ABSTRACT OF A

Lecture

INTRODUCTORY TO THE

COURSE OF SURGERY,

Delivered on October 2nd, 1888,

By WILLIAM ROSE, M.B., B.S., F.R.C.S.,

PROFESSOR OF SURGERY AT KING'S COLLEGE.

MR. ROSE commenced by expressing his keen appreciation of the honour conferred upon him by the Council in electing him to such an important post as Professor of Surgery, and assured his hearers that he felt deeply the grave responsibilities which he had undertaken, whilst he expressed his earnest wish that he might be enabled to acquit himself creditably, maintain the honour of the chair, and prove worthy of the trust reposed in him. He said that it was only natural that, in thinking over a few topics as appropriate subjects for his introductory remarks, his thoughts should be directed to those who had preceded him in the chair of Surgery at King's College, particularly those with whom he had been associated during his student career. He referred, in the first place, to the late Sir William Fergusson, the first occupant of the chair within his recollection, and for whose memory he, in common with many others, entertained the deepest respect and affection; from whose clinical experience they had learned so much, and under whom he had had the privilege and happiness of working for many years, and of witnessing his extraordinary skill and coolness as an operator.

After reminding his hearers of the brilliant operations that were performed in those days in the theatre at King's College Hospital, the birthplace and nursery of many of the now recognised major operations, referring more particularly to excisions of joints, removal of formidable growths involving the maxillæ, the scapula, &c., Mr. Rose alluded to the fact that a successful result was frequently marred in consequence of the prevalence of those terrible diseases, pyæmia and septicæmia, which at that time haunted the surgical wards, to which subject he would allude presently.

He then spoke of his immediate predecessor, Mr. Henry Smith, now Emeritus Professor of Surgery, whose friendship he had enjoyed for a period of twenty-one years, and for whose kindness, example, and assistance he expressed himself in terms of warm gratitude. He took this opportunity of expressing on his own behalf and that of his old pupils, their obligation to him for the work of his life, and their sincere wishes for his prolonged health and happiness in his retirement from active hospital work.

The lecturer next referred to the time when Mr. John Wood held the chair of Surgery, and spoke warmly of the advantages he had personally derived from attending his demonstrations of anatomy as well as his surgical lectures. He reminded his hearers that it was in 1870 that Mr. John Wood, on his assumption of the charge of surgical beds at the hospital, began to devote his attention to the antiseptic treatment of wounds, and thus brought about a great revolution in the surgical statistics of the institution, so that when the great master of asepticism joined the staff in 1877 he found his new colleagues to some extent versed in the principles, and ready to follow out under his guidance all the details, of his system of antiseptics.

In enumerating the advances which had been made in the art of surgery during the last twenty-one years, the lecturer drew attention to the improvement which had taken place in the knowledge and administration of anæsthetics, the use of which had produced a marked effect upon the method of operating. While formerly there was an ever-present apprehension in the mind of surgeons which frequently caused operations to be somewhat hurriedly performed, and many without any anæsthetic at all, in the present day operations are conducted with greater deliberation, and careful precision has taken the place of the rapid dexterity so necessary in pre-chloroform days. On the other hand, he pointed out the great importance of guarding against a possible tendency to unnecessarily protract the

period during which the patient is kept under the influence of an anæsthetic. But the most conspicuous element of all in the history of modern surgical progress was the general acceptance and diffusion of the principles of antiseptics promulgated by Professor Lister—principles which had given the surgeon a new and solid foundation on which to work with safety, as well as confidence to perform operations in regions of the body formerly considered beyond the reach of surgical skill. He instanced more particularly the surgery of the brain, spinal cord, kidney, and stomach, and the modern treatment of diseases and injuries of joints; adding that in these departments alone a great field was open for further investigation and practical research.

Mr. Rose concluded his remarks by a few words to those who would form his class in the ensuing session, upon whom he impressed the importance of punctuality and regular attendance. He explained to them that the great object in lectures and demonstrations was not to supersede reading and practical work, but to assist the student in these exercises, by explaining principles and illustrating facts, and in this way fixing them upon the mind more indelibly. He advised them to read up, in a recognised text-book, the subject of the lecture, if possible, both before and after, comparing the brief notes made during the lecture with the descriptions in the manual; in this way they would be enabled to retain facts which might otherwise slip from their grasp.

SHAKSPERE AND THE PIA MATER, WITH A NOTE ON THE ORIGINALITY OF HARVEY.

By BENJAMIN WARD RICHARDSON, M.D., F.R.S.

