. It involves a study of the metabolism of carcinogenic substances, and the authors point out how the production of liver tumours may have to be reviewed afresh in the light of the influence of dietary deficiency on liver necrosis, with subsequent regeneration and possible malignant change. The still more recent work by Elson on the effect of dietary protein on the growth of tumours induced by 4-aminostilbene, if confirmed, may lead to a reconsideration of Haddow's theory of growth-inhibition as a factor in cancer production.

The account of modern research and its bearing on such liver conditions as portal cirrhosis and acute massive necrosis makes most attractive reading. The more controversial subject of nephritis is dealt with from a new angle. The authors, having had prior access to a hitherto unpublished monograph by Ellis, Evans and Wilson, base their classification on this work. Whatever one's views on nephritis, it cannot but be admitted that the conception of Ellis and his co-workers makes for clearer thinking on the subject. The fact that 600 cases have been studied at different stages of the disease over a long period, and that histological details of 200 of them were available, places this work in a class by itself and makes it one which is bound to command very careful consideration. A summary of the important features of this work has been given in that clear and lucid fashion which we have come to associate with "Recent Advances in Pathology," and results in a correlation between the clinical and pathological pictures which has hitherto been lacking in other descriptions. The histological distinction of exta-capillary lesions in Type 1, and intracapillary lesions in Type 2 is surprising, and one wonders just how specific this will prove to be. Furthermore, the older writers gave the impression that a case might progress from the acute stage successively to the subacute and chronic stages. On the Ellis classification it would appear that once a case is placed in Type 1 it will never develop a subacute stage of massive oedema.

The section on ductless glands has again been written by Dr. E. F. Scowen, who has represented the present difficulties in hormone study. He is to be commended on the way he has dealt with a subject so complex, and he has given us sufficient information to indicate that the material could be more easily expounded in a volume rather than in a chapter.

This readable and stimulating book will appeal to a wide medical public and will be appreciated by both students and teachers.

MODERN TRENDS IN DERMATOLOGY, edited by R. M. B. MacKenna, M.D., F.R.C.P. Butterworth & Co., Ltd. 1948. 32 illustrations, pp. xiv+432. Price 42/-.

The editor of this book, Dr. MacKenna, has placed dermatologists under a debt of gratitude. He has collected a team of 23 authors and they have written singly or in groups on some eighteen aspects of dermatology while the editor has supplied an introduction. Only eight of the twenty-three contributors are dermatologists, three of these being American. The others include four general physicians, an anatomist, two pathologists, two chemical pathologists, a biochemist, a parasitologist, a mycologist, a bacteriologist, a psychiatrist, a radiologist and a statistician.

Naturally all these contributions will not be of equal interest to every reader. Some of them reminded this reviewer of Huckleberry Finn's criticism of *Pilgrim's Progress*, "the statements was interesting but tough." Some are so packed with facts and figures that they are difficult to digest. Others are so easy to read and so sweetly reasonable that one feels they are almost too good to be true! Each article is followed by a bibliography of which some are long others short.

Among the articles which particularly appealed to this reviewer were those on Anatomy by Dr. A. G. M. Weddell, Sex Hormones and Seborrhœa by Dr. H. W. Barber, Bacteriology by Professor Stuart-Harris, Parasitology by Professor R. M. Gordon, Mycology by Dr. J. T. Duncan, with an excellent account and illustrations of the ringworm fungi, Occupational Dermatoses by Dr. L. Schwartz which is clear, concise and an excellent summary of the subject, Principles of Treatment by Dr. Bernard Tate, a balanced and critical review, Rehabilitation by Dr. F. F. Hellier with an interesting account of the Ragley Hall experiment and Statistics by E. S. Cooper-Willis.

There are indices both of subjects and authors and the type, paper and illustrations are excellent.

Taken as a whole the book is an extremely valuable one on which Dr. MacKenna and his collaborators, as well as the publishers, are to be congratulated.

THE BLOOD PRESSURE and ITS DISORDERS INCLUDING ANGINA PECTORIS, by John Plesch. 2nd Edition. Pp. xiv, 307. Balliere, Tindall & Cox, London. Price 21s.

The Author handicaps himself by using unfamiliar nomenclature and further limits the appeal of his book by adhering to views on actiology and therapy not widely held in this country.

The Tonoscillograph is preferred to the sphymomanometer and its use is described at considerable length. There is no comment on the value of Potassium Thiocyanate or Splanchnic Neurectomy, but this deficiency is balanced by experience of several hundred thousand cupping wounds and of auto-urine therapy. Plentiful references are given of which over 50 per cent. are prior to 1924 and seven since 1940.

Those to whom the book commends itself will find themselves stimulated in various ways, but it is hardly suitable for anyone preparing for an interview with Examiners.

R. B. T.

PAEDIATRICS FOR NURSES, by Arthur G. Watkins, M.D., F.R.C.P. John Wright & Sons, Ltd. Pp. 192.

This little book provides a neat and concise account from the clinical aspect of the main diseases of children with which a nurse is liable to meet. The author makes no attempt to include nursing technique and medicinal treatment is only briefly mentioned. Many nurse readers will regret the omission of such procedures as the pre- and post-operative treatment for pyloric stenosis correlated with an explanation of the principles which guide the clinician. However, from the clinical standpoint it is comprehensive and easily readable and there are some excellent photographs.

ANNOUNCEMENT

ENGAGEMENT

The engagement is announced between Michael E. Glanvill, M.R.C.S., L.R.C.P., younger son of Dr. and Mrs. A. E. Glanvill, of Chard, Somerset, and Mary J. Smith, S.R.N., youngest daughter of Dr. and Mrs. F. B. Smith, Arnside, Westmorland.

SPORT

SQUASH CLUB

Now that the Squash season is over, and we can look back with the calm, dispassionate eye of an independent observer, we see that the gloomy prophecies of earlier days have not been fulfilled. The Club has pulled up its metaphorical socks, and during the latter half of the season especially, has acquitted itself magnificently.

Since Christmas we have been helped considerably by having two courts in full working order, and as a result of the extra practice games, the First Team has won 7 out of 11 matches. Worthy of especial mention are the matches against Lensbury, where we reversed a previous unfortunate loss, 2-3, with a much more satisfactory win, 5-0; and against St. Thomas's Hospital, whom we beat 5-0 in return for having done the same to us earlier in the season.

An innovation this year was a match against the President team led by Mr. Fraser. A decisive victory of 4-1 was rounded off by a most pleasant evening in the President's flat and we should like to thank him for his hospitality.

A fitting end to the season was provided by a match against the Scramblers. When our opponents arrived, they discovered to their horror that they were one man short, and our Captain, realising that he was eligible as an Oxford man for membership of their club, nobly filled the breach. As he won their only match, we understand that he will be asked to play for them again soon.

The Donaldson Cup was won this year by J. Fison who defeated G. Hirst in a Final that was well worth watching. Neither of the two finalists were given much trouble in reaching the last round. Hirst, who was runner-up last year as well, is as much to be commended for his sportsmanship, as is Fison for his excellent display of Squash.

We have to thank our president, Mr. Fraser, who kindly gave of his time to present the winner with the Cup.

Analysis of Results:—1st Team, played 21 matches, won 9 and lost 12. 2nd Team, played 11 matches, won 3 and lost 8.

Team: J. Fison, G. Hirst, H. A. Evans, M. Hambling, B. H. du Heaume.

B. du H.

HOCKEY CLUB

The hockey club has been unfortunate in being unable to turn out a full team except on rare occasions. The first half of the season in particular shows the result of this when, out of 12 matches played, 3 were won and 9 lost with 22 goals for and 31 against. After Christmas players made a greater effort to turn out, and, of 16 matches played, 9 were won and 7 lost, with 47 goals for and 35 against. Thus the season's record reads:

Played 28. Won 12. Lost 16. Drawn 0. Goals for 71. Against 66. In the hospital's Cup, King's College Hospital were beaten 7-3.

Middlesex Hospital were beaten 3-1 whilst in a hard-fought game against Guy's Hospital in the final we lost narrowly 0-1. This was the first time that it had been possible to field the team representing the hospital in the final and, in spite of a large and vociferous band of supporters, the greater understanding and team-work of the Guy's team justifiably prevailed and the cup left Bart's after 3 years.

Comfort can be gained when looking to next year from the fact that 7 of this year's team will be available, and that our fixture list, already of a high standard, continues to improve.

G. H.

CROSS COUNTRY CLUB

On Saturday, March the 13th, Bart.'s won the United Hospitals Cross Country Championship for the third year in succession.

The race was run at Chislehurst on the Hospital's seven mile course under a cloudless sky.

The twenty-five runners, representing Bart.'s, Guy's, Middlesex and Westminster, were started by Dr. H. A. Munro (Guy's), an old U.H. runner and five times winner of the championship during 1890 7.

J. A. Menon and J. I. Burn took the lead at the start and when the half-way mark was reached they had a clear lead over the rest of the field. The rest of Bart.'s team were well up and the result was fairly certain when the second lap was started.

Menon was first home in the very good time of 38 mins. 45 secs. Burn was second (39 mins. 52 secs.) and O. Donsie (Middlesex) was third (41 mins. 20 secs.).

HOSPITAL TREASURE

Fig. 5.

The Abernethy Cup and Cover, by Paul Storr, 1812. See p. 58., Col. II.

AT CHISLEHURST

Bart's team in United Hospitals' Cross Country Championships.

With the first two places, the 7th, P. D. Mathews, the 10th, M. E. Glavill, and the 12th, A. Maude, Bart.'s won comfortably with 30 pts. Middlesex and Westminster tied for 2nd place with 45 pts. Other Bart.'s placings were Lakon, 13th; Clulow, 21st and Nielson, 22nd.

The match was followed by a very enjoyable dinner at The Tiger's Head, Chistlehurst, at which Mr. H. B. Lee presided. The victory was suitably celebrated by drinking from the Cup in the traditional style.

A very successful season was thus brought to a close. All members of the club are to be congratulated on the achievements of the season, especially Menon and Burn, who have always been among the first home. Menon is also to be congratulated on being awarded his London University team colours.

