Richard Bright : the Bright Oration delivered at Guy's Hospital on July 8, 1927, on the occasion of the centenary of the publication of the first volume of Bright's Medical Cases / by W.S. Thayer.

RICHARD BRIGHT AND HIS MOTHER

From the picture, painted by Breda in 1792, now in the possession of his grand-daughter, Mrs. Carr of Ditchingham Hall, Norfolk.

[*Frontispiece.*

Reprinted from Guy's Hospital Reports, July and October 1927

RICHARD BRIGHT

> "For my own part I am very fond of seeing." (Letter of R. Bright to his father, Jan. 26, 1813.)

THE BRIGHT ORATION, DELIVERED AT GUY'S HOSPITAL ON JULY 8, 1927, ON THE OCCASION OF THE CENTENARY OF THE PUBLICATION OF THE FIRST VOLUME OF BRIGHT'S *MEDICAL CASES*.

By W. S. THAYER, M.D., Emeritus Professor of Medicine, Johns Hopkins Hospital, Baltimore.

RICHARD BRIGHT was born at Queen's Square in Bristol on the twenty-eighth of September, 1789, seven and a half years after Laennec (17 February, 1781). His father, Richard Bright of Ham Green, Somerset, is described in Munk's Roll of the Royal College of Physicians [92] as a merchant and banker "of substance and standing," one of the brothers Bright of Brockbury [93] in Hertfordshire, who trace their descent to Henry Bright, D.D. (1626), Master of King's School at Worcester in Elizabeth's time. Richard was the third of four sons in a family of seven. At the private school of Dr. Estlin near Bristol he was the companion of Henry, afterward Sir Henry, Holland, who in speaking of this period, says : [90] "My most intimate friend here was Richard Bright, with whom I afterwards travelled in Iceland, and who as Dr. Bright held such high and well-merited place in the medical world." Later Bright studied at Exeter under the private tuition of Dr. Carpenter.[93] In 1808 he matriculated at Edinburgh, living at the house of the Rev. Robert Morehead who, in the language of a biographer, is described as an episcopal clergyman "of refined taste and elegant attainments." During his first year he devoted himself largely to the lectures of Dugald Stewart on moral philosophy and political economy, to those of Playfair on natural philosophy, and of Leslie on mathematics.[93] The following year he applied to the study of anatomy, working under Hope, Monroe and Duncan. In the summer of 1810 Bright and his friend Henry Holland accompanied Sir George Steuart Mackenzie on an expedition to Iceland. Of his young companions Mackenzie says : [10]

"My intentions being known two young gentlemen of the University of Edinburgh, Mr. Henry Holland (now Dr. Holland)

and Mr. Richard Bright, expressed a wish to accompany me; and I did not hesitate to meet their wishes, knowing them to be young men of very superior talents and accomplishments, in a high degree pleasing in their manners and promising me the hope of numbering them (as I now have the happiness of doing) among my friends."

Of Bright's contributions to his book Mackenzie speaks cordially :

" Mr. Bright has made the most of the materials we had time to collect for an account of the zoology and botany of Iceland. To him we are indebted for the preservation of the plants we gathered, and indeed for by far the greatest part of the collection; and I shall ever retain a grateful remembrance of the cheerful and ready exertion he always displayed, and the unfailing good-humour with which he submitted to the cross accidents which sometimes befell us. In the midst of professional studies he has found time to furnish me with many valuable remarks, and much useful information, which, without his assistance I could not have procured."

The journal of the excursion tells of a variety of interesting experiences, one of which, the rather perilous ascent of the Snaefell Jokul, is well told by Bright. On one occasion (p. 260) they came across a box of interesting books in the house of the late minister. Several of these were purchased, ". . . but the most curious, and perhaps the most valuable, was a superb Icelandic Bible, which fell to the lot of Mr. Bright." *

Among the wood-cuts and engravings by the members of the expedition with which the book is illustrated are several excellent engravings by Bright, whose talent as an artist is also apparent in the illustrations of his own later account of Travels in Hungary.[14] That the journey was not without event is suggested by these lines from Sir Henry Holland's *Recollections of Past Life*.[90]

" The stay had well-nigh been lengthened from four to fourteen months; the vessel on which we calculated for our return having been disabled at sea and never touching the island. After long and anxious expectation, with a shipless sea before us, the days becoming rapidly shorter, and resources of food and clothing more scanty, we eventually found means of escape in a small brig, the only other vessel which visited Iceland

* Three manuscripts brought by Bright from Iceland are to be found in the Bodleian Library, Nos. 33754, 33755, 33756. The third of these is an interesting book of prayers in Icelandic but can hardly be the " superb Icelandic Bible " here referred to. (Summary catalogue of Western MSS. in the Bodleian Library. Accessions 1890–1915. 31001–37299.)

that autumn; and landed in the Orkneys after a fortnight's stormy passage and a narrow escape of shipwreck at the entrance of Hoy Sound. Our arrival relieved much family anxiety caused by the return of the disabled vessel without us."

On his return he took up residence at Guy's Hospital * in London, living at the house of one of the resident officers of the institution and studying under W. Babington, Currie, Astley Cooper, the two Clines and Travers.[93] It was, perhaps, through the stimulus of Cooper, that he early gained an interest in morbid anatomy; he refers later to a drawing of a diseased kidney made at this period. Through association with William Babington he became interested in geology, and, in the fall of 1811, he contributed to the Geological Society [13] a brief statement on the strata in the neighbourhood of Bristol. Returning to Edinburgh in 1812 he worked under Gregory, at the same time studying geology and natural history under Jameson, and took his degree of M.D. on 13/9/13 with a dissertation,† *De Erisipelate Contagioso*,[11] on the title-page of which is the happily chosen motto: "Fœnum habet in cornu, longe fuge; . . . Hor., *Sat.*; Lib. I, Sat. IV." Bright brings forward a series of

* In the "Entry of Physicians' and Surgeons' Pupils and Dressers" at Guy's Hospital, Richard Bright is registered for twelve months on October 18, 1810. On the same date he is registered among the "Dressers and Pupils Entered to the Surgeons' Practice. In the Stewardship of Mr. Thomas Callaway." Oddly enough there appears to be no further official record of Bright for the year 1811–12.

In the minutes of Guy's Physical Society his name is recorded as having been proposed for membership on December 29, 1810, by Dr. Laird, and seconded by Dr. Curry, and his election is recorded at the meeting of January 5, 1811. So long as a record was kept of the names of absentees, that of Bright appears rather frequently as "absent and fineable," but it is noted that, at the meeting of January 25, 1812, "Mr. Bright read his paper on the use and abuse of blood-letting. . . ." This was a living subject. The paper is recorded as having been discussed on February 1, 8, 15, and 22. This is the last specific mention of Bright's presence at a meeting, but it would appear that he remained at Guy's till the end of the term, returning to Edinburgh in the fall of 1812.

† In a letter from Edinburgh to his father dated February 5, 1813, Bright says: "With respect to erysipelas I can only say that I wish I knew more, and shall be most obliged to you if you can collect me any facts in a detailed and regular form, pointing out instances of the extention of this disease from one patient to another. I do not know whether I ever told you that I have for some time intended to make contagious Erysipelas the subject of my Thesis, to which I was led by some instances of apparent contagion which occurred under my observation at Guy's, and the day after I received your letter I received one from Dr. Henry of Manchester with some cases from his friend D. of York, detailing some cases of the kind which happened in York hospital, where it seems to have prevailed much as it does at Bristol. But he does not mention any means to prevent the spreading of it, and I know that none were adopted at Guy's. I do not conceive that there is any new method intended for stopping contagions or correcting any epidemic state of the atmosphere. . . ." He goes on to ask his father to communicate with anyone that he will in order that he may collect facts for his Thesis. ". . . To-morrow night I shall read 2 long papers or other persons' compositions at the Med. Soc'y. . . ."

*

convincing examples of the spread of erysipelas from one individual to another and relates one instance of its disappearance after the segregation of the affected patients and the airing and washing of the ward. In the course of his argument he refers to the work of Gordon,[107] who points to the similarity between the contagiousness of erysipelas and puerperal fever. The contagiousness of the latter he regards as having been clearly demonstrated by Gordon and by Haighton.

In speaking of medicine he says: "Multi, iique literis imbuti, hanc incertitudinem in opprobrium medicinæ vertunt; et maxime nostra interest, ut dum scientia culpetur, scientiæ cultores minime objurgentur; quam ad rem efficiendam hoc in primis opus est; attente observare, diligenter colligere, et juste cauteque argumenta ad finem deducere; . . ."