THE mode in which William Shakspeare obtained his knowledge about the pia mater is, I think, fairly explainable from a curious literary discovery which I was so fortunate as to drop upon, in my readings, a few months ago. I came across a large volume of anatomy published in the year 1615 by Helkiah Crooke. It may be said, without hesitation, that this compendious volume was the first great work in anatomy ever published in the English tongue. It fills 1111 pages of imperial quarto size, closely printed, and it is illustrated throughout by drawings on wood of anatomical subjects. Such a book would cost the most industrious writer even in these days several years to compile and bring out, and, I should think, did cost at least fifteen to twenty years of labour. It contains not only anatomy pure and simple, but various passages of a physiological and psychological nature which had descended from Aristotle and Galen, with references also to the Pythagorean controversies and other subjects of metaphysical cast. The book is one we may speak well of, although it is really nothing more than an industrious compilation from Gaspar Bauhinus and Andreas Laurentius; and, in so far as the plates are concerned, from Vesalius out and out, being, in point of fact, a kind of new edition of the anatomical compendium of Geminus which that systematic plagiarist from Vesalius printed, published, and dedicated to Queen Elizabeth in the year 1559.

In the volume of Crooke the membranes of the brain are well defined and described, the *pia mater* takes a very distinct place, and the brain and cerebro-spinal system are figured with a clearness which would excite no small degree of wonder in one who for the first time studied them even in this day.

What connexion has the book of anatomy by Helkiah Crooke with the plays of Shakspeare?

This remarkable connexion: that the man who printed the works of Crooke was W. Jaggard, of the Barbican in London, the same man who was the printer for Shakspeare. Within easiest walking distance from the Globe Theatre, the scene of the great William's managerial glory, was the printing office of Jaggard, where the plates and letterpress of Crooke would for long seasons be the most remarkable press works of the time. To that office the indefatigable playwright would often be drawn by his own business, and there he would hardly fail to see unfolded before him the anatomy of man from a sure source, and just in the form that would most readily appeal to his ever-absorbing mind.

In this school of anatomy ready prepared for his hand, our immortal dramatist learned, as I believe, the fact of the existence of the pia mater, saw the drawing of it, and learned the function of it as the feeding mother of the brain. I might go a long way further in exposition of the source of Shakspeare's anatomical knowledge generally, for the closer this book of anatomy and the book of plays are read together the more clearly is it detected where and how the dramatist became the student of anatomy. But at this moment I am content to stop with the proposition placed before the reader, that the pia mater argument of Shakspeare was simply derived from the work and plates of his industrious contemporary, Helkiah Crooke, "doctor of physick, physitian to his Majesty and his Highness, and professor in anatomy and chirurgery."

NOTE ON THE ORIGINALITY OF HARVEY.

Before I conclude I am forced, however, *à propos* of this work of Crooke, to say a word about Harvey in stronger vindication of his claim to originality than has perhaps ever before been found. This book on anatomy by the most competent authority of his day barely predates the Harveian discovery of the circulation. It brings up the known anatomy of the arterial and venous systems to the latest point before the discovery. It describes the valves in the veins, after Aquapendente, with exactitude. It contains a drawing which one is bound to confess Harvey must have seen, and which it would have been well for him to have acknowledged as from a previous master. But with all this there is not a word in Crooke about the circulation of the blood as Harvey afterwards explained it. Crooke believes that the heart and the arteries do not keep the same time in their pulsations; and he says of the arteries that:—

"When they are dilated they snatch from the heart spirits as a new matter which in their contraction they communicate to the particular parts to be a vehicle of the heat, and do assume out of the neighbouring veins natural blood for their proper nourishment by the inoculations which are betwixt them and the veins, and that is the reason why the veins and the arteries do walk together throughout the whole body unless some great obstacle be in the way."

The above passage was published in the year 1615. How far it lies from the true reading of the circulation of the blood let anyone say. In that self-same year Harvey began to demonstrate his view of the subject in his lectures before the Royal College of Physicians. How new that exposition must have been to those who had the latest and most comprehensive work on anatomy in their hands let anyone also say.

Manchester-square, W., Oct. 15th, 1888.

THE CONSTITUTIONAL CHARACTERISTICS OF DWELLERS IN LARGE TOWNS AS RELATING TO DEGENERACY.¹

By G. B. BARRON, M.D.

A PAPER was read last year at Manchester on "The Effects of Town Life upon the Human Body," by the late Dr. Milner Fothergill. The subject created an interesting discussion, exception being taken to some of his propositions. Degeneracy of race in town dwellers is still an unsolved problem, and anything that can be said in elucidation of the question is serviceable in an anthropological sense.