With the support of all members, we hope to repeat these successes on the track during the coming Athletic Season.

D. C. M.

The 65th Annual Sports will be held at Chislehurst on Saturday, June 5th, 1948.

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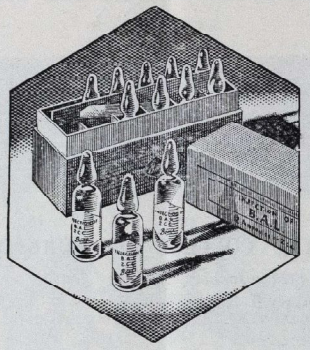

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SAINT BARTHOLOMEW'S HOSPITAL JOURNAL

JUNE 1948

VOL. L II

No 5

CONTENTS

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HOSPITAL JOURNAL

Vol. LII JUNE, 1948 No. 5

NORMAL LIMITS

SEVERAL objections to hanging murderers have lately received public attention. The practical brutality and ethical absurdity of the operation were considered, but the objection that appeared to influence public opinion most strongly was the possibility that an innocent person might be hanged by mistake. That such miscarriages of justice do occur is generally admitted, for it is clear that twelve good men and true are not necessarily infallible. But if twelve jurors can be mistaken about a murderer's guilt, two doctors can be mistaken when a man is certified insane. Fortunately a lunatic is not confined without his case being considered at intervals, so that the public conscience is not disturbed at the thought of such a man being confined unjustly. Indeed, far more concern is felt about the number of feeble minded people at large.

It is unlikely that there are many sane people languishing in mental homes, but the incidence of nervous disorders appears to have increased so rapidly of late that the possibility must be considered. One reason for this increase may be the widespread appeal of popular works on psychology, and the readiness with which people who read them put themselves into pigeon-holes suggested by the authors. From self-diagnosis it is a short step to the psychiatrist, and in this way a number of cases may be recognised who, unencouraged by popular literature, would never have reached the psychiatrist and his statistics. Another view suggests that the increase may be due to the alacrity with which psychiatrists diagnose disorders in patients who are referred to them by doctors or employers.

The psychiatrist's ability to recognise minor degrees of disorder has led to the recognition of many new cases who are described as abnormal, whereas it is questionable whether some of them should be described as abnormal at all. It is certain that lay psychotherapists frequently confuse abnormality with a departure from the average. Across the Atlantic a deviation from the average is regarded as so serious that, it is reported, mild cases of melancholia are now recommended for pre-frontal leucotomy, when a few months earlier they would have been prescribed a holiday. It is surprising that an operation that was previously reserved for hopeless melancholics should be prescribed so lightly in spite of the possible disruption of the personality which it entails. The value of diagnosing disorders in mild or doubtful cases must be questioned.

In some diseases the value of postponing a diagnosis is recognised. In early but perceptible cases of disseminated sclerosis the neurologist may hesitate to make a definite diagnosis, less because he is in doubt than because the prognosis is so uncertain, and the patient may have remissions lasting for many years. So, in some early cases with slight symptoms, the general practitioner may have the satisfaction of making a diagnosis on evidence which the consultant considers inadequate. If it is in the patient's best interests for a definite neurological diagnosis to be postponed, it is doubly desirable for the psychiatrist to exercise the same discretion, not only because indiscriminate public access to books on psychology is so much easier than to textbooks on neurology, but also because opinions as to who should be included within normal limits vary from one psychiatrist to another.

The diligent statistician has been rewarded with massive evidence for incipient madness scattered throughout the land. Interpreting it according to his views, he may be led to believe that sanity is a rarer quality than has always been supposed; or he may conclude that symptoms and signs are not always reliable evidence. There is still the enthusiast who dubs all B.B.C. announcers schizophrenic, interpreting as evidence of loss of affect the disinterested, unemotional monotone of the reader of the midnight news. A less rigid viewpoint will include as paranoiac the psychiatrist who, skilled in the recognition of early signs, apparently believes more or less systematically that all his patients are mentally disordered.

The psychiatrist has the best interests of the patient in mind when he makes a diagnosis, and plans his treatment accordingly. In this respect his attitude differs from the legal one, for when a person is convicted of an offence, evidence of psychological disorder frequently fails as grounds for a plea for leniency, and may be followed by savage punishment which is inflicted under conditions which do not dispose to treatment. In other respects the legal view of criminal responsibility conflicts with the attitude of the psychiatrist. The criterion of whether the patient labours under "partial delusions" is still applied in courts of law, although the psychiatrist holds that mental disease is a disorder of the whole personality. As a result, the accused is sometimes held responsible for his actions, although his mental condition is admitted to be outside normal limits.

The view that there are large numbers of madmen at large whose wealth and position enable them to exist outside the asylum has always been a favourite theme with novelists. The other economic view suggests that people are confined who would be considered normal if they were not poverty stricken. An example is a young man who lived in a squalid working-class dwelling. His interest in painting and disinclination to do any other work, both made him dishonourable in the eyes of his family. His downfall was brought about when he started to paint a mural in his bedroom. In the middle of his work, his mother came in and demanded that work should cease and the wall be washed. Promptly he hustled her from the room. As a result of this family friction, he was certified and confined. Later his talent was recognized. His behaviour, which could not be tolerated at home, would have passed uncritized if less adverse circumstances had permitted him to develop his talent.

This painter, although endowed with special talents, could scarcely be considered a genius. The worse for him. For it is probable that the narrow borderline traditionally presumed to separate genius and insanity does not exist. It is more likely that in the genius are tolerated abnormal characters which would be abhorred in the man of more modest attainments.

Suspected disorders can sometimes be treated as effectively with tact and sympathy as with more elaborate psychotherapy. The dangers of a definite label in doubtful cases may be graver than the consequences of missing a diagnosis. A plea for tolerance is not necessarily weakened by the suggestion that suitable treatment for doubtful disorders is expressed in these words of a schizophrenic: when asked to explain the proverb "Let sleeping dogs lie," the patient said: "It would be normal to any object that was seemingly comfortable to let it remain uncomfortable; and if there was anything to be appreciably gained, it would be better to let it continue." Perhaps there is something to be appreciably gained by tolerating a broad conception of normal limits.

THE PRICE OF FREEDOM

By LT.-COL. M. C. L. SMITH, M.C., I.M.S. (RETD.)

To be thrown from the hump of the camel is an accident, to be bitten is an assault and when spitefulness saw its opportunity and inflicted a painful injury on the rider's seat, then all dignity departed, language and laughter flowed uncontrolled. To us, as ground observers, such scenes, though commonplace, at least represented comic relief in the grim tragedy of refugee migration which daily re-enacted itself before us.

It was during the months of November and December, 1947, that we found ourselves as members of a medical team, working by the roadside, amongst Muslim refugee families who had been displaced from the East Punjab and were wending their weary way through hostile territory towards new homes in the promised land of Pakistan.

With this objective in view even today vast masses of humanity are to be encountered on the move. To see for the first time a solid phalanx of 100,000 souls advancing down the road in a cloud of dust with their cattle, their camels and their bullock carts, an escorting screen of pye dogs and encircling vultures, is to be awed by their approach and shaken by the facts which necessitate their removal. To go amongst them, to see the congestion of the throng and the diseases and discomforts which they must daily suffer, is to become hardened and rapidly berefit of all feeling, in the face of a most immediate and exacting medical task.

The particular foot *kafilas* (caravans) which we have been attending represent but a very small fraction of the total of 6,000,000 persons or more displaced by the interchange of population between the East and West Punjab. They happened to be Mahars, who were previously peacefully settled in agricultural pursuits in the Gurgoan District, Pharatpur and Patiala States.

The schism of India following the announcement of the Punjab Boundary award precipitated a breakdown of the Civil Administration, a derection of the Police and a disruption of the Indian Army. Political unrest was rapidly converted into a frenzy of panic and an orgy of violence, and on both sides of the newly defined boundary chaos reigned. Acts of lawlessness, provided they were perpetrated under the guise of loyalty to "a communal cause," passed without fear of official retribution. Consequently, many of those who march as refugees to-day have had their families killed, their homes looted and destroyed.

More recently, the old people and the children, who form the bulk of the survivors, together with the younger women (who have not been abducted) and the younger men (who have not been killed) have been herded together for protection into refugee camps. In these places they have been joined by others, who have escaped violence, but have been affected by the panic of a situation which so seriously threatens their security and their peace of mind as to make their position untenable. The next stage has been the forming up of these refugees into kafilas and their safe conduct out of the hostile dominion.

For those refugees who had to walk, the total distance to the Boundary was often between 300 and 400 miles; then in Pakistan itself the trek continued for another 100 to 200 miles or more, to the area selected for their final resettlement. Ten to 20 miles were covered each day. In Hindustan, staging camps were merely open spaces sited near a supply of fresh water, where, for purposes of protection, the caravan could be held together under the guard of its escort. Having arrived in Pakistan, incoming refugees, save that they are unlikely to be attacked, are little better off; they advance from village to village and camp after the fashion of gypsies under the most appalling conditions. At arbitrary staging places by the side of the road a token issue of free rations is made to those who have no food; but warm clothing is almost non-existent, and little if anything can be done about it.

Our task as members of a Medical Team working under the auspices of the Christian Relief Committee in West Pakistan, was to keep pace with any particular kafila and to minister to its needs while it remained in Hindustan. The importance of the work lay mainly in the direction of the prevention of epidemic disease. Acute infections were treated as encountered. Palliative measures were also of importance in keeping as many refugees on the road as possible, but under our care proper nursing and rational cure of diagnosed complaints was seldom practical. In most cases accurate symptomatic treatment was the best that could be aimed at.

The last two kafilas that we saw were riddled with Smallpox: predominantly a disease of children, it carried off between 30 to 40 lives each day. Even so, individual resistance appeared high. Cases with widespread confluent lesions were seen to recover and no example of the haemorrhagic type of the disease was encountered.

Another complaint of the march favoured in its incidence by physical fatigue and in its spread by the acute congestion of the human throng, was pthisis. This was particularly conspicuous amongst the young adult refugees, who at some time previously, no doubt, had been sufferers, but who were predisposed to breakdown by the conditions

of hardship through which they were passing.