At Edinburgh he was a member and president of the Royal Medical Society, a students' organisation to which he contributed a dissertation on "Gangrene,"[94] and of the Speculative Society, where he was brought into association with companions interested in general literature and the law.*

There is little record of Bright's life at this period, but the following extract from a letter to his father, dated "Edingh. Jan. 26th, 1813," is characteristic of the man that we shall come to know in later years. He is speaking of medicine and surgery:

"The two professions are the same and indivisible; it is quite impossible to draw the line between them, so much do they run into and depend upon each other. I conceive that the internal and external parts of our frames are regulated by the same laws, and what process on the outside we may see openly, we may infer from analogy to be going on within, and are the surgeons only to have the advantage of these external manifestations while the physician contents himself with conjecture and hypotheses? For my own part I am very fond of seeing —and I never feel so well satisfied with myself as when I think I understand a surgical case as well as one who is intending to become a surgeon—you must know that surgery is at this moment rising very fast at the expense of medicine—and we must do our best to keep our ground."

On graduation he entered Peterhouse at Cambridge, where his brother was a Fellow. But after two terms, finding the discipline of college "incompatible"[93] with his other pursuits,

* In the end, however, his medical studies proved too absorbing, and in the above-mentioned letter, February 5, 1813, he says to his father: "I resigned my seat at the Speculative Society on Tuesday, I found it impossible to pay any attention to the subjects, and therefore could reap from it no advantages."

he returned to London, becoming a pupil of Bateman at the public dispensary.

In the summer of 1814 " his love of travel again carried him away from London " [93] on a journey which took him through Holland, Belgium and Germany, where, at Berlin, he spent some months " attending the hospital practice of Horn and Hufeland, besides profiting by the acquaintance of other eminent men of science," notably Klaproth, Rudolphi and Heim. From Dresden he went to Vienna, where he spent the winter of 1814–15 studying with Hildenbrandt, and in the ophthalmological clinics of Rust and Beer. He appears to have had pleasant acquaintance with many interesting men, including Jacquin the botanist, Prochaska and the older Frank.

Napoleon at Elba, the allies in Congress at Vienna were dining and dancing and struggling with the problems of peace. Bright gives an interesting account of the social pomp and ceremony associated with the occasion, and a not unentertaining description of some of the leading figures as they passed before him at an evening function. His account of a visit to the little prince at Schönbrunn is rather touching. In the spring of 1815 Bright made a long journey through Lower Hungary, arriving in Brussels again two weeks after the battle of Waterloo; here his experiences in the military hospitals are said to have been valuable. These travels he describes in a handsome quarto volume [14] illustrated with his own sketches. The book is essentially the diary of a young Englishman in a relatively untravelled country. To one familiar with his later work these notes are exceedingly interesting. Bright is struck by the simple emotions of the people, their unrestrained grief at a funeral, their spontaneity. He is very much impressed by the tranquillity of the ordinary country inn, by the absence of the boisterousness of an English ale-house, and he comments especially on the lack of inquisitiveness of the public on the arrival of a new guest. Individuals, he observes, may walk into an inn, rest themselves and depart without demand on their own part or solicitation by others.

He is impressed by the religious freedom in Hungary, especially in the University of Pesth. Some things he criticises, but his criticisms are never unkind. He comments on the sad condition of prisoners and on the crude methods of legal procedure, but follows this by reference to the circumstance that conditions not wholly dissimilar had existed in England to within a year or two of that time. That which he is less inclined to pardon seems to be the laziness of the peasants. He is

rather amusingly impressed by a group of men sleeping on a sunny hillside during Church.

He appears to have suffered in Hungary, as in Iceland, from some embarrassment and difficulty in escaping the cordial greetings and thanks of his hosts. "Before he quitted my room he saluted me on both cheeks, a compliment frequent on the Continent, but which an Englishman can with difficulty bring himself to return."

The book is not written in a sparkling fashion. It cannot be said to betray a lively sense of humour, but the accuracy and catholicity of his observations,—geological, botanical, agricultural, economical, ethnological, social, educational, political,—his scrupulous objectivity and the careful detail of his descriptions are very striking. It is clearly the work of a keen observer and a serious student. But the book shows something more. It gives one the picture of a young man of six-and-twenty, who is capable of observing and describing the customs and life of a people new to him with measure and charity and understanding, seeking out and recognising that which is good, and never allowing a hasty or an unkind criticism to escape his pen. Such measure and such understanding are not common at six-and-twenty; they are characteristic of Bright throughout his career.

Returning to England he read before the Geological Society on May 17, 1816,[15] a short note on some interesting volcanic formations in Hungary, which bore a striking similarity to like phenomena which he had observed in 1811 in Iceland. On December 23, 1816, he was admitted Licentiate of the Royal College of Physicians, and shortly thereafter was made Assistant Physician to the London Fever Hospital. Here he acquired a severe fever of which he nearly died.

In 1818 he again visited the Continent, spending several months in Germany, passing by the Tyrol into Italy, and homeward through Switzerland and France. There appears to be no reference in the literature to his experiences during this journey. It would be interesting to know with whom he studied and to see the sketches and the notes that he must have made.

In 1820 he established himself at 14, Bloomsbury Square, and became Assistant Physician at Guy's, resigning his position at the Fever Hospital. In the same year he became a Fellow of the Royal Society.

Bright began teaching soon after obtaining his hospital appointment, lecturing on Botany in its Relations to Materia Medica from 1822 to 1825. In 1823 he gave his first clinical

lectures. In the following year he was made full physician to Guy's Hospital, sharing with Cholmeley the course on Theory and Practice.* For many years afterwards he shared this course with Addison.

There is an amusing reference to one of Bright's early courses of lectures in a somewhat facetious note in a current medical journal [16] signed "*Δ.E.Δ.*" In connection with the programme of lectures for the term, the destructive chronicler says: We may ". . . almost fancy ourselves in the *seventeenth century*. . . . In the *Practice of Medicine*, *disorders* of the *intellect* will be *reflected* by *Dr. Bright*, of whom it is not too much to say with the poet,

'Natura lo fece, e poi *ruppe la stampa*!'" †

In his earliest publications, the notes of his travels, to which reference has already been made, Bright had shown a wide-awake curiosity and a remarkable power for accurate observation and simple, clear description. The same traits and qualities which were apparent during his travels were manifest as the opportunities at Guy's opened to him.

'Twas a stimulating period in medicine. After long centuries of more or less blind worship of tradition, of authority and of doctrine, during which that which was most certain in medicine was the rather conjectural art of prognosis, physicians were beginning to use and trust their own senses, to investigate and explore for themselves. Morgagni had accumulated and placed side by side in massive volumes the brief clinical story and the description of the anatomical changes in the organs of hundreds of instances of mortal disease or injury. Auenbrugger,[4] neglected for nearly fifty years, and rediscovered by Corvisart,[9] had demonstrated how, with our fingers and our ears, we may determine the outlines and physical characteristics of the contents of the thorax. Bichat, in the few short years of his feverish activity, had laid the foundations of pathological anatomy. And when Bichat fell and Bayle, so full of promise, dropped by the way, the genius of Laennec had revealed methods of study which permitted the recognition and the fuller comprehension during life of many processes which,

* How sincerely Bright appreciated this appointment is manifested by his remarks at the anniversary dinner at Guy's Hospital in 1826.[21] "The Chairman next toasted 'The Physicians of Guy's Hospital.'

"Dr. Bright rose. He said somebody had told him he *must* return thanks. 'Gentlemen,' said the doctor with great energy, '*I will* return thanks: to hold the situation of Physician to Guy's Hospital is to be placed at the pinnacle of the profession. I am thankful—I am proud of a situation which has produced a Saunders, a Babington and a Cholmeley. . . .'"

† Nature shaped him, and then broke the mould.

unrecognised, led to those fatal changes with which they had become familiar in the dead. Freed from the bonds of dogma and authority, men were using their senses and their reason in the study of disease.

Bright was fired by the spirit of the times. From the day he entered Guy's Hospital he devoted himself whole-heartedly to the study of morbid phenomena, year after year spending as much as six hours a day at the bedside and in the necropsy room. Occasional notes of cases demonstrated during his visits show how carefully, even at this early period, he observed and noted the recondite; an example is a good description of what, obviously, was an instance of syringomyelia.[18] For seven years he published little or nothing, but never were seven years better spent.

