with Bright's disease which, as we have just seen, is itself often caused by habitual drinking, and which causes, like alcohol, degeneration of the arteries. We may say, then, with scientific and practical confidence, that in Bright's disease, alcohol, if habitually used, should be taken sparingly, and in far smaller quantities than in health.

There may, however, be some effect of alcohol in small doses that may render it of service in Bright's disease. In small quantities, largely diluted with soft water, and especially in certain forms, such as gin or whiskey among spirits, and hock and perhaps claret among wines, it certainly promotes the action of the kidneys, and in so doing it may carry away not only its own poison but a certain amount of the poison of Bright's disease.

Thus controlled, alcohol may be of use in that disease, for we know that practically it is sometimes of the greatest use. Hock was a favourite wine with the original observer of this disease, Dr. Blackall of Exeter; that wine or claret in very moderate quantity—a glass or at most two daily of either of those wines largely diluted—may be, and I believe is, of real service in some cases. It promotes the action of the kidneys, serves to help digestion, and to give a sense of support and comfort. Whiskey in very moderate quantity, an ounce in the twenty-four hours, very largely diluted, may prove equally serviceable with hock or claret in its action on the kidneys. If, however, there be any cirrhosis or congestion of the liver, or any degeneration of the arteries, spirit is to be altogether forbidden, and every wine that contains spirit. Beer is as a rule to be forbidden, but I know no practical objection to a moderate amount of cider.

The effect of alcohol on arterial tension is an important consideration in guiding us as to its use in Bright's disease. Dr. Anstie showed, in 1863, that alcohol increased arterial tension and the power of the heart, and the force of its action in cases of fever or pneumonia with low arterial tension, indicated by a dicrotous pulse; and he thus supplied us with a scientific and practical rule of the greatest value for its employment in those cases. If alcohol increased arterial tension in health, it would at once condemn its employment in Bright's disease, with arterial tension, which, as we have already amply seen, is the natural effect of that disease.

The important series of sphygmographic observations made by Dr. Parkes and Count Wollowicz, M.D., that I now send round, show that, as a rule, and especially after it had been administered for some days in succession, relaxation of the arteries, shown by dicrotism, was induced. Thus, on the diagram of the fourteenth day, which was the sixth of the use of alcohol, dicrotism was strongly induced; while on the very next day, the fifteenth, when the healthy soldier drank nothing but water, the dicrotism disappeared and a healthy amount of arterial distension was restored. When spirit was again given, and for the first time in the form of brandy, dicrotism reappeared, and became intensified during the two succeeding days with a large allowance of brandy. This effect is especially marked on the twenty-third day, when at twelve o'clock the effect of the eight o'clock dose was going off, and the pulse, dicrotous at ten o'clock, one hour and a half after brandy, ceased to be dicrotous at twelve o'clock, and became again dicrotous at two o'clock, after a renewed dose of four ounces of brandy. On the first of the three days of the renewal of spirit (the twenty-first) the two o'clock tracing, half an hour after the dose of brandy, showed no dicrotism. On the twenty-fourth day, after the return to water, the dicrotism disappeared, showing, as before, that the continued use of spirit increased the dicrotism. Zimmerberg, quoted by Marvaud, observed, by the use of the kymograph, that arterial tension was lessened by alcohol, and Marvaud himself in these observations found that the first effect of alcohol was to cause increased action of the heart and lessening arterial tension, followed by diminished action of the heart and increased arterial tension. He also found, confirming Anstie's observations, that in fever the low arterial tension was increased by alcohol.

These various results would not in themselves forbid the employment of alcohol. When, however, the alcohol increases arterial tension, they directly say do not employ it; but when the alcohol lessens tension, they are neutral as regards its use, for, as I have before remarked, it is not the effect of the poison, but the poison itself that we have to consider.

When, however, there is, owing to pulmonary congestion and pulmonary apoplexy, low arterial tension, then alcohol may be used with best effect, and, as in the case of fever, just related by me, saves the patient's life.