Dust of the march and the dirt of each camp, also favoured the spread of diarrhoea, dysentry and upper respiratory tract infections. With regard to all bowel complaints, the completely primitive habits of the refugee, and his demoralised attitude towards life in general, often came near to jeopardising the health of the whole camp. The tendency to use the water point as a place of defaecation was difficult to check. An indication of how deeply ingrained is the notion of the necessity for the use of water after the bowels have moved is to be found in the literal translation of the vernacular term for diarrhœa "hath dhone ki bimari," which means "the hand-washing disease!" The convenient proximity of water, therefore, comes to be the factor deciding which area of ground is to be soiled.

The kafila would march in the early morning and would start to arrive in the new camp near about midday. Little treatment would be practical en route and the usual plan adopted would come into effect on arrival in Camp. It was as follows: One M.O. would rope off an area, near shade and water, termed the Hospital; the other would go off into the Camp.

The Hospital would soon accumulate considerable numbers of sick and stragglers alike. These had to be sorted and revived. Those that merited treatment were dealt with and then set on one side to be carried on to the next halting place in transport (supplied by the Military Escort). A milk bar would be set up. Dried milk was reconstituted and dished out in old tins improvised as cups—this was necessary for there are many refugees who are destitute to such a degree that they lack even the simplest of feeding utensils. Our attention was invariably drawn to a sorry collection of children, between the ages of one and three years who, due to the effects of straightforward inanition or of intercurrent disease, presented the picture of advanced marasmus. It seemed that once a mother's natural supply of milk failed, her chances of being able to wean her child on to a suitable diet were very slender.

Surgical conditions and sore eyes were extremely common. In attending to the many sores we found that after days on the road a thick eschar of caked dust would form over an exposed ulcer and conceal its size. It was only by removing this scab and releasing the trapped pus pent up underneath, that relief could be obtained and the extent of the ulcer defined. Signs of deficiency disease were also beginning to make their appearance. Although these did not conform to the fully developed text book picture of pellagra, beri beri or scurvy, the presence of these symptoms was undeniable evidence of how close were a large number of those who marched in the kafila to frank starvation.

The daily death role due to all causes was depressingly high; nevertheless it was a moot point whether or not this number was not made good or even passed by the correspondingly large number of births. These seemed to occur with remarkable facility and frequency at all stages on the march and at all places in the camp.

The M.O. who went off into the camp did so with a complete medical compendium upon his person and a vocabulary of a few essential words. He carried with him a sulphaguanidine in one breast pocket, "Cibazol" in the other, "Paludrine" in the right trouser pocket and aspirin in the left, not forgetting a scarifier, small-pox lymph, soap, cotton wool and a water bottle. We found that these excursions were necessary, for such was the prime importance of keeping the family group together, that many urgently requiring attention would not leave the shelter of their bullock cart for fear of becoming separated. Secondly, the servile position of the women and the complete dependence of their menfolk upon them, also precluded the opportunity for the mother of children to obtain medical relief for herself, separate to that of her family.

On such occasions on entering the Camp we were quickly recognised for what we were. There was no mistaking the urgency and genuineness of the appeal and the atmosphere of friendliness which greeted us from all sides. Hailed by the title of "Baboojee," we would seen be led off to see a patient. About this place a crowd collected and pressing in from all directions human effluvium soon came to be mixed with an outpouring of medical and other complaints, with an element of whimsical barracking from a few healthly onlookers and inquisitive small boys. "Bhuk" (hunger) and "Bokhar" (fever) are similarly sounding words. The one we could sometimes treat with Paludrine, the other was disquieting, but little could be done to relieve it with pills.

Another common request was for warm clothing. The Punjab winter, though on the whole sunny and warm during the day, is cold enough at night to be a dire and bitter affliction to those without warm coverings or proper shelter. Moreover, members of these kafilas, coming as they did from the warmer climate further South, were particularly sensitive to the change of the weather. Ample evidence of chill was reflected in the high incidence of pneumonia. In this connection it was remarked that the word "pneumonia," seems to have caught on and to have come into common parlance amongst these people. Though the term covers a multitude of complaints, nevertheless, it was sometimes a correct pointer to the diagnosis.

A practical snag about treatment was the aversion and incapacity of many to take our pills. Unless a patient effectively demonstrated himself to be a good swallower, it was a waste of time (and valuable material) to give him appropriate doses of a drug like sulphaguanidine. The only solution to this difficulty was to be found in supplying medicine in the form of draughts and injections. Both these methods were popular, but from our point of view uneconomical and unsuitable for easy management.

In surmounting difficulties of dialect, invaluable assistance was given by the demobilized sepoy and the army pensioner who, in attaching themselves to us, in abridging and explaining the differences between colloquial Punjabi forms of expression and Urdu equivalents, acted as intermediary between physician and patient.

They also formed an important organizing influence in the body of refugees, and their resource and endurance to withstand the travail and hardships of the march, formed a praiseworthy example to all who came in contact with them. To quote one case only:

An ex-Sepoy who had seen service in Burma and the Middle East, alone with his aged mother, survived the holocaust of the destruction of their home and the murdering of their family. When the opportunity arose they escaped and together joined a refugee kafila bound for Pakistan. Having no bullock cart, they were compelled to walk. Soon the mother's strength gave way and on account of an ulcer on her leg she became incapable of walking further. Undismayed, the son, lightening himself of his few remaining worldly goods, commenced to carry his mother on his back. When we met him (on the tenth day) he had brought her to us for treatment. The sore on her leg was open and undressed, foul and suppurating. We reckoned that while on his back, this putrid ulcer must have been within 12 inches of the ex-Sepoy's nose! That he should have continued to carry her is a remarkable feat indeed, and at the same time illustrative of one of the many acts of stamina and affection which bind members of a family together in misfortune.

Only nightfall parted us from our patients. The short twilight and the haze that spread over the Camp from the smoke of innumerable cooking fires, brought the day abruptly to an end. With the smell of refugees in our clothing and in our nostrils, we would make our withdrawal to the nearest Rest House on the road; the "via dolorosa" of the unfortunate minority. There, we would restock our medical supplies, bathe and refresh ourselves in preparation for the labours of the morrow.

"I'D LIKE TO THINK . . ."

By G. HAVERFORDWEST (pronounced HARVEST)

I'D like to think that Geoffrey Bourne
Importunates each dewy dawn,*
Cries: "Sun! Why lightest thou these
heavens
With light less luminous than Bevan's?"

*That Bourne and dawn don't rhyme, I'm
well aware;
Like heav'n and Bev'n, an ill-assorted pair.

THE JOURNAL

Contributions for the JOURNAL should reach the Editor by the first Tuesday of the month for inclusion in the ensuing issue.

CHRISTOPHER MARLOWE

By WILFRID SHAW, F.R.C.S., F.R.C.O.G.

THERE is no known direct link between Christopher Marlowe and St. Bartholomew's Hospital. The indirect associations are very slender, yet they may be of interest to the younger members of the hospital.

Marlowe, indubitably one of the enigmas of English literature, violent in character, with unpleasant associations, with an interest in atheism, and with a tendency to touch upon homosexuality, was yet capable at times of producing poetry of the highest quality. He passed from the King's School at Canterbury with a Parker scholarship, to Corpus Christi College at Cambridge, and even as an undergraduate became involved in Secret Service work which caused him to absent himself from the University. The University raised objections to him obtaining his degree, and the Privy Council had to bring pressure to bear before the University gave consent. Almost certainly, while an undergraduate, he translated Ovid's Elegies, and according to tradition, wrote the first part of "Tamburlaine the Great" while still resident at Corpus. Yet, in spite of this dual accomplishment, he seems to have left little mark upon the University. It may be that the authorities were suspicious of his journeys and perhaps of his association, even in undergraduate times, with free thinkers. The material upon which "Tamburlaine" was written could be obtained from Parker's Library at Corpus and from the University Library, but why he should have selected the subject of Tamburlaine is a major mystery. Already, in Tamburlaine, what Ben Jonson called "The mighty line" is in evidence as in the following passage-:—

"Thy garments shall be made of Median silk,
Enchas'd with precious jewels of mine own,
More rich and valorous than Zenocrate's.
With milk-white harts upon an ivory sled
Thou shalt be drawn amidst the frozen pools,
And scale the icy mountains' lofty tops."

Words which recall the more famous lines of the passionate shepherd :—

"Melodious birds sing madrigals.
And I will make thee beds of roses,
And a thousand fragrant posies,
A cap of flowers and a kirtle
Embroider'd all with leaves of myrtle.
A gown made of the finest wool
Which from our pretty lambs we pull,
Fair linéd slippers for the cold,
With buckles of the purest gold ;
A belt of straw and ivy-buds,
With coral clasps and amber studs."

After leaving Cambridge, Marlowe came to live in Norton Folgate, near the site of the modern Liverpool Street Station, where he became acquainnted with the poet Thomas Watson. Between two and three in the afternoon of 19th September, 1589, Marlowe and Watson became involved in a sword fight with William Bradley in Hog Lane, outside Cripple Gate. Marlowe and Bradley were fighting when Watson tried to separate them. Marlowe drew back and Bradley attacked Watson with the words—"Art thowe nowe come? Then I will have a boute with thee." Bradley had previously, in the summer of 1589, asked for sureties of the peace against Thomas Watson and others, of whom he went in fear of his life. Bradley now forced Watson to retreat to a ditch where, in self defence, he turned and killed Bradley with a sword thrust in the right breast. William Bradley was the son of the landlord of the inn at the corner of Gray's Inn Road and Holborn. When I come to Bart.'s by car down Gray's Inn Road, I am sometimes held up by the traffic lights and have time to look at Ward's Irish House, which is almost certainly housed on the site of the Bishop Inn.