On the 13th of August, 1826, Laennec * died, leaving the legacy of his great work [20] with the immortal descriptions of tuberculosis, of pneumonia, of bronchiectasis, of emphysema, the work which laid the foundations of modern physical diagnosis of diseases of the chest. Bright took up the torch and, a twelvemonth later, one hundred years ago, but three years after he had come into his wards, rendered a noble account of his stewardship at Guy's Hospital in the shape of a beautiful quarto volume entitled *Reports of Medical Cases Selected with a View of Illustrating the Symptoms and Cure of Disease by a Reference to Morbid Anatomy.*[22] This remarkable publication was a careful, laborious collection of observations, clinical and anatomical, made for the most part during the three years of his service as full physician, together with such conclusions as he felt justified in drawing—" an attempt," says he, " to render the labours of a large hospital more permanently useful by bringing together such facts as seemed to throw light upon each other. . . . To connect accurate and faithful observation after death with symptoms displayed during life must be in some degree to forward the opportunities of our noble art. . . ." Especially he desires to preserve and explain by " faithful engravings " the recent appearances of these morbid changes of structure. He is not trying to lay before his readers " a succession of striking novelties." " Utility," he says, " is my first object." His work will not " in theory at least be thoroughly completed until every disease which influences the natural structure, or originates in its derangements, has been connected with the corresponding organic lesion."

* In the *Lancet* of the day before, August 12 (*Lancet*, Lond., 1826–7, x. 631), the Paris correspondent, under the date of August 4, says : " Laennec is better, and is expected back from Brittany next week."

RICHARD BRIGHT, M.D.

From a water-colour drawing in the possession of his grandson, Mr. R. Wallace.

[*To face page* 260.

He points out scrupulously that among these observations there are some of which he " must bear the responsibility alone. Such are the statements and conjectures regarding the dependence of a peculiar class of dropsies on disease and irritation of the kidneys; such are some observations on the peculiar changes in the structure of the liver; in the investigation of which, however, as in many cases, I have been assisted by my friend, Dr. Bostock; . . . and such are the hints thrown out on the influence of the peculiar state of the mesenteric absorbents on the symptoms of phthisis."

He first relates " Cases illustrative of some of the appearances observable on the examination of diseases terminating in dropsical effusion "—notably ". . . appearances to which I think little attention has hitherto been paid . . . evidences of organic changes which occasionally present themselves in the structure of the *kidney*; and which, whether they are to be considered as the cause of the dropsical effusion or as the consequence of some other disease, cannot be unimportant."

With these conditions he has " often found the dropsy connected with the secretion of albuminous urine, more or less coagulable on the application of heat. . . . I have never yet examined the body of a patient dying with dropsy attended with coagulable urine, in whom some obvious derangement was not discovered in the kidneys."

The observation that dropsy was sometimes associated with hardening of the kidneys was not new.* Aëtius [1] in the fifth century mentions it, as does William Salicet [2] in the thirteenth; and various students later had noted individual instances of dropsy with renal disease.

In like manner the association of albuminous urine with certain dropsies had been pointed out in 1770 [3] by Cotugno,[3] who quite misinterpreted its significance, and notably by Cruickshank,[5] by Darwin,[6] and later by Wells [7, 8] and Blackall,[12] each of whom noticed the presence of renal change in individual instances; neither, however, recognising its full significance.†

Such was the situation when Bright began his studies. In

* For an excellent history of the development of our knowledge of renal disease up to the time of Bright, see Rayer.[70]

† Wells,[8] who had given an admirable clinical account of post-scarlatinal dropsy,[7] describes three necropsies on dropsical patients who had not had scarlet fever. Renal changes were found in all three. Later, in speaking of treatment, he says (p. 232): " I afterwards thought that as the presence of serum in the urine must arise from some diseased action of the kidnies. . . ." And Blackall,[12] discussing Wells's work (p. 347), says: " The kidneys likewise have been diseased in an unusual proportion of such dissections. In no less than three instances out of the eleven here referred to, viz. three in Dr. Wells's work and eight in mine, they were thickened and hardened, and even with a confused structure, in two or three containing hydatids or vesicles."

three years of hospital experience he had grasped the situation and was able to make the statements which have just been quoted.

Bright continues cautiously and judiciously:

"Whether the morbid structure, by which my attention was first directed to this subject, is to be considered as having in its incipient state given rise to an alteration in the secreting period, or whether the organic change be the consequence of a long continued morbid action, may admit of doubt: the more probable solution appears to be, that the altered action of the kidney is the result of the various hurtful causes influencing it through the medium of the stomach and the skin, thus deranging the healthy balance of the circulation, or producing a decidedly inflammatory state of the kidney itself:—that when this continues long, the structure of the kidney becomes permanently changed, either in accordance with, and in furtherance of, that morbid action; or by a deposit which is the consequence of the morbid action, but has no share in the arrangement of the vessels on which the morbid action depends." . . . "Where anasarca has come on from exposure to cold, or from some accidental excess, I have in general found the urine to be coagulable by heat. . . . During some part of the progress of these cases of anasarca, I have in almost all instances found a great tendency to throw off the red particles of the blood by the kidneys, betrayed by various degrees of hæmaturia, from the simple dingy colour of the urine, which is usually recognized; or the slight brown deposit;—to the completely bloody urine, when the whole appears to be little but blood, and when not unfrequently a thick ropy deposit is found in the bottom of the vessel."

He then describes other cases

"in persons long the subjects of anasarca recurring again and again, worn out and cachectic in their whole frame and appearance, and usually persons addicted to an irregular life and to the use of spirituous liquors. . . . In all the cases in which I have observed the albuminous urine it has appeared to me that the kidney has itself acted a more important part, and has been more deranged both functionally and organically than has generally been imagined. In the latter class of cases I have always found the kidney disorganised. In the former when very recent I have found the kidneys gorged with blood. And in mixed cases where the attack was recent, although apparently the foundation has been laid for it in a course of intemperance, I have found the kidney likewise disorganised."

It is nearly twelve years, he says, since he first observed the altered structure of the kidney in a patient who had died dropsical; and he still has the slight drawing that he then made. Then follows an excellent description of four-and-

twenty instances of dropsy with albuminous urine, seventeen of which came to necropsy and showed renal disease.

In Case VIII, an advanced contracted kidney, there was a striking hypertrophy of the left ventricle of the heart of which Bright says: "The enlarged state of the heart would seem to bespeak some cause for obstruction to the circulation through this system beyond what we discovered, nor will I venture to say what share this might have had in giving rise to the dropsy."

Case XIV is an instance of characteristic acute hæmorrhagic nephritis.

On the whole these twenty-four cases represent rather clearly the ordinary pictures of acute and chronic renal disease —acute hæmorrhagic nephritis, chronic hydropigenic nephritis or nephrosis, slow chronic nephritis with or without striking general arterial change. In his summary Bright distinguishes three stages of a disease which he inclines to believe to be progressive. In the first class the changes consist largely in the cloudiness and mottling of the renal substance; in the second class, granulation of the surface has begun; in the third, the kidney is sclerotic and contracted with irregular, nodular surface. It is rather odd, as Rayer [70] points out, that Bright in his summary pays so little attention to the acute hæmorrhagic nephritis of which he has presented at least one very clear instance.

From a clinical standpoint Bright notes the frequency of complicating serositis, pleurisy, pericarditis and peritonitis, and comments on the insidious onset of these complications. He speaks of the frequency of cerebral manifestations, "apoplexy" (coma) and "epilepsy." In four of the subjects the heart was found to be hypertrophied. He discusses the chemical reports of his associate Bostock, which show that the specific gravity of the urine, varying from 1006 to 1032, was usually lower than normal, and he comments especially on the evidence of diminution of the urea in the urine of advanced cases, and the presence of an urea-like substance in the blood serum during life. With regard to treatment he is rather conservative; especially is he sceptical as to the wisdom of the employment of mercury.

The contribution is accompanied by plates of great beauty and accuracy, plates such as one rarely sees to-day, in which Bright has succeeded in preserving the records of that which he saw in such fashion as to make the subject clear to readers of that day and this.

Such are the simple and soberly written pages in which Bright laid the foundations for our present knowledge of nephritis.

The first notable reference to this work was by Christison,[26]

who, in 1829, reported several instances of albuminuria with renal disease and bore testimony to the accuracy of Bright's descriptions and the soundness of his conclusions. Christison is particularly impressed by the progressive diminution of urea and salts in the urine, and the increase *pari passu* of the urea in the blood. The albuminuria he regards as a transudate of serum. As to prognosis, the author feels that Bright is a little too pessimistic. Recovery from scarlatinal albuminuria is the rule, and it is probable that a like recovery may occur in other albuminuric states.