[To be concluded.]

His Majesty the King of Prussia has conferred the dignity of Knight of the Order of Merit for Science and Knowledge on the eminent physicist Professor Du Bois Reymond of Berlin.

ON MENTAL ANXIETY AS A CAUSE OF GRANULAR KIDNEY.*

By T. CLIFFORD ALLBUTT, M.A., M.D.,
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To the physician who desires, in the highest sense of the word, to be a practical man, a knowledge of the causes of disease is the most precious part of his craft, and may be more valuable to him, if possible, than a knowledge of technical therapeutics. And yet it is in this department of our science that we seem chiefly to lag behind. Much has been done, no doubt, in the discovery of the causation of infectious diseases; but our knowledge of the causation of the organic diseases of the human system is still far behind our knowledge of their pathological anatomy.

With these views, it has been my earnest desire, as a practitioner of medicine, to trace, as circumstances would allow, the causes of disease in those persons who have come under my own eye. For this end, I have taken more or less careful notes of almost every case which has come under my notice at my consulting-rooms for some years past; and these records have led me to many important conclusions, and have incidentally taught me that no case, or but very few cases, can be regarded as trivial or meaningless; but that disorder, at the time slight enough, may often form very important links in the chain of the life history of the individual or of the family. Among the conclusions to which I have been led by the careful record of nearly one thousand new cases in each year, I may refer to the following, which I have published already or which are almost fit for publication.

First of all, I have convinced myself that affections of the skin form most important links in several series, and that many of them enter curiously into the history of hereditary neuroses, as well, of course, as into the gouty and other series; also that, as herpes occurs at the various mucous outlets, so eczema occurs in the bronchial mucous membrane, psoriasis in the tongue and colon, and so forth; that, in fact, skin-diseases are not always placed on the outer skin alone.

Secondly, my notes seem to prove that acute phthisis is, very often at any rate, a neurosis.

Thirdly, that migraine, among many other curious affinities so admirably worked out by Dr. Liveing, is associated with aphasia and right-sided palsies.

Fourthly, that rheumatic fever tends to concur with gout in some persons or families, and with phthisis in others.

To-day, however, I have more especially to urge upon you a proposition, the truth of which has been asserting itself in my own mind for some years; namely, that among the causes of that kind of Bright's disease known as granular kidney, mental anxiety and prolonged distress take a high, if not the chief, place.† A middle-aged person, man or woman, will come to us complaining that he is no longer active and eager for work, but is unaccountably languid and heavy; that he has of late become liable to dyspnoea; and that, especially after mental anxiety, attacks of this dyspnoea may come on even during hours of repose. The physician will then find the flesh falling and the complexion fading, the pulse growing tense and the heart enlarging; the urine varying widely in quantity, of low gravity, and often slightly albuminous. Now, if he inquire into the preceding history of such a patient, he will very commonly find that carking care or bitter and long sorrow has set its mark upon his life. It is impossible to prove this statement by the reading of cases; my statement is one which must be tested by others, and must stand or fall by the general voice. But I may say that I am even myself surprised to find how fully my belief is borne out by the comparison of my own cases. During the last two years, I find I have made notes of thirty-five cases of granular kidney occurring in private practice, and I find a marked history of mental distress or care, or both, in twenty-four of them. As a result of such causes, indeed, I find that granular kidney follows more frequently than degeneration of the brain or spinal cord, and far more frequently than primary failure of the heart's muscle. Not as proofs, then, but as illustrations, I may read brief notes of some few of those cases which I find recorded during the last two years, and which resulted probably from the causes I have indicated.

CASE I.—A lady, aged at death about 52, was brought to penury by her husband, who then deserted her. She was reduced to keeping a small shop in Hull; and, while there, her son deceived, deserted, and, I believe, robbed her. She gradually became sallow, wan, listless; the

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Sheffield, August 1876.