Marlowe and Watson were arrested and taken to Newgate. Marlowe was kept in prison until 1st October, when he was released on bail. Richard Kytchen and Humphry Roland were the two sureties, each under a penalty of £20. Richard Kytchen subsequently lived in the parish of Great St. Bartholomew in 1591, while Humphry Roland was a maker of lantern horns and had been employed by the barber surgeons in September, 1576, who had granted him the lease of a house in East Smithfield.

On December 3rd, 1589, Marlowe appeared at the Old Bailey before a Bench which included Sir Roger Manwood, Chief Baron of the Exchequer, and was discharged. Sir Roger Manwood lived in a house in the parish of Great St. Bartholomew. Mrs. Whitteridge, the hospital archivist, has not been able to trace any association between Sir Roger Manwood and the hospital, but Sir Roger's son, Sir Peter Manwood, lived in Great St. Bartholomew, and in 1611 a meeting was held at Sir Peter's house to consider the water supply to the parishes of Great and Little St. Bartholomew. Water was brought in pipes of lead from Islington to a cistern in the Close. The entry of this meeting is made in the hospital journal and was described by Sir Norman Moore in his history of the Hospital. Sir Roger Manwood had died in 1592 and his epitaph, written by Marlowe, has been preserved. The epitaph was discovered by Collier, that queer Victorian scholar whose enthusiasm led him to forgery and who, I believe, tampered with the entry in the parish register of St. Bartholomew-the-Less, in the hope of showing that the marriage of Wylde Greene could be attributed to Robert Greene the poet. The epitaph is as follows :—

"IN OBITUM HONORATISSIMI VIRI, ROGERI MANWOOD, MILITIS, QUÆSTORII REGINALIS CAPITALIS BARONIS.
Noctivagi terror, ganeonis triste flagellum,
Et Jovis Alcides, rigido vultureque latroni,
Urna subtegitur. Scelerum, gaudete, nepotes !
Insons, luctifica sparsis cervice capillis,
Plange ! fori lumen, venerandae gloria legis,
Occidit : heu, scelum effoctas Acherontis ad oras
Multa abiit virtus. Pro tot virtutibus uni,
Livor, parce viro ; non audacissimus esto
Illius in cineres, cujus tot millia vultus
Mortalium attonuit : sic cum te nuntia Ditis
Vulneret exsanguis, feliciter ossa quiescant,
Famaque marmorei superet monumenta sepulcri."

Mr. John Howkins offers the following translation :—

"Here lies the darling of the gods ; the dread
Of footpads, crooks and toughs is dead.
The underworld makes holiday,
While good men don their fun'ral weeds.
Fast from the Law Courts fades away
The glory of Sir Roger's deeds.
A heavenly welcome waits him, where
No breath of evil touch him dare.
The boldest blanches at his shroud,
Whose glance so many criminals cowed.
His spirit lives to curb the drones :
God rest the famous Manwood bones !
Time ruins tombstones : but his name
Shall be rewarded lasting fame."

Sir Roger Manwood was buried at St. Stephen's, Hawe, near Canterbury. It is possible that there was some association between Sir Roger Manwood and Marlowe independently of the Old Bailey, perhaps by way of Archbishop Parker.

The other link between the hospital and Marlowe is through Sir Ralph Winwood. Sir Ralph Winwood had married Sir Thomas Bodley's stepdaughter, Elizabeth Ball. After Bodley's death Sir Ralph Winwood occupied Bodley's house, which was situated on the present site of the eastern part of the present medical block, somewhere in the neighbourhood of the present Muniment room. Sir Ralph Winwood was British Ambassador to Paris, and in July, 1602, objected to the performance of a French play which introduced the character of Queen Elizabeth. The French retorted that Marlowe's play "The Massacre at Paris" was equally offensive to them, and Sir Ralph Winwood reporteed to Cecil—"It was objected to me before the French Counsaile by some standers-by, that the death of the Duke of Guise hath ben plaied in London : which I answered was never done in the life of the last King of France : and sence by some others that the Massacre of St. Bartholomew's hath ben publickly acted, and this King represented upon the stage." "The Massacre at Paris" cannot be regarded as having any great merit.

The next link between Marlowe and St. Bartholomew's is the well known reference to Dr. Lopez in the play "Doctor Faustus." Dr. Lopez, the first physician elected to the staff of St. Bartholomew's Hospital, was hanged in 1594 for attempting to poison Queen Elizabeth. The text of "Dr. Faustus" is corrupt, and Marlowe was dead some time before Dr. Lopez's execution. I doubt whether anyone would accept that the reference to Dr. Lopez was made by Marlowe himself, particularly when there is

evidence that Henslowe paid £4 to William Birde and Samuel Rowlay for their additions to "Dr. Faustus."

The manner of Marlowe's death has great medical interest, and it is reasonable to ask that the question should be settled once and for all by medical opinion, and I hope that readers of this article, better qualified than myself to give an opinion, will express their views. The inquest documents were discovered by Leslie Hotson in 1925. Marlowe, Frizer, Skeres and Poley had dined together in Eleanor Bull's Tavern in Deptford, on May 9th, 1593. A quarrel arose about "le recknying" and according to the inquest record, Marlowe rushed at Frizer, snatched Frizer's dagger and wounded Frizer on the head. Frizer struggled with Marlowe and, in self defence, thrust the dagger into Marlowe's eye to a depth of two inches, leaving the wound one inch wide. Marlowe is stated to have died instantly. The problem is whether a wound of this type could cause instantaneous death. At the time of his death Marlowe was under notice to appear before the Courts, probably to face a charge of atheism. Poley is known to have been a disreputable character with Secret Service associations. The evidence of Frizer at the inquest should not be accepted out of hand because it was necessary, according to the law of the times, for an accused to prove self defence if he had any hope of acquittal. The most likely explanation is that Marlowe reacted violently to his companions when they exerted pressure upon him. Partly out of self defence, but partly with deliberate intent, they thought it best to murder him.

In the last thirty years much documentary evidence has been discovered to throw light on the character and behaviour of Christopher Marlowe. He was born only one year before Shakespeare, had died before Shakespeare had obtained renown, yet passages in "Tamburlaine" and "Faustus" show promise of achievement equal to Shakespeare's best in verse. Yet, behind this poetic ability looms complicity in affairs of state, in espionage, in atheism, added to which his personal violence culminated in his death. One of the great mysteries of Marlowe is to picture the man, for he does not fit in with the well recognised types of young men of to-day. Psychologists and psychiatrists should be able to give an opinion.

ON DROPPING STITCHES

DEAR Dr. Abernethy we feel we must retort
To the charges laid against us in the JOURNAL'S last report.
That we wield a knitting needle, not a cricket bat, 'tis true
But we're told it is constructive from the nation's point of view.
It's not that we deny, of course, your right to manly sports,
But we feel that they are out of place in Rahere's stately courts.
At lectures while we quickly knit, we do not hiss and boo,
But rather bend our heads in shame, our duties to pursue,
And when the time has come, Sirs, as come it must, we warn
Of knitting needles flashing, and of cricket bats in pawn,
When lecturers will lecture to a quietly knitting class,
Where tongues are stilled in silence, and where no one plays the ass.
Then will we smile with homely pride triumphantly to knit,
While Rahere in his grave exclaims "The biters have been bit."

S. G.

THE ABERNETHIAN SOCIETY

THE Annual General Meeting will be held on Thursday, June 3rd, at 1 p.m. in the Abernethian Room in the Hospital.

Agenda:

1. Minutes of last A.G.M.
2. Secretaries' Report.
3. Financial Statement.
4. Date of A.G.M.
5. Election of Officers for 1948/49.
6. Any other business.

Lists for the nomination of officers for the next session will be posted in the Hospital and at Charterhouse Square on May 19th and will be closed on May 27th.

HARVEY CUSHING AND HIS BOOKS

An Address read before the Abernethian Society on July 10th, 1947

By JOHN F. FULTON, M.D.

PART TWO

Cushing's contacts in Europe had broadened his outlook not only in medicine and surgery, but in art and general literature. Shortly after his return he published his first historical paper—"Haller and His Native Town." He was also hot in the pursuit of Garth, the Kit-Kat Poet, whose celebrated poem, "The Dispensary," he was already collecting. Through Garth he developed a lively interest in Dryden and was much elated a year or two later when he procured a copy of Garth's invitation to Dryden's funeral.

In November of 1902 he met Weir Mitchell for the first time and it is clear that Mitchell added his influence to Osler's in stirring Cushing's interest in general literature. A few lines from his description of this first evening in Mitchell's study — his first "Madeira party"—convey something of the enthusiasm that Mitchell (then an old gentleman) aroused. "There was a beautiful coloured bust of Dante, Keats' death mask, and in a glass case the head, recumbent, of a Roman, as I learned, who had been killed in battle some eons ago outside the walls of Ravenna. M. said it was of Guidarello Guidarelli and when he first saw the original in the museum at Ravenna he made a request of the Curator that he be permitted to have a copy made of the face . . . 'Jack,' said he, 'I once wrote some verses on Guidarelli.' Whereupon Jack Mitchell got out a volume of his father's poems and read the verses aloud. I have always liked this the best of M.'s verses, perhaps due to this association." It followed naturally that H.C. should have begun a collection of Weir Mitchell's writings.

His other special collections, which form the backbone of his library, were assembled gradually. Undoubtedly the most interesting and remarkable is his Vesalian collection. From 1903 onward he never missed an opportunity to obtain anything relating to Vesalius, and on his trips abroad in 1904, 1908, 1910, and again in 1912, he eagerly pursued his favourite author. In 1904 Osler put him on to some choice Vesalian things. In 1909 he photographed the rare anatomical tables of 1538 at the San Marco in Venice, and in the same year succeeded in obtaining in Munich a copy of the Germany *Epitome*. As he became more familiar with the plates, he became interested both in their forerunners in anatomical illustration and in the host of those that were later plagiarised or otherwise copied. These, too, were sought with as much avidity as were the original Vesalian items. He accumulated a vast assemblage of photographs of the Vesalian plates and their variants and of the iconography of Vesalius himself, and when he came to New Haven in 1933, after retiring from the Harvard Medical School, he started to put his notes in order in the hope of one day bringing out a definitive life of the colourful anatomist with a full description of his published works. Unfortunately for Vesalian scholarship he had other unfinished business, and the first five years of his sojourn in New Haven were largely taken up with the completion of his great meningioma monograph, to which he gave first priority since it had been hanging fire since 1912.