In the following year, Elliotson,[28] without mentioning Bright's name, argues against his contention that albuminuria is usually an indication of renal disturbance. "I have," says he, "continually seen albuminous urine in cases of dropsy without any reason, first or last, to suspect disease of the kidney, and I have seen the dropsy completely cured." Graves [29] was likewise sceptical, asserting that Bright was mistaken in his belief that albuminuria was "always connected with an appreciable organic change in the structure of the kidneys." Albuminuria, he says, may occur in dropsies of most opposite pathological characters. But Gregory,[30] as did Christison, brought forward observations rather than assertions and arguments. Among thirty fatal instances of albuminuria there were twenty-four necropsies. In every one of these the kidney exhibited, "in a more or less marked degree, the peculiar appearances described by Bright." Dropsy was observed in but twenty of the forty-five cases of albuminuria, which suggested to Gregory that grave renal disease might exist without this manifestation.

In Bright's second quarto volume of reports,[31] which was devoted mainly to studies of the central nervous system, he comes back to the subject. At the outset he protests (p. x) against a misunderstanding on the part of some of his contemporaries, who had assumed that he believed that coagulable urine was observed only in the presence of organic renal disease, and, quoting the careful statements made in his original publication, he ends with the words: ". . . I am inclined to believe that the functional derangement of the organ may sometimes precede a structural change for a period of many weeks and months, and that the kidneys of a patient thus affected, who has been cut off early by some disease, may afford very little evidence of diseased structure." He repeatedly mentions arachnoid (pial) œdema in individuals dead of uræmia. In discussing the frequency of death in coma in renal disease, he says:

" In this connection we have the strongest evidence in that somewhat rare form of disease, ischuria renalis, for when the kidneys once cease to secrete the patient shortly falls into a state of apoplexy and dies. But it is not only the complete suppression of urinary secretion that occasions cerebral symptoms; the same variously modified were found to attend on diseases which pervert the qualities of the secretion; such, for instance, as the renal affections indicated by albuminous urine and diabetes, of both of which I have been able to present illustrative examples; . . . and that such derangements in the natural secretions and excretions should greatly influence the brain, ceases to be a matter of astonishment, when we find that the blood of those who have albuminous urine is often highly impregnated with urea, while it is deficient in its due proportion of albumen. . . ." (Pt. I, p. 263).

He refers (p. 327) to the frequency with which chronic renal disease is found in the necropsies on patients dead of cerebral hæmorrhage, and later (p. 446) he observes: " Effusion of blood or serum into the brain is one of the great causes of danger in renal disease; . . . how far the presence of urea, or the abundance, or deficiency of any other principle in the blood may be the immediate cause of such a degree of cerebral irritation as is capable of producing apoplexy " (a word which he uses repeatedly in the sense of coma) " is a subject for inquiry. . . ." Experience has confirmed him in taking a rather serious view of chronic albuminuria. There are long remissions but frequent relapses.

He then makes some wise remarks as to the grave prognostic importance of functional or organic disease of the kidney as a complication of acute disease or severe injury. The urine should always be examined before contemplated operations; but one examination is not enough. ". . . I believe that sometimes the disease goes so far, when the kidney is large and soft and granulated throughout, that a simple serous secretion passes with scarcely any albumen, so that in one or two very advanced cases the quantity of albumen has been very small; and I early perceived that there was no direct ratio between the degree of disease and the quantity of albumen." And then, prophetically, he observes: " Perhaps in some doubtful cases an examination of the serum of the blood to ascertain its condition both as regards the presence of urea and the proportion of albumen might be useful."

By this time Bright's observations were an object of world-wide interest and discussion. Despite a few doubters at home, such as Darwall [33] and Copland,[43] the discussion was mainly as to details, and the fundamental soundness of Bright's con-

tentions was generally accepted. It is impossible, in the limits of this communication, to attempt a full discussion of the contemporary literature. This has, however, been well done by Rayer.[70]

Two years later he takes up the subject again in his Gulstonian lectures on "The Function of the Abdomen and Some of the Diagnostic Marks of its Disease."[41]

On p. 378 he refers to the frequency of a disease barely recognised five years before. After discussing the character of the normal urinary excretion, the variations of the specific gravity, by day and by night, he describes methods of testing for albumen, especially the use of heat and nitric acid as the most convenient. He mentions the confusion which may be caused by the precipitation of phosphates in faintly acid or alkaline urine, and, on the other hand, by the precipitation of a cloud of urates in the nitric acid test. As renal disease goes on, the urine loses the properties which it derives from the presence of urea, while urea becomes demonstrable in the circulating blood. Whatever becomes of the urea in the blood, "it is plain that what appears to be the great office of the kidney—the depuration of the blood—does not take place." When the disease has lasted for some time, definite changes take place in the kidneys. At first little is to be made out except perhaps congestion. He describes the progressive changes in the kidney, up to the last stage in the picture, the small, granular, contracted kidney where the texture "is semi-cartilaginous and the tubular portion drawn towards the surface of the organ." Our attention is often called to the condition by the existence of anasarca, which is a common attendant on the acute attack. This, he thinks, is an immediate consequence of the derangement of the kidney because of the rapidity with which it appears in acute scarlatinal disease so often accompanied by hæmaturia. The common history of such cases he describes in these words:

"An intemperate course of life, or some such cause, has predisposed the kidney to suffer, and the patient has, in this state, been exposed to vicissitudes of temperature; the irritable kidney has immediately sympathised with the skin, and morbid action has been induced in that organ; the balance of absorption has been destroyed, and serous accumulations have taken place. In scarlatina the skin has derived peculiar susceptibility from the previous exanthematous eruption, and the sympathy between the skin and the kidney is a well-admitted fact."

He recognises that recovery may occur, but that in other instances the urine may remain coagulable, leaving the patient subject to relapses of anasarca. Anasarca itself does not always

accompany albuminous urine, and it should be remembered that anasarca may occur without albuminous urine. There are, indeed, some instances of grave renal disorganisation in which Bright has observed the disappearance of albumen for a period at any rate; it is therefore wise to examine the urine frequently. "The general leukophlegmatic aspect—the tendency to anasarcous swellings in the face and ankles—the occasional hæmaturia—the pain referred to the kidney—the frequent headache, are all symptoms which occur when the kidney is left in a state of disorganisation." But, as he has said before, advanced, contracted kidneys may exist where, before death, the urine is limpid and free from albumen. He has seen two such instances, in one of which there was a considerable hypertrophy of the heart without other apparent cause.

"It is," says Bright, "the occasional occurrence of facts like these which naturally excites a doubt in the mind as to the accuracy of the deductions which have been drawn; but although these facts may diminish the value of the albuminous state of the urine, as affording a perfectly unerring source of diagnosis, when observations are made on the secretion embracing only a short period, and more particularly that short period which precedes the fatal termination, they do not shake my confidence in the persuasion, that a great deal of general derangement of the system, and a large class of dropsies, depend on diseased action of the kidney, which diseased action betrays itself particularly in its early stages, and likewise from time to time in all its stages, by the coagulable quality of the urine, and leaves the kidney not infrequently quite disorganised. I have now witnessed so great a number of cases, in which no other disease could be traced after death but the disorganisation of the kidney, to which we might look as the probable source of anasarca, and in so large a proportion of such cases I have found the urine coagulable, that my conviction is complete as to the existence of some decided connection between the three facts—anasarca, coagulable urine and diseased function going on to diseased structure of the kidney. How these facts are connected, or what necessary dependence the one may have upon the other, it is indeed difficult to point out; and some might suppose that we are rather perverting the order of events when we speak of the condition of the kidney as causing the anasarca; whereas is it not possible that the cold or other morbid cause, acting on the system, produces in some other way the anasarca, and then, the absorbents still acting, the anasarcous fluid passes off by the kidneys? To this I would only say, the solution does not appear impossible; but when I know that the same coagulable state of urine which exists during the presence of the anasarca—when it is possible that the albumin is thus supplied to the kidneys, or that the unnatural fluid supplied produces the morbid secretion—often exists when no anasarca

has shown itself, and very often continues for months and years after the anasarca has subsided, I do not feel inclined readily to assent to this solution of the facts; and besides, how would this explanation account for the disappearance of the urea from the fluid secreted by the kidneys?"

He speaks of the associated hypertrophy of the left ventricle, of the occasional changes in the liver, which, however, are usually those of chronic passive congestion, of the occurrence of serositides, and of the common discovery, at necropsy, of more or less effusion into, or thickening of, the membranes of the brain. As there were often no demonstrable cerebral or meningeal changes, the common cerebral symptoms may, he observes, be due to the urea in the blood; he mentions an instance of coma where urea was found in the serum. Again he emphasises the importance of the recognition of albuminuria when surgery is contemplated.