† I published this opinion in the *Lancet* some time ago, and Dr. Brookhouse of Nottingham subsequently expressed a like opinion. I believe I am at liberty to say that Dr. Dickinson also accepts it.

pulse became more and more tense, the urine lost its quality of health, and she died of uræmia.

CASE II.—A gentleman, whom I had known for some years as a person of position and means, came to me with symptoms of granular kidney. His age was about 51. I did not think it likely that care had eaten into his life. His wife, however, told me that, about eight years ago, he had almost accidentally invested a forgotten trifle of money in a trading company. This company failed miserably, and dragged hundreds of families to the dust. My patient, who had invested about two hundred pounds, ultimately lost about five thousand. Now, to have lost five thousand pounds at a stroke might have affected him little, but, for three or four years, he went to bed night by night ignorant whether he might not be gradually drained of his all. And to this were added the care and pains exacted of him in the position which he accepted of trustee in the liquidation: a tedious, thankless, and distressing post. His health during this time slowly fell off, and, by the time he had well extricated himself from his anxieties, he had entered into the long lane of chronic interstitial nephritis.

CASE III.—A gentleman, whom I am now attending for advanced granular kidney and uræmia, came to me, four or five years ago, complaining of symptoms which I then referred to overwork. He was living in good style, at the head of a large business, and I urged him strongly to take rest and change. I thought him a little obstinate in declining to do this, and I saw nothing of him till a few months ago, when, as I have said, he was hopelessly ill. I then found that his prosperity had been but apparent. The senior partners in the firm had died or retired, taking capital with them, his son disappointed him, and my patient, a man of great industry and probity, was left to fight single-handed an unequal battle. For years he had striven stoutly, and, so long as trade was vigorous, he kept misfortune at bay; with the slackening of trade, however, came the pitiless end—bankruptcy and beggary had sat beside him for years, and now entered in and took possession. A fine man, of healthy family and apparently sound constitution, his life was thus gradually eaten away. [This patient is since dead.]

CASE IV.—This is the story of a wealthy and happy man, born to a high place and to a free and beautiful life. All his hopes were bound up in one child, and this one was all in all to him, until by degrees the idol was broken in pieces; and, with the desertion of his child, the father's face grew wan and sallow; in middle-life his heart thickened, his urine paled, and, after two years of this, he fell in an apoplectic fit and spoke no more.

CASE V.—This is not unlike the preceding. A mother brings up four sons, who inherit an honourable and famous name and great estates. She nurses the estates, pays off encumbrances by industry and thrift, and yet one by one her hopes are stricken down. Her eldest son passes away from her into something worse than death, and the rest are lost to her in various ways which I refrain from indicating, lest I should point too nearly to the identity of my patient. She slowly passed, at about fifty years of age, into chronic Bright's disease and died of uræmia.

CASE VI.—This is again a sad story of a suffering wife and mother. Happy in her husband and family for many years, she awoke one morning to find her husband a helpless idiot. For years, she gave up her life to him and to her son, his heir. The father died after six years of a life worse than death, and the son is now gambling away his patrimony under her eyes. Before sixty years of age, she shrinks and fails, and people wonder what ails her. Now I find her urine albuminous, her heart thickened, her kidneys dwindling, and her days numbered.

CASE VII.—A fine vigorous man, living the life of a sportsman, hunting four days a week, shooting, fishing, and giving every evidence of splendid health and endurance, married, rather late in life, a lady to whom he was deeply attached. Two years later, she died in her first confinement. Months pass by, and people look sadly at him and say to each other that he has never recovered that shock. More months go by, and his falling flesh, sallow face, and tense pulse suggest albumen, and it is found. Everything that money can do has been done; but he remains the subject of chronic interstitial nephritis, and the outcome of it is, I fear, too sure.

CASE VIII is a commercial traveller, energetic and fairly temperate in habits, but whose family have embittered his existence. After several years of wretchedness and disappointment, he called upon me, and I found decided evidence of granular kidney with arterial tension. I do not know whether he is still living.