During the last year of his life, in 1938-39, Cushing spread his books and papers over the entire dining-room of his house in New Haven and proceeded to work in earnest on what he had now entitled his *Bio-bibliography of Vesalius*. The book was about two-thirds drafted when, on the evening of October 3rd as he lifted a copy of the heavy second folio of 1555, he had an attack of sharp substernal pain which presaged the fatal coronary seizure that befell him four days later. It can therefore be said that he began and ended his career as a collector with Vesalius.

Of the other and almost equally interesting special collections in the Cushing Library, one of the most extensive is that of Jenner and the inoculation literature, an interest which he had no doubt developed from his father's collection of the pre-Jennerian inoculation tracts and his notable paper on the Franklin-Heberden inoculation pamphlet. Another, rather miscellaneous collection was

of early Americana. Having inherited some of his great-grandfather's 18th century collection he became much intrigued by early American medical imprints. Much to the distress of those who think books ought to be classified by subject, he resolutely insisted on keeping his Americana together, irrespective of content.

Cushing also had a lurking affection for the charlatans in medicine—or at least the better charlatans such as Elisha and Benjamin Perkins who introduced the metallic tractors; and Nicholas Culpeper, the herb doctor, so far insinuated himself into his collecting career that he ended by having more than a hundred editions of Culpeper's various works, there being some 65 of *The English Physitian.*

Later in life, when he had become somewhat more affluent, he indulged in an early fascination, namely in Ambroise Paré, whose octavos, which began to appear in 1545, are among the rarest and most sought-after works in the history of medicine. Paré really impoverished him, for he could no more resist purchasing one of the little octavos that he did not possess than Marc Antony could have resisted Cleopatra! In this connection it is interesting that he succeeded in obtaining a presentation copy from Paré to Diane de Poitiers, gorgeously bound and printed on vellum. When he came to pay the bill for this particular item, he disappeared one morning to the bank, sold some bonds, and concluded the transaction in secrecy so that his secretary would not discover how much he had paid for it.

Finally, during the last five or six years of his life, Dr. Cushing tried to collect the outstanding "firsts" of all the sciences, especially those ancillary to medicine, from the *De revolutionibus* of Copernicus to the important papers of the current Nobel Prize winners.

During his years in New Haven, after he had persuaded Arnald Klebs to leave his great library of 15th century literature to Yale, he began to collect medical and scientific incunabula on a large scale, using Klebs' vast knowledge of the field to assist him in making his purchases. At the time of his death he had acquired 168 separate 15th century titles, nearly all in fine state, and eight of them having once belonged to the eminent 15th century collector, Dr. Nicolas Pol, private physician to Emperor Maximillian.

I should like now to touch upon Dr. Cushing's plan for creating a centre of humanistic studies in medicine and science. In 1934, when he began to ruminate about the fate of his books, he let it be known unofficially that he would give them to Yale if the University could find or build a suitable place to house them. This announcement dashed the hopes of many who had looked at his collection with covetous eyes. The Johns Hopkins had a fine, new medical library, and Dr. Welch and, later, others in Baltimore had for a long time been making propositions that were almost indecent. The Army Medical Library, Harvard, and the New York Academy of Medicine had also been full of hope. But he had come to his decision after a visit to Montreal at the time of the dedication of the Montreal Neurological Institution when he had seen what a part the Osler Library was playing in the life of both the undergraduate body and the staff at McGill. On the train coming back that night he formulated a plan not only to give his own books and papers to Yale but to induce several of his friends to join him in the undertaking, particularly Arnold Klebs of Nyon, in Switzerland, who had been working in retirement for 25 years on 15th century medical and scientific literature. He felt that if the two collections could be combined they would serve as a focus for historical studies in medicine and science that might develop into a major university department. He insisted that there should be a strong link between the humanities and the sciences and that by creating a library with this great objective, the traditions of Osler, Welch, and others with the same vision, would be carried on.

There was a major difficulty, however. The Yale Medical School had its library in one relatively small room and most of its books were in storage because stack space was practically non-existent. The School had expanded more rapidly in the previous 15 years than had its physical plant and there were pressing needs in the hospital and preclinical departments that were deemed more urgent than the erection of a new library to house a collection on the history of medicine.

Fortunately for the School, the Officers of the University, under the influence of a newly elected and young member of the Corporation, in the summer of 1939 appropriated $600,000 for an extension to the existing Sterling Hall of Medicine. Dr. Cushing, who

was not a patient man, had become restless during the five years of inaction, but news of the appropriation restored his peace of mind. The architects at once renewed work on plans for the new Library wing. During September when everything was in a forward state, the Officers of the University decided that it would be injudicious to proceed with the building since war had broken out and there was some doubt as to whether steel could be obtained. Dr. Cushing was informed of the University's uncertain mind on the 21st of September at a special meeting. With extraordinary control he then played his trump card. "Very well, gentlemen," he said in a cool voice, "my books are going to the Hopkins." His coronary attack occurred a few days later. While he was in an oxygen tent we were able to take him the good news that the building had been authorised and that the contractors would start breaking ground within a few days. In retrospect, I have no doubt that the effort he expended in gaining the end so dear to his heart shortened Dr. Cushing's life.

Despite wartime restrictions, the building was completed and the Library officially opened in June, 1941. Work was promptly begun on a short-title listing of Dr. Cushing's bequest, and his Bio-bibliography of Vesalius, left approximately two-thirds completed, was finished just in time to bear a date 400 years later than that of the *Fabrica.* But aside from these two undertakings, the efforts of the Library's staff for several years were directed in large measure toward war assignments of various kinds. Now we are glad to return to our appointed tasks. The war years have taught us much, however, not the least of which is the necessity of recognising the place that science is bound to hold for many years to come in the curricula of our schools and colleges as well as in our national and international thinking. There will be the danger of our general educational programme deteriorating into purely technological training, but a possible safeguard is suggested by Dr. Max Fisch, one of our more thoughtful philosophers and medical historians:

> There is a saying of William James that almost anything can be given humanistic value if you teach it historically. The best way to preserve the values of old-fashioned liberal education in the science-dominated curriculum and culture that we are moving into, is to make a larger place for the history of science in education. Now the history of science will require a focus, and I think it is an interesting and important fact that already a large part of the work that has been done in the history of science has had a focus in medicine, taking medicine in the broad sense in which it includes psychiatry at one end and public health at the other. I believe that medicine will continue more or less indefinitely to be for educational purposes as well as other purposes the most fruitful for the history of science. I should like to predict for the future a large place in our culture and in our education for the history of science with a focus in medicine.

In the light of these predictions, one begins to see the extraordinary wisdom of Dr. Cushing's plan in bringing together at Yale the tools that will make easier an historical approach to the sciences and thus help preserve the humanistic values that he sought to maintain throughout his life.

CORRESPONDENCE

TYPOGRAPHY

To the Editor, St. Bartholomew's Hospital Journal.

Dear Sir,

The letter which you published last month, written by Mr. Bernard Reiss in criticism of the new type used in the JOURNAL, was interesting and demands reply.

It had been apparent for some time that by the standards of the English School of Typography—and there are none better—the founts used in the printing of the JOURNAL were inappropriate. Setting aside the fact that the subject matter and the titling were set in quite incompatible types, it was thought that Garamond, to which no exception can be made in a suitable setting, was too brittle for a journal such as this and that Gill Sans, again an excellent type in its own right, was more suitable for a technological brochure than as titling to a fine serifed lower case in a medico-literary periodical.

In a search for a suitable successor, a type was sought which would provide titling to harmonise with subject matter, a type which interpreted in accordance with modern tendencies the grace in proportion and form of classical Roman lettering. The beautiful designs of the late Eric Gill were considered,

amongst others, and his "Perpetua," one of the most elegant founts in modern typography, was thought to possess the qualities we desired.

But for technical reasons it was found impossible to use this fount and instead, Times New Roman, by Mr. Stanley Morison, a leading typographer, designed in the first place for the *Times* newspapers, was chosen. Times New Roman is a type which has "that restraint and confident dignity which are the very essence of the classical Roman letter," and has the advantage of possessing bold titling specially designed to harmonise with the ordinary ranks of type. One cannot agree with Mr. Reiss that this type does not fit the general design of the JOURNAL and assuredly typographical opinion is against him when he says that Times New Roman is "not good."

Apart from technical considerations, which on this occasion perforce modified our choice, but not, I think, for the worse, the choice of a new type must be governed by accepted aesthetic standards, and secondarily by individual taste. The type chosen has been shown during some years of rapidly increasing use to combine the maximum of clarity with grace and distinction of form, and I hope that those of your readers who are not yet accustomed to the sudden change in appearance will realise with time that the new type imparts to the JOURNAL an air of dignity and completeness which was lacking in the mixture of founts used until January, 1948.

The possibility of holding a poll to assess student opinion upon the choice of type for the JOURNAL would require of the voters that they were read in the art and criticism of typography. It is probable that since this subject has a somewhat limited appeal, many students would feel unable to pass judgment in any particular direction, and for this reason it is unlikely that a poll would have much value.

Yours faithfully,
MICHAEL LINNETT.

Abernethian Room,
St. Bartholomew's Hospital,
May 3rd, 1948

TENACITAS SCIENTIFICA

To the Editor, St. Bartholomew's Hospital Journal.

Dear Sir,

Reading the Editorial to the May issue of the JOURNAL, I feel it can not be allowed to get by without some comment.

Its main point requires some disentanglement but appears to be that even a scientist is not infallible! (surely a self-evident truth).

In the first paragraph the writer is under the impression that witches were persecuted as a result of petty jealousy, surely the reason was not that these women were keeping secret special information which might have been valuable to the community, but rather that they had obtained the information by being in league with the Devil, which must therefore necessarily be evil.