In 1836, in the first volume of *Guy's Hospital Reports*,[49] he gives a more or less complete summary of his work. His opening words are worth quoting:

"The importance and extensive prevalence of that form of disease, which after it has continued for some time is attended by the peculiar changes in the structure of the kidney, now pretty generally known by the name of 'mottling,' 'white degeneration,' 'contraction,' or 'granulation,' impresses itself every year more and more deeply on my mind; and whether I turn to the ward of the hospital, or reflect on the experience of private practice, I find, on every side, such examples of its fatal progress and unrelenting ravages as to induce me to consider it amongst the most frequent, as well as the most certain causes of death in some classes of the community, while it is of common occurrence in all; and I believe I can speak within bounds when I state, that not less than five hundred die of it annually in London alone. . . . There is great reason to suppose that the seeds of this disease are often sown at an early period; and that intervals of apparent health produce a false security in the patient, his friends and his medical attendant, even where apprehension has been early excited."

"The first indication of a tendency to this disease," he says, "is often hæmaturia, of a more or less decided character: this may result from various causes, and yet may give evidence of the same tendency: scarlatina has apparently laid the foundation for the future mischief: exertion in childish plays has done the same; or it has sometimes appeared to be connected with suppressed catamenia. Intemperance seems its most usual source; and exposure to cold the most common cause of its development and aggravation. It is, however, more particularly to those causes which operate in youth, or are apparently so casual as to tempt us to believe that when the immediate

symptoms are subdued no evil can result, that I wish to direct attention."

In the light of our present knowledge it is probably true that the exposure to cold, so insistently referred to by Bright, is based upon little more than those circumstances which have, for so long, led both physicians and the laity to ascribe to cold, influences which are generally those of an acute infection. It is the chilliness associated with the fever of the acute infection that has given to the world so exaggerated an idea of the injurious influence of cold.

He then describes in summary the history of the disease.*

* "The history of this disease, and its symptoms, is nearly as follows:—

"A child, or an adult, is affected with scarlatina, or some other acute disease; or has indulged in the intemperate use of ardent spirits for a series of months or years: he is exposed to some casual cause or habitual source of suppressed perspiration: he finds the secretion of his urine greatly increased, or he discovers that it is tinged with blood; or, without having made any such observations, he awakes in the morning with his face swollen, or his ankles puffy, or his hands œdematous. If he happen, in this condition, to fall under the care of a practitioner who suspects the nature of his disease, it is found that already his urine contains a notable quantity of albumen: his pulse is full and hard, his skin dry, he has often headache, and sometimes a sense of weight or pain across the loins. Under treatment more or less active, or sometimes without any treatment, the more obvious and distressing of these symptoms disappear; the swelling, whether casual or constant, is no longer observed; the urine ceases to evince any admixture of red particles; and according to the degree of importance which has been attached to these symptoms, they are gradually lost sight of, or are absolutely forgotten. Nevertheless, from time to time the countenance becomes bloated; the skin is dry; headaches occur with unusual frequency; or the calls to micturition disturb the night's repose. After a time the healthy colour of the countenance fades; a sense of weakness or pain in the loins increases; headaches, often accompanied by vomiting, add greatly to the general want of comfort; and a sense of lassitude, of weariness, and of depression gradually steal over the bodily and mental frame. Again, the assistance of medicine is sought. If the nature of the disease is suspected, the urine is carefully tested, and found, in almost every trial, to contain albumen, while the quantity of urea is gradually diminishing. If, in the attempt to give relief to the oppression of the system, blood is drawn, it is often buffed, or the serum is milky and opaque; and nice analysis will frequently detect a great deficiency of albumen, and sometimes manifest indications of the presence of urea. If the disease is not suspected, the liver, the stomach, or the brain divide the care of the practitioner, sometimes drawing him away entirely from the more important seat of disease. The swelling increases and decreases; the mind grows cheerful or is sad; the secretions of the kidney or the skin are augmented or diminished, sometimes in alternate ratio, sometimes without apparent relation. Again the patient is restored to tolerable health; again he enters on his active duties: or he is, perhaps, less fortunate; the swelling increases, the urine becomes scanty, the powers of life seem to yield, the lungs become œdematous, and, in a state of asphyxia or coma, he sinks into the grave; or a sudden effusion of serum into the glottis closes the passages of the air, and brings on a more sudden dissolution. Should he, however, have resumed the avocations of life, he is usually subject to constant recurrence of his symptoms; or, again, almost dismissing the recollection of his ailment, he is suddenly seized with an acute attack of pericarditis, or with a still more acute attack of peritonitis, which, without any renewed warning, deprives him, in eight and forty hours, of his life. Should he escape this danger likewise, other perils await him; his headaches have been observed to become more frequent; his stomach more deranged; his vision indistinct; his hearing

In view of our present conceptions it is interesting that in this story he begins the history with some acute infection.

He refers, p. 340, to the diminution of the albumen in the blood serum, and to the frequency of secondary infections, especially of the pericardium and peritoneum. To the question : " Do we always find such lesions of the kidney as to bear us out in the belief that the peculiar condition of the urine, to which I have already referred, shows that the disease, call it what we may, is connected necessarily and essentially with the derangement of that organ? " he replies : " After ten years' attentive —though, perhaps, I must not say completely impartial— observation I am ready to answer this question in the affirmative; and yet I confess that I have occasionally met with anomalies which have been somewhat difficult to explain. . . ."

He comments, p. 342, on the circumstance that variations in the quantity of albumen bear no constant relation to the gravity of the anatomical changes.

He then reports ten cases; one of a woman who had been followed through a number of years and whose story had been reported in his preceding communications. She had had frequent attacks of anasarca, had had several convulsions, and died suddenly while visiting a friend in the hospital. Here the albumen of the blood was greatly reduced and the serum contained $1\frac{1}{2}$ grains per cent. of urea. The heart was not enlarged.

Bright comments on the striking similarity between these cases. " I am not aware," says he, " of any disease in which the character is more completely preserved, or in which the symptoms more clearly mark a specific form of malady. . . . Of the insidious nature of the malady and its fatal tendency these cases afford a pretty convincing proof, and the fact that so many of these have come within my own observation in a limited time would be tolerable evidence of the extreme gravity of the disease."

He comments on the frequency of albuminuria which occurs in one-sixth of the specimens of urine taken at random from hospital patients.

In considering treatment he points out again that anasarca is a symptom which may be absent. In early stages he bleeds. He advises the careful use of diaphoretics. He keeps the patient in a warm bed. He is sceptical as to mercury and heartily

---

depraved; he is suddenly seized with a convulsive fit, and becomes blind. He struggles through the attack; but again and again it returns; and before a day or a week has elapsed, worn out by convulsions, or overwhelmed by coma, the painful history of his disease is closed. . . ."

recommends purgatives. Diuretics, save digitalis, he regards as dangerous. The diet is mainly milk and light animal food. He especially advises the wearing of flannel next to the skin.

Following this communication is a valuable "Tabular View of the Morbid Appearances in One Hundred Cases connected with Albuminous Urine." [50] Changes in the blood as a result of the disease, the loss of its colour, of its albumen, the presence of urea-like substances in the serum are alone, he believes, sufficient to account for the derangement of the system. "I do not, therefore, by any means assert that all the lesions which the foregoing table details flow as a consequence from the kidney alone; but that they are such derangements as generally co-exist with this peculiar disease of that organ." He emphasises the frequency of inflammation of serous membranes, of serous effusions in pleura, pericardium, peritoneum and pia; the frequency of hypertrophy of the heart, 50 per cent. of the cases, commoner in the more advanced instances but not *constant*. In connection with this hypertrophy he finds an "organic cause" in relatively few, and concludes: "This naturally leads us to look for some less local cause, for the unusual efforts to which the heart has been impelled; and the two most ready solutions appear to be, either that the altered quality of the blood affords irregular and unwonted stimulus to the organ immediately; or that it so affects the minute and capillary circulation, as to render greater action necessary to force the blood through the distant subdivisions of the vascular system."