It may be readily supposed that the conditions of life and their general surroundings must largely influence and materially affect the physical or constitutional characteristics of town dwellers. At the onset, then, I venture to advance the proposition that the "vital force" of the town dweller is inferior to the "vital force" of the countryman. The evidence of this is to be found in a variety of ways. The general unfitness and incapability of the dwellers in our large hives of industry to undergo continued violent exertion or to sustain long endurance of fatigue is a fact requiring little evidence to establish; nor can they tolerate the withdrawal of food under sustained physical effort for any prolonged period as compared with the dwellers in rural districts. It may be affirmed also that, through the various factors at work night and day upon the constitution of

the poorer class of town dwellers, various forms of disease are developed, of which pulmonary consumption is the most familiar, and which is doing its fatal work in a lavish and unerring fashion. Thus it may be conceded as an established fact that the townsman is, on the whole, constitutionally dwarfed in tone, and his life, man for man, shorter, weaker, and more uncertain than the countryman's. I hold the opinion that the deterioration is more in physique, as implied in the loss of physical or muscular power of the body, the attenuation of muscular fibre, the loss of integrity of cell structure, and consequent liability to the invasion of disease, rather than in actual stature of inch measurement. The true causes of this deterioration are neither very obscure nor far to seek. They are *bad air* and *bad habits*. To these may be added a prolific factor operating largely to produce degeneration of race, and that is, *frequent intermarriage*, often necessitated by religious affinities.

Taking these causes in the order in which I have placed them, but without reference to their relative intensity, I think *bad air* is a potent factor of enfeeblement. Included in the phrase "bad air" are bad sanitation and overcrowding. I have no doubt on my mind it has a powerful and never-ceasing action, paramount and decisive, on the physical frames of young and old town dwellers, producing deterioration of physique, lowered vitality, and constitutional decay. For over thirty years I have been hammering away at this question of "bad air" and "bad sanitation" as the prime causes of impairment of health and race, and the more I consider it the more I am convinced of the soundness of my conclusions. A great deal has been said on this subject, and it is not difficult to adduce conclusive evidence from a large variety of reliable sources in proof of the deleterious effects of impure air on the animal economy. Consumption is the best type of degenerative action and loss of vital energy. It stands out in bold relief as the disease most rife wherever foul air exists. The significance and value of fresh air was recognised by the old fathers of medicine. Hippocrates was accustomed to advise a walk in fresh air of ten or fifteen miles daily. Aretæus, Celsus, and Pliny speak of the good effect of fresh air; and our great English physician, Sydenham, did the same thing. Dr. Guy found that of 104 composers who worked in rooms of less than 500 cubic feet of air for each person, 12·5 per cent. had had spitting of blood; of 115 in rooms of from 500 to 600 cubic feet, 4·35 per cent. showed signs of consumption; and in 100 who worked in rooms of more than 600 cubic feet capacity, less than 2 per cent. had spat blood. Consumption is only one of the long list of evils to which the town dweller is exposed. But it is not desirable to particularise all the medical features of this question; their name is legion. It may be well to mention that the Labrador fishermen and the fishermen of the Hebrides, with plenty of fresh air, are practically exempt from this disease. The absence of pure air acts upon the animal economy in much the same way as the withdrawal of light on plants, the result being pallor and feebleness of constitutional vigour. This effect ramifies in every direction; the tissues of which the human body is composed lose their tonicity and contractile power, and even mental integrity may be more or less affected. The pent-up denizens of the courts and alleys of our large towns, surrounded on every side by imperfect light, bad air, and the general aspects of low life, necessarily degenerate in physical competency, and their offspring is of a feeble type. Fortunately, one antidote is to be found in the nomadic instincts of such offspring. Better the gutter life and street Arab gymnastics than the sickly incapability of a pent-up cellar child. When people are huddled together in badly ventilated hovels and narrow courts, compelled to live almost without light and air, the effects are soon made clear. The unsavoury courts and slums of our large towns cannot but be productive of a lowered vital force and impoverished physique. The fact must not be overlooked that there are two classes of town dwellers: one being those who dwell for a limited number of hours in the day—that is, whose occupation keeps them in close offices and places of business during the day, but who sleep in the suburbs in purer atmospheric conditions; and those who pass the whole of their lives in bad contaminated air without the advantage of a few hours' respite out of the twenty-four. It is with the latter class my observations deal.

The second chief factor of deterioration—viz., *bad habits of life*—tells a sad story on the physical power of the town dweller; probably through ignorance, but certainly indiffer-

¹ Abstract of a paper read at the British Association Meeting, Bath.