If the belief that a scientist's attitude is coldly critical, unbiased and detached be a popular misconception, what then is a scientist? He is no scientist who does not bring these qualities to his studies. Moreover to say that a research worker admits his observations are often coloured by prejudice and personal opinion is far from the truth; his intepretations may be prejudiced, but, unless he is frankly dishonest, his observations are, within experimental error, accurate.

Finally, the last lines of the Editorial seem to me a classic of under-statement! Scepsis scientifica, in that it embraces unwillingness to accept the truth of anything without adequate evidence, lies at the very root of all science.

Yours, etc.,
J. A. W.

St. Bartholomew's Hospital,
2nd May, 1948.

ST. BARTHOLOMEW'S LAMENTATION

The manuscript of the following poem on the resignation of Mr. Pott has just been presented to the Hospital by the kindness of the Baron Harold Bouck who discovered it among his family papers. Nothing is known of its history of authorship, but it may have come into the possession of the Baron's family from one of his ancestors, Thomas Edward Barlow, of Barlow Hall, Lancashire, who was connected with the medical profession from 1720—1790.

Percival Pott was elected assistant surgeon to the Hospital in 1745, and surgeon in 1749. He resigned on July 12th, 1787. The implication contained in the last line of the poem as to his attitude to *John Hunter* is interesting to note.

Edmund Pitts was elected assistant surgeon in 1760, and surgeon in 1784. He held office until his death in 1791.

Sir James Earle was the pupil and son-in-law of Pott as well as his biographer. He became assistant surgeon in 1770, surgeon in 1784, and resigned in 1815. He was surgeon extraordinary to George III. *Sir Charles Blicke* became assistant surgeon to the Hospital in 1779, and surgeon in 1787. He died in office in 1815. Abernethy was one of his apprentices.

William Long became assistant surgeon in 1784, surgeon in 1791, and resigned in 1807.

Sir Ludford Harvey was elected assistant surgeon in 1784, surgeon in 1807 and resigned in 1824.

Henry Cline became surgeon of St. Thomas's Hospital in 1784. He was much influenced by the work of John Hunter whose pupil he had been. He died in 1827.

GWENNETH WHITTERIDGE.

YE wretched Creatures whom my Walls contain!
(How much more wretched now shall be your lot)
Cease to bemoan your agonizing pain,
And join with me to mourn the loss of *Pott*.

Who with the keenest eye and steadiest hand,
And the best judgment Nature could bestow,
For fifty years has well supplied the land
With wooden legs—and such sad sights of woe.

Heavens! when he lopped a limb to save a life,
Or freed the bladder from the galling stones,
Death fled affrighted when he seized the knife,
And the Weird Sisters trembled at his frouns.

But he, serene, amidst the Blood and cries
Of the poor wretch with horrid tortures fired,
Could calmly turn about—and bless your eyes;
Or damn them either—if the case required.

Lives there the man who can supply his place
With half the dignity which he could boast?
For who could operate with so much grace?
Or with such blest assurance rule the roast?

What now shall gain Bartholomew renoun?
If all my riches can avail me not,
What brought each leaden-headed lad to toun?
What drew them hither but the name of *Pott*?

Shall *Pitts, Earle, Blicke,* parade my wards alone,
And not a pupil follow at their heels?
Shall *Long* and *Harvey* set a broken bone?
Oh, no! Kind Heaven defend us from such ills.

Still *Pott* shall grace the dictatorial chair,
Shall teach e'en blockheads in his art to shine,
Still to my walls in flocks they shall repair,
Still laugh at *Hunter* and still pity *Cline*.

POSSESSIONS OF THE ABERNETHIAN SOCIETY

THE following list of properties is published to place on record the present possessions of the Society. It is also hoped, that those readers of the JOURNAL who have articles of historic interest with which they can dispense, will be stimulated to present them to the Society. Another intention of this inventory is to reach past Officers of the Society, or anyone who has knowledge of other articles possessed by the Society in the past which do not appear on the list.

The possessions are as follows :—

I. CERTIFICATES

1. Certificate of attendances, anatomical lectures, dissections, and lectures on theory and practice of Surgery.
   To William Sells.
   Signed by John Abernethy.
   Donated by Mrs. Sells, 1945.
   Ref. : Letter in possession of the Society.
2. Certificate of 12 months' practice of Surgery. 1820/21.
   To Henry Liddon.
   Signed by Ludford Harvey, John Abernethy and John P. Vincent.
3. Certificate of Examination by Royal College of Surgeons of Mr. H. Crawford as Surgeon to Army Regiment, 1825.
   Signed by William Lyme, John Abernethy, T. Forsters, David Dundas, Everard Home, William Blizard, Henry Cline, William Norris and Antony Carlisle.
4. Certificate of Appointment as Sister to Bart.'s of Sarah Mansell. 1757.
   Signed by Percival Pott.
5. Indenture of William Lawrence. 1799 (framed).
   Signed by John Abernethy.
   Donated by Iris Lady Lawrence.
   Ref. : A.S. Minutes, October 17, 1946.

II. ENGRAVINGS

Of John Abernethy.

1. Three-quarter length, seated in armchair.
   Painted by C. W. Pegler, engraved by C. Turner. Published by Turner, 1828. (14¼in. x 11in.)
   Donated by Mr. Geoffrey Keynes.
   Ref. : Bart.'s Journal, July, 1946, p. 74.
2. Bust, profile to right. Unsigned, after Dance. (10¾in. x 8in.)
   Donated by Mr. Geoffrey Keynes.
   Ref. : Bart.'s Journal, July, 1946, p. 74.
3. Three-quarter length, standing. Painted by Penny, engraved by G. Cooper. Published by Bulcock, 1825. (8½in. x 7in.)
   Reproduced in Sir D'Arcy Power's "A Short History of St. Bartholomew's Hospital" (Plate xxi).
   Donated by Mr. Geoffrey Keynes.
   Ref. : Bart.'s Journal, July, 1946, p. 74.
4. Three-quarter length, standing. Painted by Sir Thomas Lawrence. Published by Henry Palser.

Of Dr. John Caius.

5. Bust, profile to left. With memorial inscription on back.
   Presented by Wm. Fleming. (4½in. x 5in.)
   Ref. : Letter from William Fleming, April 25, 1915.

III. MINUTE BOOKS, ETC.

1. 15 minute books from 1799 till the present day.
   The following are missing :—
   1795–'9, 1815–'32 and 1856–'60.
2. 5 books of List of Members :—
   1867–'86, 1886–1900, 1900–'22, 1925–1948 and 1867–1923.
3. 2 books of New Members and Visitors :—
   1835–'51, 1880–'88.
4. 2 minute books of Council and Committee Meetings :—
   1848–'60 (including sundry papers delivered before the Society). 1883–1907.
5. 1 book of Unpublished Papers read before the Society, 1849–1853.
6. 1 minute book of Committee to Revise By-Laws, 1884.

IV. PRINTED TRANSACTIONS OF THE SOCIETY

25 printed numbers of sundry Abernethian Society lectures. (1850–1929.)
16 Library duplicated copies of sundry Abernethian Society lectures. (1850–'61.)
1 Library duplicated copy of lectures for the years 1851–'2.
7 Reports of Proceedings, 1881–'6 inc., 1888–'9, and 1891–'2 and a duplicate of 1884–'5.
5 Library duplicated copies of Reports of Proceedings, 1851–'2 and 1873–'7 inc.

V. MICROSCOPE

A microscope which belonged to Sir Lauder Brunton's son, Edward.
Presented by Sir Lauder Brunton.
Ref. : A.S. Minute, March 23, 1916.

VI. FURNITURE

1. **Presidential Chair.**
   This chair was bought by the Society for fifty pounds in 1847–'48 which, as Sir D'Arcy Power remarks, was "a year of great financial prosperity for the Society."
   Hearsay has it that it stood in the Abernethian Room until the redecoration in 1927, when it was relegated to the dungeons.
   It was recently rescued from the boiler house below the library and first-aid rendered to it. It now stands in the library.
2. **Lectern and Table.**
   These are in everyday use in the Clinical Lecture Theatre.

VII. MISCELLANEOUS

1. Humorous Print.
   "Abernethy's Patent Remedy (or How to Stop an Unruly Tongue)."
   Presented by Mr. Stephenson of Beverly, 1903.
2. Framed Advertisement of Spring Course of Lectures at St. Bartholomew's Hospital from *Morning Chronicle*, Jan 13, 1795.
   Presented by Mr. Ernest Clarke.

VIII. LIBRARY

In 1843 it was resolved that the books of the Library of the Abernethian Society "be presented to the President, Treasurer and Almoners of St. Bartholomew's Hospital for the time being, for the use of the Medical School, provided all the rights and privileges of the members of the Medical Society, and of the present subscribers, be retained."
In the House Committee Reports of November 11th, 1843, the statement appears "that it be recommended to the General Court to accept the said presentation of books."
Further confirmation of the transfer has not been obtained but it is assumed that it was made about this time.
Ref. : Medical Society Library Committee Minutes, Oct. 1, 1830.
Medical Society Library Committee Minutes, April 1, 1844.
House Committee Reports, Nov. 11, 1843.
Evidence has been found that other properties once in the possession of the Society are now missing.
I. Abernethy's copy of minute passed on resignation of his surgeoncy to Bart.'s and Abernethy's copy of a Royal College of Surgeon's minute.
The following extract is taken from Sir Arthur Keith's address to the Society reproduced in the Bart.'s Journal of May, 1931 :—
. . . "A minute which had been passed when Mr. Abernethy had resigned his surgeoncy. He found a copy of this minute had been framed* and presented to Mr. Abernethy 'beautifully and minutely executed.'"
An editorial footnote was added explaining the asterisked item :—
*"This copy, and Abernethy's copy of the Royal College of Surgeon's minute referred to below, were presented to the Abernethian Society at the Centenary Celebrations in 1895 by Mr. Alfred Willett. They were hung in the Abernethian Room until the recent redecoration of that room deprived them of their place."
II. Certificate of attendance by Mr. Henry Liddon.
Reproduced in Sir D'Arcy Power's "Short History of St. Bartholomew's Hospital," opposite p. 58, is a certificate of attendance by Mr. Henry Liddon of three courses of anatomy lectures by John Abernethy, 1822, also "Mr. Liddon hath also attended 3 courses of lectures on the theory and practice of surgery." Signed, J. Abernethy, and containing another addendum :—
"Mr. Liddon has dissected diligently and attended 3 courses of anatomical demonstrations." Signed, Ed. Stanley.
In the list of plates an Editor's note states that "this certificate is in the possession of the Abernethian Society."
This certificate is in the custody of the Librarian.