Œdema of the lungs and bronchitis were common. Pneumonia was not infrequent. Tuberculosis was rare. "Either the renal disease renders the system unfavourable to phthisis or it is not apt to occur in tuberculous constitutions." Forty-two and eight-tenths per cent. of the patients died with cerebral symptoms. In eleven more death was sudden.*

Four years later [68] Bright again protests against the assump-

* At a meeting of the Physical Society of Guy's Hospital on January 23, 1836, one of the members inquired of Bright "whether albuminous urine might be considered a certain indication of diseased kidneys," and in reply, the President (Bright) said, he considered "coagulable urine a very important symptom, and that although it may exist for several weeks and months before any organic change takes place, still, if the action on which it depends be not corrected, it will ultimately lead to structural alteration in the kidney and death will be inevitable; he considered coagulable urine as important a pathognomonic indication of disease of the kidneys as purulent expectoration is of phthisis. All diseases of the kidney are not attended by albuminous urine, which seems to depend on a slow inflammatory action going on in the kidney, producing an interstitial change of structure, or the new deposit. It must not be inferred that the kidneys are healthy because the urine is not albuminous, as abscesses may exist in them and even prove fatal without the urine manifesting any albuminous character." (MS. minutes of the Guy's Physical Society. In the library of Guy's Hospital.)

**

tion by some writers that he regards albuminuria as necessarily evidence of a progressive and fatal disease. He relates a series of instances of acute, many scarlatinal, nephritis. Of this particular form of the disease he says (p. 136):

"The attack of the original disease has often been slight; the rash sometimes scarcely perceived; the sore-throat often mild; and the affection of the urine has often shown itself while the rash or sore-throat has still existed. Hæmaturia has occasionally occurred during the severity of the attack; but more commonly this symptom, with or without anasarca, has followed on the subsidence of the fever, or during the early convalescence."

He discusses at length the nervous phenomena accompanying the disease—cramps, spasms, epileptiform seizures, defective vision, as well as other complications.

He enters into the question of treatment at some length, advising bleeding in the acute stages only—mild purgatives and diaphoretics. He relies much on careful attention to the skin and on rest in bed.

He recognises that recovery from acute nephritis occurs, but evidently feels that the usual course is progressive.*

In 1842, in connexion with Robinson's work on the pathology of granular disease of the kidney,[72] Bright published a short note in the *London Medical Gazette*,[73] in which he tells of microscopical studies made with Toynbee on sections of injected kidneys, which led them to believe that the most important changes in the disease occur in the glomeruli.

These papers end the contributions that Bright made to renal disease under his own name, although, as we shall see, valuable studies were made later by pupils under his guidance and direction. In a little less than ten years he had brought into medicine a remarkably clear clinical and gross pathological conception of those forms of acute and chronic renal disease which have since then come to be associated with his name. Bright's contribution was not a mere recognition of the association of clinical symptoms with anatomical change; he had

* Bright's prognostic pessimism, criticised by some of his colleagues, was indeed not so great as is common during the early years after the recognition of a malady which leads generally to a fatal issue. Time and experience alone shed the necessary light on such questions.

An interesting example of a happy error in prognosis is related by Hawkins.[96] In 1849 Bright was consulted by a physician of five-and-forty who suffered from a pronounced and persistent albuminuria. Bright is said to have expressed the opinion that the patient could not live for more than two years. The physician thereupon abandoned his practice and betook himself to the country, where he lived comfortably for forty-three years, dying of cerebral hæmorrhage in 1892 at the age of eighty-eight. The albuminuria persisted throughout his life.

studied the character of the urine, of the serum of the blood and of body fluids, and had been led into various speculations of a physiological nature. *He was one of the first to introduce methods of quantitative chemical study into routine medical practice.*

One may say, as has been said, that the world was ripe for his discovery. Perhaps it was. The world is always ripe for men such as Bright.

But Bright did much more than discover the relation between albuminuria, dropsy and renal disease. In his first quarto, after his original observations on renal disease, he took up the study of dropsical effusion connected with disease of the liver, describing a series of instances of hepatic cirrhosis, of which he treats again in his observations on jaundice [52] and on abdominal tumours [69, 89] with remarkable clearness and precision.

In Case XXXIX (p. 125), an instance apparently, of pericarditis, there was an area of cardiac sclerosis surmounted by intra-ventricular thrombi; in connection with this he describes a like example of "destruction of the inner lining of the heart near its apex," with intra-ventricular thrombi and sudden death.

He describes (p. 126) the chronic peritonitis occurring in ascites of long duration, which he believes to be due "to a slow inflammation kept up by the unnatural stimulus of the fluid."

He relates the histories of a series of cases of bronchitis with several necropsies. One wonders whether Laennec would not have regarded Cases XLIII and XLIV as instances of emphysema (pp. 130–133).

Sections are devoted to the termination of pneumonia in suppuration and gangrene, and to Phthisis Pulmonalis, accompanied by beautiful illustrations.

"Obstruction of the mesenteric glands by tuberculous disease" he regards as an important cause of emaciation, and he describes and pictures the caseous ("engorged") lacteals making their way to such glands (p. 150).

He then takes up "the morbid appearances which occasionally take place in the intestines during the progress of fever" (pp. 178 *et seq.*), which were "never suspected to be as general until brought into view by the French physicians" (p. viii). These cases, LIII to LXI, for the most part of typhoid fever, are well described and beautifully illustrated. "It is not (p. 186) perhaps within the power of human skill always to avert those awful scenes with which fever frequently terminates, but most undoubtedly there is no more certain way of inter-

posing to prevent them, than by making ourselves acquainted with the nature of the mischief with which we have to contend." It is rather remarkable that in his accurate descriptions of these necropsies there is scarcely a note as to the condition of the spleen.

During the four years between the appearance of the first and second quartos of Bright's reports, the greater part of his time appears to have been given to his hospital studies and to his teaching. In 1827 he published an outline of his lectures on clinical medicine,[23] and in 1828 with Bostock [24] he recounts a case of unusually profuse sweating in which the fluid was collected in a glass as it poured through the bedclothes.

At the hospital he was active. The Guy's Physical Society, of which Bright had been made an ordinary member in 1811 and an honorary member in 1814,* was languishing. Bright appears to have played a large part in its rejuvenation, and was the first President of the new organisation. In his opening address [25] he sets forth the advantages of a hospital medical society, insisting especially on the stimulus afforded to junior members to write dissertations. He points out that Currie's views on the treatment of fever by cold affusions had their origin in a paper written for the Royal Medical Society at Edinburgh.

In 1831 appeared the two parts of the second quarto of the Reports.[31] In this monumental work Bright records over three hundred cases, for the most part with necropsy, with comments which are often strikingly acute and discriminating. The greater part of the work is given to diseases of the brain, meninges and cord.

He describes (pp. 106 *et seq.*) and pictures suppurative meningitis and abscesses of the brain, secondary to diseases of the middle ear, of the accessory sinuses and to erysipelas.

In his account of "Acute Hydrocephalus" he refers again and again, to the tuberculous ("scrofulous") family history, or points out the coexistence of solitary tubercles in brain and meninges, or of acute tuberculosis elsewhere in the body, and (p. 680) he refers to scrofulous tubercles as "often giving rise to the effusion of serum."

Apropos of a solitary tubercle in the brain, he says (p. 361):

"In this case we have a striking exemplification of the tendency which often prevails to the formation of tubercles in various parts of the body generally connected with a scrofulous

* Bright was elected to ordinary membership on January 5, 1811; to honorary membership on April 16, 1814. (See Minutes of Physical Society in library of Guy's Hospital.)

constitution,—often running into Phthisis Pulmonalis, sometimes inducing marasmus and peritoneal disorganization; and often destroying life, as in this instance, by the formation of tubercles more or less extensive in the brain.—This appears to affect in a peculiar way the serous membranes, and, not unfrequently, is attended with a disposition to an increased accumulation of fluid in the cavities, showing itself by effusion into the abdomen, or producing hydrocephalus: and it would appear that it is not necessary for tubercles to exist in the brain in order to excite the hydrocephalic action, nor is the effusion of fluid in the brain, at all a necessary result of the existence of such tubercles.—Thus in the present case, though the tubercles had proceeded to a great extent, and induced the most distressing effects, no effusion had taken place: and in a case which I shall immediately relate, the effusion had taken place in a constitution exactly analogous, as proved by other morbid appearances, without any tubercular formation in the brain; while in a third, to which I shall also refer, both the tubercles existed to a small extent in the membranes of the brain, and hydrocephalus had taken place;—from which different facts, it would seem that the hydrocephalus is rather the result of the constitutional tendency than of the tubercles, though these morbid deposits are probably often the existing cause."

Again (p. 650), in connection with Case CCCX, he says: "In this case we have another instance of that tendency to hydrocephalic disease which is often found to co-exist with a disposition to form tubercles even where no tubercular disease is to be discovered in the brain." Finally, on p. 657, he says: "It appears that serous effusion in the brain is the result of common inflammation, and of that peculiar inflammation which often accompanies the scrofulous diathesis, sometimes attended by actual tubercular deposit; and that it also arises from congestion and from debility."