Need I multiply such cases as these, monotonous in their sad procession? I must pass on to consider very briefly those cases in which mental distress was not an obvious factor in the causation of this morbid state. In the preceding histories, I have referred only to cases in which the sufferers were more agitated by depressing passions than the average of *δαιολογῶντες*. But although I think that, in the majority of cases of

granular kidney, the cause I have indicated will be found present in the higher measure, yet, in many other cases, we find no marked evidence of such causation. For instance, of the remaining eleven of my thirty-five cases, three seemed to owe their disease to intemperance. In these, the disease was discovered somewhat early in life, that is, about forty years of age, and, besides the decided history of intemperance in each, I could find no obvious cause. In no one of these had gout appeared; and I may add here that, in no one of the cases I have taken as resulting from depressing passions was intemperance present. On the contrary, many of these cases were persons of singularly abstemious habits. Again, in no one of my thirty-five cases have I distinctly found gout as a primary cause. Gout I believe to be one of the first consequences of dwindling of the kidney; but, when I look back upon the number of men and women who have striven with gout from early years, I am surprised to find how few of them end in Bright's disease. I have been especially struck by three cases I have carefully noted of late, in which I found a high pulse-tension, together with evidence of marked gout, in persons who have thus suffered for years, but whose urine gave no indications of granular kidney. Many such persons have thickened and embarrassed hearts, and die ultimately with cardiac symptoms, but with urine throughout of normal specific gravity, and containing no albumen. Three more of my thirty-five cases occurred in young persons of the ages of eighteen, twenty and twenty-five respectively. In these, the renal and arterial changes were well marked, and, as in early diabetes, the course of the disease was far more rapid than in older patients. In cases of granular kidney in early life, I have always found a bad family history; more especially marked in the other members by sallowness of skin, headache, dyspepsia, want of muscular power and energy, imperfect nutrition, and phthisical tendencies. The rest of my cases afford no features of special interest: in two, pregnancy was the cause; in another, chronic disease of the urinary passages; and in the remainder, the disease appeared in advancing life without definite cause. Concerning the connection of depressing passions with granulation of the kidney, I offer no opinion. As many of these cases pass urine profusely in the earlier stages, I was led at one time to think that we had evidence in this of some irritation from the base of the brain affecting first the vascularity of the kidney, as in diabetes insipidus. Diabetes insipidus, however, does not end in granular kidney, and the copula remains, I believe, yet to be made out.

Finally, if you accept my proposition that prolonged mental distress is one of the chief, if not the chief, cause of granular kidney, how are we to turn this knowledge to use in our profession? Can we, by a word, bid the sparks not to fly upward? We cannot; but we may profitably regard the matter as thus divisible. These depressing passions may be divided into three classes: Class 1. Antisocial passions; Class 2. Social passions; Class 3. Fretfulness. With respect to this third class, much may be done in impressing upon all persons (and the younger they are the more useful is the lesson) that to fume and fret, to brood and worry, is to waste power at the time and to waste the frame thereafter. No man or woman ever decided the more wisely from lying a night awake in agitating doubt. The torment of self-questioning and of apprehension of events which rarely come as we imagine them, is a loss every way, whether the object of anxiety be selfish or unselfish. A maiden lady, one of the noblest and most unselfish women I ever met (whose case is not included above), has worn her kidneys granular by years of fretting over the trials and interests of others. Temperaments differ, but I feel sure that in all a calm wise habit of mind may, by practice, be more or less successfully reached; and all persons should have it clearly impressed upon them that a man, who sees he can only do his best, and who quietly awaits the right moment for action, acts when the time for action comes far more effectively than his neighbour who has fretted himself into a fever. No man ever saw his way through a difficulty more clearly for tossing it over in his mind by night and by day.

"Æquam memento rebus in arduis
Servare mentem."