These references have been picked up in a somewhat desultory search of the Society documents and there may be many others showing evidence of previous gifts to the Society which have passed unnoticed.

The Secretaries would be grateful for any information or gifts which would add to the historic heritage of the Society.

The Committee acknowledges with grateful thanks the unfailing helpfulness of the Librarian, Mr. John L. Thornton, who has always been willing to take a great deal of trouble to unearth information. Thanks are also due to Dr. Gwenneth Whitteridge, the Archivist, for her help in tracing items in the hospital records.

C. C. MOLLOY.

BOOK REVIEWS

THE SECRET INSTRUMENT. (THE BIRTH OF THE MIDWIFERY FORCEPS), by Walter Radcliffe. Introduction by Wilfred Shaw. William Heinemann Medical Books, Ltd., 1947. Price 10s. 6d.

In 1941, during the salvage drive, Dr. Radcliffe rescued a rusty set of old midwifery instruments from an iron dump, collected in Wivenhoe. The incident aroused an interest in the history of midwifery, and this little book, to which Dr. Wilfred Shaw contributes an introduction, represents the result of his investigations.

This volume contains a brief history of midwifery from mediaeval times, sketches of the Chamberlens (who kept the secret of their forceps within the family for a hundred years), of Edmund Chapman, William Giffard, John Freke, Benjamin Pugh, William Smellie, John Burton, and some of the numerous accoucheurs who by inventing or modifying midwifery forceps, hoped to achieve fame.

The history of midwifery remains very obscure, and attempts by enthusiasts such as Dr. Radcliffe (who is a Bart.'s man) to add to our knowledge of the subject, are most welcome. Without doubt, midwifery forceps in skilled hands have accomplished more than any other instrument towards the alleviation of suffering. *The Secret Instrument* tells of their history, brings before our eyes the men associated with their development, and in a series of illustrations demonstrates the modifications introduced. J. L. T.

HALE-WHITE'S MATERIA MEDICA, revised by A. H. Douthwaite. 27th Edition. J. & A. Churchill. 1947. Price 15s.

This volume continues to maintain the high standard of its predecessors, and rightly stresses the growing importance of a knowledge of pharmacology in the practice of therapeutics. New matter has been added on the anti-biotics, curare, DDT and BAL. It is well worth the extra shilling in price.

MEDICINE: ESSENTIALS FOR STUDENTS AND PRACTITIONERS, by G. E. Beaumont. 5th edition. J. & A. Churchill, London, 1948. Price 30/-.

Yet once more Dr. Beaumont opens for us the doors of erudition, and once more are we allowed to peep about in awe—not, it is true, as far as we would like, for the author of a textbook is severely limited by considerations of space. In some 790 pages we are led all the way from gingivitis to lathyrism, and by the end of it the names of the great roll off our tongues with almost indecent familiarity.

The new edition comes right up to date with a bang, when we are given, as a tenth group of causes of secondary purpura, atomic bomb blast. We are further instructed in the unmerciful slaughter of Br. tularensis with streptomycin; on the other hand no mention is made of the Ellis classification of nephritis; description is based on that of Volhard and Fahr. New matter has been added on various sections, including primary atypical pneumonia, erythroblastosis and infective hepatitis.

The arrangement is staccato in form, which makes for greater clarity in classification and aids memory, but it has the disadvantage of causing a certain loss of perspective. In future editions it would be useful to have more figures, showing relative frequencies, even if these are only approximate.

Finally, that indefinable something, the "readability" of the book, must be mentioned. This is largely a personal matter, depending on such qualities as the style of the writing, the print, and the smell and texture of the paper. Those who find concentration easy will have no difficulty here; others will find this volume valuable for reference.

ESSENTIALS OF FEVERS by Gerald E. Breen. Second Edition. Pp. xi+351. E. & S. Livingstone, Ltd. Price 15s. net.

The first edition of this handbook appeared as long ago as 1939, and the appearance of the second edition is indeed welcome, in view of the advances which have been made during these years.

The initial sections on immunology and epidemiology have been somewhat shortened to make way for new sections on Typhus, Glandular and Undulant Fevers, Influenza, and Encephalitis Lethargica; the section on Dysentery has been rewritten and expanded, and there are additional notes on Food Poisoning.

The author has introduced a new feature in the form of semi-diagrammatic colour plates, seventeen in number. These considerably enhance the value of the book to the student.

Diagrams, however, always tend to exaggerate the true picture, and while this serves the purpose of impressing upon the reader the characteristic features of the disease concerned, actual colour photographs in addition would be an even greater asset.

The book is compact, easily read and up-to-date, and should continue to prove very useful to the student engaged on a course of infectious fevers and wishing to acquire a sound knowledge of the essentials of such a frequently encountered branch of medicine.

SHORT TEXTBOOK OF SURGERY, by C. F. W. Illingworth. J. & A. Churchill, London. Pp. 667. Price 30s.

It is difficult to determine the popularity of a textbook, however good it may appear to the individual reader, for there are many who, when buying a new book, are as much influenced by its binding and printing as by its substance. These two considerations will neither increase nor diminish the sale of this book, for it conforms to the lifeless regularity of most English textbooks.

There is no one textbook of surgery which is relied upon by the student to see him through his examinations, a fact which can be taken to mean that all are of an equal standard.

This book, however, can claim to be better than most, for it presents surgery in its many branches clearly, authoritatively and briefly. Perhaps too briefly in places, for there seems always a breathless air in its phraseology encouraging one to turn over the page to something new. Two of its characteristics deserve particular mention: firstly, the English in which it is written is faultless, and secondly, it has achieved the purpose for which it was written—namely, to provide a comprehensive work in a single volume, which is neither too large nor yet lacking essential material.

DERMATOLOGY FOR NURSES, by G. H. Percival and Elizabeth Toddie. E. & S. Livingstone, London. Price 15s.

This book is pleasant to handle and read, and there is no denying the attraction of colour photographs, even though a closer inspection of these shows the human flesh depicted in mahogany, cerise, chestnut and magenta. As is fitting in a nurses' textbook, descriptions of methods of applying medicaments to the skin are detailed, though in this hospital we should not have a high opinion of the efficacy of paste spreads only one-twentieth of an inch thick, which had been cut and stored before application. The appearance of some of these spreads shown in the photographs confirms that belief. It is refreshing to notice that the authors have not neglected the wider implications of skin disease, such as causes of chronicity and how to deal with them. Any nurse would find interest and instruction in this book.

DISEASES OF THE NOSE, EAR AND THROAT, by I. Simson Hall. 4th edition. E. & S. Livingstone, Edinburgh. Pp. 448. Price 15s.

In the latest edition of this well known handbook, the author has taken the opportunity of bringing the subject matter up to date, while the lay-out remains unchanged.

The value of chemotherapy, either as an adjunct or alternative to surgery, is stressed in conditions where this is applicable, and the author makes the point that the use of chemotherapy alone may remove the outward signs of toxaemia while allowing the local suppuration to progress, so that the end-result may be unsatisfactory, especially from the point of view of function.

With its systematic approach and clear readable text, this book will continue to be of great use to the student and practitioner.

PROGRESS IN CLINICAL MEDICINE. Editors, Raymond Daley, M.A., M.D. Camb., M.R.C.P., Henry G. Miller, M.D., M.R.C.P., D.P.M. Pp. 356. J. & A. Churchill, 1948. Price 21s.

The editors state that their aims are to select recent advances of proven value, to present these in plain words, and to stress the clinical implications. They have co-opted ten other contributors and each has provided a chapter on his own speciality.

The editors have allowed their colleagues too much freedom, for the standard and type vary widely. In the better chapters, notably that by Joseph Smart, the facts are well marshalled and the conclusions are direct and sound; in other places there is good journalism. The contributions by Maurice Mitman and Martin Israels are disappointing.

The book should be read by the general physician and by those taking higher degrees, for it contains under one cover many of the recent advances, and there are lists of references after each chapter.

The production is neat and attractive.

HONOUR TO BART'S MEN

Professor K. J. Franklin has been elected a member of the committee of the Physiological Society.

Lord Stamp has been made Professor of Bacteriology in respect of his post at the Post-Graduate Medical School of London.

BART'S PHYSIOLOGICAL SOCIETY

THE inception of a Physiological Society at St. Bartholomew's Hospital requires some explanation. It has been felt by many students, both past and present, that the concentrated course for the Second M.B. examination left little or no opportunity for a broader conception of the all important pre-clinical subjects.

The title of the Society was chosen because none other appeared to be suitable. Some of the titles suggested were too ambitious and a choice of one of these might be desirable when the Society is more mature. Others would have virtually excluded clinical students and were therefore unacceptable. So for the present its title is the Physiological Society. It must always be remembered, however, that its subject matter may, as Professor Young suggested at the inaugural lecture, range from Anthropology to Astro-physics and from Zoology to Zymology.

This policy has already been admirably upheld in the two meetings which were held towards the end of last term. The inaugural lecture was delivered by F. Z. Young, Professor of Anatomy at University College, and later an interesting and stimulating visit was paid, under the guidance of Professor Amorosa, to the Royal Veterinary College.

Each term it is hoped that, in addition to inviting lecturers from outside the hospital, members of the teaching staff, both clinical and pre-clinical, will also read papers. As examples, we shall this term acquire a broader conception of anatomy and a surgeon's approach to physiology from the Professors of Anatomy and Surgery respectively.

Further, in future terms, at least one meeting will be devoted to students who are prepared to read their own papers. While it is not to be expected that these will contain original research in experimental work, they may at least approach a subject from an unusual angle and be the result of research in reading and the integration of normally unrelated facts.