How close he came to that which Papavoine [27] was recognising at the same moment, which Gerhard [42] set forth so clearly two years later.

He describes sclerosis (pp. 43–7) of the medullary substance of the brain in an instance of familial spastic diplegia, and of the spinal cord which was "remarkably firm throughout, almost like cartilage," in a case of pontine tumour, ascribing the spasticity to these changes (p. 52).

He mentions the frequency of venous thrombosis under the influence of debilitating causes, which leads him to advise caution against too active depletion (pp. 63 *et seq.*).

He calls attention (pp. 75–6) to the "leaden-grey colour of the viscera," and later to the pigmentation ("colour of black lead") of the brain in patients (pp. 219–20) who had died of fever, doubtless pernicious malaria. Later (p. 677), in speaking

of the dark colour of the grey matter in excessive venous congestion, he observes that " it is occasionally the result of fevers."

He regards headaches as usually dependent on cerebral congestion (p. 221).

He describes for the first time, I believe, in medical literature, a characteristic instance of Addison's disease with caseated adrenals (p. 247).

In an instance of diabetes (p. 262) he notes the extreme scirrhous degeneration of the pancreas.

He describes an obvious example of heart block with what later came to be known as Adams-Stokes syndrome (pp. 270–73).

He recounts many instances of Jacksonian epilepsy. But more than this, *he recognized the significance of the syndrome and described it repeatedly and with great clearness* (pp. 327, 330, 514, 538–45, 552, 608, 644). " The connexion," he says (p. 330), " between convulsion and injury to the cineritious substance will also be observed by a reference to Cases LXIV, LXXI, LXXXII, CXLIII, and the same connexion will be still further illustrated by many of the cases, particularly those of epileptic convulsion." Later (p. 514), he says :

" As far as I have been able to infer from my own observation, I should say that the organic causes of epilepsy, connected immediately with the brain, are more frequently such as affect its surface than such as are deep seated in its substance. Thus we find that morbid growth, taking place in the skull, showing itself by a thickened heavy state of the bone, or by a roughened surface, either internally or externally, or a remarkable prominence in the natural projections at the base, is often associated with epilepsy. Slow changes producing a thickened condition of the membranes, will not unfrequently be found attendant upon epileptic attacks. Tumours pressing on the surface or amalgamated with the cineritious substance will also be found in cases of epilepsy; and these observations connect themselves in some way with hints thrown out at page 46 and 381 respecting the apparent dependence of spasmodic action, in many cases, upon injury done to the cineritious substance."

These observations he bore in mind and, five years later,[45] he reported a case where, during life, he gave it as his " opinion, that these fits were owing to *some local disorganization affecting the membranes and cineritious portion of the brain on the left side, and probably involving the deep-seated parts about the posterior portion of the corpus striatum.*" Necropsy revealed a subdural abscess, the larger part of which was " in the posterior part of the fossa made by the temporal bone." " My reason then," says he, " for supposing that the epileptic attacks in this case depended

rather on a local affection than on a more general state of the cerebral circulation or excitement, was the *degree of consciousness which was observed to be retained* during the fits. . . ." He had seen two like cases and concludes with these words :

" We cannot, from these few cases, infer a constant connection between the circumstances to which allusion has been made; but at all events it does not seem improbable, that the local and general cause should be attended by different mental indications; and I would here observe that cases in which epilepsy follows accidents, and in which the fits are often attended by a destruction of consciousness; do not necessarily form an argument against the establishment of such a law; because in these cases, the mischief, though produced by mechanical and casual causes, is often very generally impressed upon the brain on its very first infliction. . . . *The epileptic character seemed to point to the membranes and surface of the brain as the parts affected;* for this connection I have pretty well satisfied myself, by an extensive induction of facts."

Among the many recorded instances of hæmorrhage, softening and pressure by growths, there are interesting and acute observations on cerebral localisation.

" The articulation is very frequently affected after apoplexy, and this from different causes : sometimes it depends almost entirely on the paralysis of the muscles of the face; and then, by supporting the paralysed cheek with the hand, you partially remove the indistinctness of articulation; but in other cases the defect is in the muscles of the tongue and of the larynx, so that it is not possible to produce the sounds : in these latter cases I have very frequently found that the injury has been situated so as to produce pressure or laceration of the posterior part of the corpus striatum (Cases CXLI and CXLII); whereas in other cases, where hemiplegia has occurred without the loss of power of generating sounds, this part has been free from injury or pressure (Case CLXIV) " (p. 330).

Where deglutition is affected he has generally found that the corpus striatum has been injured. " I have," says he, " in several cases observed that the speech has been most affected when the hand and arm have been paralysed. . . ."

Later [55] he reports two most interesting instances of tumours situated at or about the cerebellar-pontine angle, one apparently cerebellar in origin. Both occurred in individuals a little beyond their prime, were gradual in their course, led to a spastic paraplegia with some sensory disturbance, and little mental change until late in their course. Both were associated with early loss of hearing on the affected side and later on both sides;

in both there was loss of vision and a diminished sense of taste. In his discussion he says :

" . . . there has been so great a resemblance in the symptoms as to confirm the feeling which I always entertain, and wish to enforce—that in disease, as in other matters, there is a fixed relation, which it is possible we may discover between cause and effect;—a belief which is indeed essential, in order to render our investigations on the subject of diagnosis satisfactory and interesting. Of course, various circumstances always exist which serve to modify, or to form a part of the cause on which certain effects or symptoms depend: and hence arises that difficulty which has induced some almost to doubt the possibility of forming any other than a general and indefinite diagnosis in many diseases, particularly those in which the nervous system is implicated. The only way to overcome this acknowledged difficulty, as regards disease connected with organic change, is to increase the number of authentic cases in which symptoms and morbid appearances are faithfully detailed."

And after the relation of several instances of disease of the cord with paraplegia, we find the following reflections :

" Although it will appear most obvious to us all, when we reflect upon the distribution of the nerves, and their ascertained functions, that results, such as those which have just now been mentioned, must almost necessarily follow injuries inflicted on particular parts of the nervous system, yet the positive proofs to be derived from the effects of disease cannot be too frequently repeated, or too carefully accumulated; and the more we habituate ourselves to connect the symptoms with the nature and locality of the lesion as affecting those parts about the basis of the brain and the spinal cord—the influence of which, upon distant parts, is obvious and demonstrable—the more confidently shall we learn to seek for similar connections in parts where they have not hitherto been so plainly discovered; and the more likely we shall be, not only to trace out the physical dependence of parts, but likewise to arrive at whatever conclusions the intricate subject will admit of, in reference to the dependence of the mental processes and deficiencies on the integrity or lesions of certain portions of the cerebral structure. Thus, a vessel is ruptured on the surface of the brain, or in the substance of one of the hemispheres; apoplexy is the result followed by hemiplegia; a certain vacuity of the mind remains, but the defect is general, or unattended by any marked peculiarity. In some cases, however, there is something more specific : in some, very peculiar spectral illusions have been the result : in other cases, defective articulation has been remarkable : again, in another case, the memory has been most strikingly defective : in some cases, this defect has been general : in some, it refers only to the use of language : while in others a great and marked difficulty has been observable in the power of connecting words

with objects and ideas they are intended to express. It is not unreasonable to suppose that, in these different cases, the lesion has differed, either in its character or its situation; and the more facts we can bring to bear, though they bear but slightly or doubtfully on the point, the more likely are we to arrive at just conclusions; provided we do our best not to draw our inferences too rapidly, or give more than the proper weight to the connexions we are anxious to establish between causes and effects."

He then describes with singular accuracy and clearness two instances of amnestic aphasia with central lesions, and concludes with these words: "When we review the cases which I have thus thrown together, I trust that, in one point, the connection between them will be obvious; inasmuch as they all serve, more or less to establish and keep up our conviction, that the symptoms which arise in cerebral and spinal disease are actually the results, and therefore the fair representatives, of the lesions which the different portions of the nervous system have suffered."

He recognizes the frequent sclerosis of the arteries at the base of the brain, and (p. 331) notes that the common seat of hæmorrhage "is undoubtedly a little to the outside of the corpus striatum in either hemisphere, just at that part where many large vessels may be traced coming from the trunks in the Fossa Sylvii, and pervading the brain."