In the next place, concerning antisocial passions; these passions are all which concern self exclusively or primarily; and the grosser kinds of them are greed of gain, pride of place, and lustful desires. The men or women who cherish these, and who find, as they must find sooner or later, that the fruits of them turn to ashes in their mouths; that ambition, avarice, petty tyranny and selfish indulgence have no continuing joy in them, but rather work out destruction, will find at the same time that they have laid the seeds of bodily disease, which the nineteenth century, with its gilded crown, has no royal touch to cure. Perhaps, in our time, the fear of granular kidney is to preach a more powerful evangel than even the Church; for life seems to consist in the reduction of our ideals.

But what are we to say to those who are falling or to fall in a true fight, whose life is expended in a noble despair, who have tempered fretfulness with wisdom and resignation, and whose passions are purified? Simply this: that we are born to war and not to peace; but we must see that we spend ourselves to some good purpose. A generous ardour is no safeguard against errors of aim; and we find that men and women often die rather like the bird which beats its wings against the cage, than by the defeat of well-directed effort. Many of us must fight, knowing that victory is impossible; and in constant strife there can be no joy or fruition; still, in a good cause, no wise effort can be wholly in vain, and a consciousness of this is a healing salve more powerful than any we can give. We shall be but blind physicians if we preach cowardice or inaction as the secret of health; let us rather urge upon those who seek our help in times of trial, to fix their affections on no selfish, unworthy, or transitory desires; to spend themselves, if their lives must be prematurely spent, in the cause of others, and for ends which are not visionary but attainable; and, finally, to possess their souls in patience and steadfastness. I know, in many cases, you may as well bid the wind cease to whistle; but, in others, by economising effort, by purifying suffering, and by lessening defeat, you may not only keep reason on its throne, but you may save the body from the inroads of organic disease, and from that disease more particularly on which to-day I have ventured to address you.

ON THE RESULTS OF RECENT RESEARCHES IN THE TREATMENT OF PHTHISIS.*

By I. BURNEY YEO, M.D., F.R.C.P.,

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IN attempting to bring before the members of the British Medical Association some results which have been arrived at by recent investigations into the treatment of pulmonary consumption, I am aware that I am opening up a very wide and debatable subject; that it is one of the very greatest interest and importance no one, I take it, will deny; that it is one which with much propriety occupy the attention of such a meeting as this will, I also hope, be readily conceded.

The treatment of those widely prevalent diseases of the lungs which we comprehend under the designation of pulmonary phthisis must always possess a deep and painful interest for us. I suppose there is no class of diseases for which we should so rejoice to learn that we possessed certain and reliable remedies, nor any class of diseases, when we contemplate their *post mortem* results, for which we so despair of finding any.

But we should not be discouraged by the contemplation of the final results of pathological processes as we see them in the dead-house. It is certainly not the province of pathological investigation to quell our ardour and diminish our efforts in endeavouring to check the ravages of disease. That it has some such effect on certain minds is beyond question. Let us guard our own against any such fatal bias. When we look upon a lung infiltrated from apex to base with tuberculous and inflammatory deposits in every stage of deposition and disintegration, riddled with cavities; its air-spaces—such as remain to it—choked with purulent secretion and *débris* of tissue, we may well confess our helplessness before such a state of disease and decay.

But this is only the final expression of what was at one time probably simply a constitutional tendency; a proneness to a certain form of disease, analogous in some respects to that tendency to gouty changes which we know to be so common, and perhaps, when early recognised, amenable like it to remedial measures. Pathology, and especially the pathology of phthisis, teaches us this lesson: that we should seek out and strive to comprehend those constitutional tendencies in which disease originates, and which, if undetected and unchecked, proceed, often with considerable rapidity, to the establishment of fatal morbid processes; and that we should treat these tendencies before they take the form of a definite morbid change. Pathological studies are of use also in another way in influencing the treatment of disease. By showing us what is possible, or, at any rate, what is impossible, they often point out the only useful direction which scientific therapeutic efforts can take.

The vast amount of patient labour that has of late years been expended in the investigation of the pathology of phthisis may appear at present, and on a superficial consideration, to have contributed very little to any particular advance in the treatment of that disease; but I

shall, I hope, be able to show that such a conclusion would not be altogether just, and that we may gather from the advanced pathology of phthisis indications of the true direction which remedial measures must take.