Films of special interest will be shown and visits paid to institutions which have some bearing, however indirect, on the study of medical or general scientific subjects.

The Society does not compete in any way with the Abernethian Society. Its objects are different and in many ways it is the natural complement of the old and historic Society. Co-operation between the two ensures that, as far as possible, their meetings do not overlap either in time or subject matter.

Members of the Students' Union are automatically members of the Society, and it is hoped that more students, both clinical and pre-clinical, will be joining the large numbers who have already shown their enthusiasm in attending meetings.

Under the presidency of Professor K. J. Franklin, Professor of Physiology, with the good wishes of the Dean and the continued support of its members, this new Society is assured of establishing itself as a successful and integral part of this Hospital.

MEETINGS OF THE PHYSIOLOGICAL SOCIETY

Summer Term, 1948.

Tuesday, June 1st, at 5 p.m. "Man's Position Among the Primates." Professor A. J. E. Cave, M.D., Ch.B.

Tuesday, June 15th, at 5 p.m. "A Surgeon Looks at Physiology." Professor J. Paterson Ross, M.S(Lond.), F.R.C.S.

Tuesday, June 22nd, at 5 p.m. Films.

All meetings will be held in the Anatomy Lecture Theatre, Charterhouse Square.

WESSEX RAHERE CLUB

A RE-UNION dinner of old Bart.'s men from the counties of Somerset, Gloucester and Wiltshire was held at the Southbourne Hotel, Bath, on Saturday, 17th April, with Dr. G. Kersley in the chair; Sir Hulbert Waring and Dr. Geoffrey Evans were the guests of honour and there were thirty five others present. It was then decided—

1. To form a club to be called the Wessex Rahere Club to consist of Bart.'s men resident in the counties of Somerset, Gloucester and Wiltshire.
2. That an annual dinner would be held to which all in those three counties would be invited but any other Bart.'s men would be welcome. It was hoped that other similar clubs would be formed in adjoining counties and reciprocal invitations could be arranged.
3. To hold the next dinner in Bristol on Saturday, 16th October.
4. Sir Holbert Waring was elected president, Dr. G. D. Kersley, chairman and Dr. H. J. Heathcote secretary.

As it is quite possible that some old Bart.'s men in the area may have been accidentally missed out, would any who are interested and did not receive a notice of the previous dinner, please communicate with the Secretary, 32, Oldfield Rd., Bath.

THE FINANCES OF THE STUDENTS' UNION

AT the Annual General Meeting of the Students' Union the Balance Sheet of the year ending 30th September, 1947, was reviewed and the problems of the current financial year were discussed. The following summary may be of interest to readers. The full accounts are available for inspection on application to the Financial Secretary.

The Students' Union continued to overspend its income in the period 1946-47, on this occasion by £590 which was an improvement of £80 over the preceding year. This reduced the Balance to £800 and so it is evident that this loss cannot continue.

£1,600 were spent at the Athletic Ground, which was slightly less than in the previous year. This money went on wages, rent, repairs and maintenance.

At the Hospital and Hill End, £380 were spent on newspapers, salaries and accountancy charges. This cost £100 more than previously.

The Affiliated Clubs spent £1,090 which was £130 more than before. This was due principably to increased rail fares and extended activities.

These increases were offset by the saving of £240 by the return of the pre-clinicals to Charterhouse Square.

Whereas the Journal continued to run at a loss it is refreshing to note that the Vicarage Bar accounts showed a net profit of £22.

Similarly the Students' Union Ball made a profit of £89. This was in contrast with the £100 granted to the Abernethian Society for its Centenary celebrations.

It is obvious that the Students' Union continues to have an appetite which is beyond its existing means. Because of this, the subscription rate has gone up and the College has kindly remitted the Athletic Ground rent until this increase in income is fully felt.

Because of these changes it has been found possible to increase the grants to Affiliated Clubs by about 50 per cent. So long as these grants are not exceeded the Union will come out of the present financial year with its slender balance intact.

The Journal accounts are still unsatisfactory, but it is hoped that they will soon be in order.

No startling changes have occurred so far this year although the number of Clubs is still increasing. The Union Ball this year at the Grosvenor House made a profit of £88. Efforts are being made to alleviate the expense of District Clerking, and there is talk of a shop in Charterhouse Square.

SPORT

The 65th Annual Sports will be held at Chislehurst on Saturday, June 5th, 1948.

THE SWIMMING CLUB

THE Swimming Club Annual Sports will be held in conjunction with The Student Nurses' Association (by kind permission of Miss Helen Dey, O.B.E.), at the Y.W.C.A. Baths, Great Russell St., on Friday, 11th June, at 7.30 p.m. G. C. H. C.

CRICKET CLUB

THE 1st XI opened the season by defeating St. Thomas' Hospital by 87 runs. This encouraging start was largely due to some excellent bowling by Vazifdar and Aubin, and a first-class display of wicket-keeping by Moyes. T.

St. Bartholomew's Hospital

Biddell c Bayton b Ross	8
May b Ross	39
Tomlinson lbw. Ross	39
Vazifdar c Walker b Callender	3
Clappen not out	14
Ross run out	11
Reynolds not out	0
Mellows	
Aubin	
Haigh	
Moynes	did not bat
Extras	6
Total (5 wkts. dec.)	120

St. Thomas's Hospital

Walker c May b Vazifdar	9
Beardmore c Moyes b Vazifdar	2
Ross b Vazifdar	0
Callander b Aubin	1
Falkener-Lee lbw. Aubin	0
Bird c Moyner b Aubin	0
Morrison b Vazifdar	14
Myles run out	0
Bayton c Moyes b Vazifdar	2
Tilly st. Moyes b Clappen	1
Lunn not out	0
Extras	4
Total	33

EXAMINATION RESULTS

UNIVERSITY OF OXFORD

2nd B. M. EXAMINATION

Hilary Term, 1948

Special and Clinical Pathology

Cotes, J. E. Griffiths, A. W. Platt, J. W.
Evans, H. A. Leslie, W. G. H

Forensic Medicine and Public Health

Cotes, J. E. Evans, H. A. Griffiths. A. W.

Pharmacology and Principles of Therapeutics

Denny, I. B. Morris, G. C. R. Simpson, E. A. D. W.

General Pathology and Bacteriology

Bambridge, H. E. Godden, J. L. Hadley, D. I. Morris. G. C. R.

CONJOINT BOARD

FINAL EXAMINATION

April, 1948

Pathology	Douglass, D. J.	Reiss, B. B.	Sugden, G. P.
Batten, K. L.	Goodrich, P.M.	Stanley, H. W.	Taylor. D. G.
Charles, D.	Mendel, David	Stanley-Smith. G.	Thomas, O. G.
Cotes, J. E.	Mendel, Dennis	St. John, J. M. S.	Venn, P. H.
Medicine	Fisher, K. J.	Mendel, David	Sacks, D.
Amos, J. A. S.	Friedman, D. E. I.	Monckton. I.	Shaerf, M. D.
Butcher, P. J. A.	Gai. P. N.	Morgan, D. J. R.	Stanley-Smith, G.
Dower, G. E.	Hearn, C. E. D.	Popert, A. J.	Whiteley, M. M.
Drake, P. H.	Heighway, J. D.	Read, P. A.	
Surgery	Hearn, C. E. D.	Lawrence, N.	Morgan, D. J. R.
Chapman, P. J. C.	Heighway, J. D.	Lindon, R. L.	Whitely, M. M.
Davies, H. F.	Hindle, J. F.	March, N. C.	
Drake, P. H.	Holtby, M. C.	Millard, J. L.	
Midwifery	Buri, R.	Hill, P. G.	Struthers, R. A.
Amos. J. A. S.	Griffiths, A. W.	Stanley-Smith, G.	Sugden, G. P.
Bennett, J. F.			

The following students have completed the examination for the Diplomas M.R.C.S., L.R.C.P.

Amos, J. A. S.	Hearn, C. E. D.	Hill, P. G.	Read, P. A.
Drake, P. H.	Heighway, J. D.	Morgan, D. J. R.	Sacks, D.
Friedman, D. E. I.			

ROYAL COLLEGE OF PHYSICIANS

April, 1948

The following Candidates having satisfied the Censors' Board are proposed for election as Members:

Andrews, R. H. Jordan, J. W. Macpherson, R. Marshall, R.
Thompson, J. W.

WELL-LEG TRACTION

Using Gypsona P.O.P. Bandages

Fig. 1

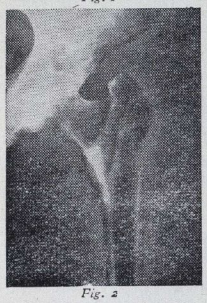

Fig. 2

MARCH 6TH. — Patient aged 66, sustained transtrochanteric fracture of the left femur. (Fig. 1.)

MARCH 6TH. — Fracture reduced and fixed in modification of the well-leg traction technique. Using Gypsona, a snug-fitting plaster casing was applied and anchored to the uninjured leg (Fig. 3). X-ray showed good reduction, which was maintained satisfactorily without need for any change of plaster during the two months in which it was retained.

APRIL 30TH. — X-ray examination showed good position and good callus formation proceeding (Fig. 2).

COMMENT. This method obviates the necessity for pins transfixing the heel or tibia, it enables the patient to sit up in bed, and thus materially reduces the risk of hypostatic pneumonia and pressure sores. It is essential that during fixation of the cross struts the injured leg is pulled, and the well-leg pushed, so that the top of the plaster is firm against the tuber ischii.

These details and illustrations are of an actual case. T. J. Smith & Nephew, Ltd., of Hull, manufacturers of Gypsona P.O.P. and Elastoplast bandages, publish this instance — typical of many — in which their products have been used with success.

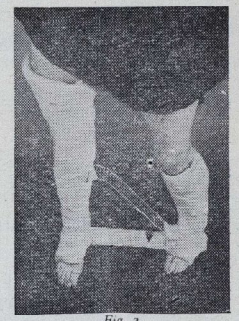

Fig. 3

The Exoma Press, Ltd., 255/7 Liverpool Rd., N.1.