The subject of the treatment of pulmonary phthisis is, as I have already said, a very wide one, and, to be thoroughly comprehended, must be regarded from several points of view. In the limits which are imposed upon me in this paper, I shall only be able to refer to a few of the more important ones.

1. The tendency of modern investigation is to endeavour to discover the genesis, to seek out the origin of disease, and, if possible, to deal with it at its source. It is only thus that we can ever hope to exterminate or even diminish the prevalence of certain forms of disease. This is especially the case with phthisis. We are no longer ignorant of the conditions which give rise to this disease, and we are prepared to point out how, to a great extent, its development may be prevented. The prevention of pulmonary consumption may be considered under three heads.

(a.) The prevention of the transmission of the phthisical constitution from parent to offspring.

(b.) The prevention of the development of the disease when the predisposition exists.

(c.) The prevention of those unhealthy social conditions which are known to favour the production of phthisis.

(a.) The frequent direct transmission of tendencies to disease from parent to offspring, and the duty incumbent on society to recognise and oppose it, are, I am willing to think, much more generally admitted now than formerly; and there seems to me to be no reason why we, as the professional guardians of the public health, should hesitate to speak to the public frankly and strongly on this subject. It is our duty to point out that a diseased variety of the human species may be, and is, voluntarily bred just as any esteemed variety of animal or plant is bred. Let us speak, as with perfect truth we may, of the voluntary breeding of the insane and epileptic, the scrofulous, the cancerous, and the gouty varieties of man. By so doing, we may possibly, in course of time, rouse mankind to a sense of their responsibilities in this matter, and secure in the breeding of the human race some small portion of that same care which is bestowed in the rearing of many animals. Why should a man select a scrofulous female to be the mother of his children, when there is no lack of vigorous and healthy mates for him? or why should feeble and unhealthy males desire to hand down their feebleness and disease to succeeding generations? This question is, I know, a very delicate one, one which it is often difficult to approach, and one which at all times must be discreetly and carefully handled, and which may frequently run counter to certain sentiments for which we all entertain the profoundest respect; but we may, nevertheless, find many appropriate opportunities of showing how much pain and misery are either ignorantly or wickedly called into existence by the systematic disregard of such considerations as these. Many have to sit, as I do, week after week and hear the same sorrowful story over and over again from young people of both sexes, just at the period when life should be opening her portals widely before them, instead of which, death has already cast over them the fringe of his dark mantle. With sad and tearful foreboding, they tell us how their "mother and father died of consumption", or their "brothers and sisters have died of consumption", or their "mothers and aunts", and so on. It is almost too painful sometimes to ask the question, for the certain answer brings such a terrible inference with it. But I fear we become callous to these things; for it is "the hand of little employment" that "hath the daintier sense", else we should make more strenuous efforts than we do to bring the question home to the public, "Why does this breeding of disease go on unchecked?" If, then, we would deal with phthisis effectually, we must strike at its source: at its origin in the marriage and intermarriage of scrofulous parents. It is often from ignorance that this mischief arises, and we mainly possess the knowledge which should dispel that ignorance.

(b.) Of the prevention of the development of the disease where the predisposition exists, I need say but little before an association like this. I will content myself with enumerating the principal precautions which modern research has proved to be efficacious. The children of a phthisical mother should be wet-nursed, or brought up on cow's milk, boiled, and not much diluted. The child should be allowed much freedom of movement of its limbs and chest, not bound up and enveloped, as is the custom still, to some extent, with bands and napkins and other garments. A kind of somewhat loosely fitting flannel dressing gown lined with cotton-wool is a simple, excellent, and economical dress. Such children should be allowed an abundance of fresh air and exercise. At the period of teething, beef-tea may be added to the cow's milk, and, if dentition be delayed, some preparation of lime is

* Read before the Medical Section at the Annual Meeting of the British Medical Association in Sheffield.