In connexion with the formation of bullæ in several instances of paraplegia he says (p. 383): "It has sometimes struck me that this connexion between interrupted nervous action and the formation of bullæ, might hereafter be found to throw light on the nature of that most singular disease, Herpes Zoster, which, from the peculiar pain with which it is accompanied, as well as its striking confinement to one side of the body, seems to be connected with some peculiar condition, perhaps the distension of the sentient nerves."

In a necropsy (p. 420) on a negro he noted that the "skull was thick and heavy in a remarkable degree"—a racial peculiarity familiar to those of us who live in the south.

Conservative in therapeutics, he makes the following interesting observation in his discussion of Hysteria (p. 453): "Again and again have I seen complaints of this kind treated as chronic hepatitis, and the disease confirmed and the constitution undermined by the continued and repeated use of mercury; . . ." And a little later there is another observation made in connexion with the treatment of chorea, on which, in a broader sense it might be well for the medical profession of to-day to meditate. "I have occasionally known instances in which arsenic has been

successfully administered; but I object to this remedy, where others less hazardous will act as well" (p. 471).

The relations, one to another, of the various manifestations of that which we call rheumatic fever, Bright refers to often. "Chorea (p. 469) is associated with amenorrhœa, with rheumatism, with roseola, and urticaria: but the exact mode by which they are connected, whether cause and effect, or as depending on the same exciting circumstances, is not easily determined."

On p. 489 he mentions an instance in which an "ulcerated sore-throat preceded the appearance of chorea." Rheumatic fever had occurred previously.

On pp. 493–4 he says: "We also see that rheumatism is so intimately connected with chorea, that in some cases it seems to have been an exciting cause, at other times to be but a concomitant, marking in both instances a peculiar connexion between that disease and the morbid condition of the nervous system."

In a later publication,[62] in considering the relations of chorea with affections of the pericardium, Bright comes back to the question of what we sometimes call to-day the rheumatic cycle of diseases.

"With regard to the connexion between chorea and inflammation of the pericardium, when called upon the year before last to give the Lumleian lectures at the College of Physicians, I took occasion to state, that for some years I had been persuaded of the existence of such a combination, and little attention has hitherto, as far as I know, been paid to the subject, although the combination of this spasmodic disease with rheumatism has been long recognised. . . . It has occurred to me to see many cases of the combination and alternation of rheumatism and chorea, and some which have convinced me that amongst the causes of chorea, however numerous they may be, (and some undoubtedly belong to far distant parts of the body,) inflammation of the pericardium has been one."

The conclusion sounds to us rather startling, but how often have we, at all times, ascribed one to another, diseases due to a common cause.

Epilepsy and post-epileptic phenomena are discussed at some length (pp. 510 et seq.); those forms for which he could find no focal cause, as well as Jacksonian convulsions, which, as has been said, he described so admirably.

The clinical account of tetanus (pp. 555–81) is remarkable. It is, he says, "the purest example of nervous derangement depending on irritation communicated to the brain from some distant part."

The account of hydrophobia (pp. 582 et seq.) is vivid. How striking is the following observation (pp. 605–6):

"As regards the symptoms of the confirmed disease, they bespeak the highest state of nervous irritability; and affecting, as they do, almost exclusively in the first instance, the functions of respiration and deglutition, and in some degree the circulation, they seem to be immediately dependent upon some morbid action excited in the nerves of organic life, or that particular set of nerves which has been so beautifully illustrated by Mr. Charles Bell as connected with the respiratory apparatus; and looking to the large proportion of those who are bitten, yet who escape entirely from the disease, it might perhaps arise as a legitimate question, whether it is not one of the conditions necessary to the production of the disease, that some nervous fibre immediately connected with that system should have been wounded."

He also points out the frequency with which the fatal bites have been on unprotected surfaces.

The second quarto appeared but seven years after Bright had acquired the opportunities offered by wards of his own. The quiet, modest young man, who had schooled himself from the beginning to observe, to note, to picture, to record all that which he could grasp of nature and her works, had been true to his promise; in his medical inquiries he had shown the same keen, sure power of observation, the same industry, the same mental poise, the same sound, sane judgment that he had manifested in his earlier writings. At the age of two-and-forty he had seen and comprehended and recorded and illustrated his experiences in communications which stand out among the great contributions to medicine.

In 1832, following the publication of his second quarto, Bright was promoted from Licentiate to the full Fellowship in the Royal College of Physicians.[34] He had become distinguished among his colleagues and loved by his pupils.

The introduction to his course of lectures at Guy's, published in the same year at the request of his students,[35] contains passages that can scarcely be passed over. The first of these is, as our Gallic friends might say, "of actuality":

"Yet it might not be improper to call your minds to another truism as obvious, though not so generally acknowledged: I mean the paramount importance of that particular part of your profession in which this Course of Lectures professes to instruct you—the Practice of Medicine; for, strange though it might appear, it is too often forgotten that the Practice of Medicine is the most important part of the medical practitioner's education; and while occupied in anatomical pursuits and interested in the

visible progress of surgical disease and the prompt effect of surgical operation, many a young man has discovered too late that the time he could devote to the study of his profession has insensibly glided away, and he has made scarcely one effort to obtain a connected knowledge of those diseases which,—let him style himself General Practitioner, Surgeon, or Physician—will be the chief objects of his practice, the daily betrayers of his ignorance, or the touch-stones of his skill. Anatomy and physiology are the basis on which alone sound pathology and sound practice can be built; but though you had made yourself perfect in these, you are still but at the threshold of the temple. You have not taken the first step into that sanctuary in which you are hereafter to officiate for good or for evil."

Yesterday as to-day there were those who forget that long-continued, sometimes wearisome, daily experience in clinical observation is vital for the development of the true physician.

He reflects : " how varied the information and acquirement which it is incumbent on him who undertakes the duties of a physician to store up within his mind, that he may not be found wanting amidst the ever-varying emergencies of his profession. There is no classic, there is no scientific acquirement, there is no study calculated to enlarge the mind which is not becoming to the physician : whatever can render him more conversant with man, both the corporal and the intellectual part of man, is his more particular province; and whatever can open to him any other page in the history of nature, will throw fresh light on his professional pursuits." Good food for reflection in days when too much thought is given to the saving of time; too little consideration to the general culture of the youth.

Later he says : ". . . I need scarcely mention a classical and mathematical education as the basis, the foundation, on which to build :—I need still less enumerate anatomy, physiology, chemistry, therapeutics as the corner-stones of your edifice :—I need scarcely insist on the importance of cultivating a chastened power of generalising your ideas, and a cautious habit of reasoning upon facts."

He points out interestingly the fundamental necessity of the study of the significance of clinical symptoms. But he warns against that omniscience which, by the way, is the greatest enemy of him, be he clergyman or physician, who is in constant contact with admiring parishioner or patient.

" Undoubtedly the more a man sees disease, provided he looks at it with the eye of intelligence, the better; but think not that it is enough simply to let the eye or the hand wander over the patient; and do not flatter yourself that you possess by intuition the power of discerning and discriminating disease.

We have all of us senses, it is true,—without much experience our senses remain most imperfect, compared with the exquisite perfection to which they are brought by practice: . . . on the accuracy of his observation all his deductions must depend; . . . ."

"By the eye you will learn much; many diseases have the most distinct physiognomy. The sunk and shrivelled features derived from the long-continued disease of the abdominal viscera;—the white and bloated countenance attendant on changes in functions or structure of the kidneys;—the sallow and puffy cheeks of the liver" (a surprising picture if taken literally!), "diseased from habitual intemperance;—the squalid and mottled complexion of the cachexia dependent upon the united effects of the mercury and siphilis (*sic*);—the pallid face of hæmorrhage;—the waxen hue of amenorrhœa;—the dingy whiteness of malignant disease;—the vacant lassitude of fever;—the purple cheek of pneumonia;—the bright flush of phthisis;—the contracted features and corrugated brow of tetanus; . . ."

We can forgive the liver's puffy cheeks in one who could have written "the vacant lassitude of fever"!

He refers (pp. 37–8) to the perfection to which the sense of touch is elevated in the blind, and says: ". . . to a certain degree we may all acquire such accuracy of touch, and it is our duty to do it."

The necessity of continued observation of common clinical phenomena is emphasized, and regular and repeated visits to those suffering from acute disease are especially advised.

"It is quite impossible for any man to gain information respecting acute disease unless he watch its progress. Day after day it must be seen; the lapse of eight-and-forty hours will so change the face of disease, that where, but the day before yesterday, nothing but knee or hand was swollen, to-day the heart should be beating its laborious stroke in a thick crust of coagulable lymph; what was then a highly inflammatory fever shall to-day be sunk into the hopeless prostration of the lowest typhus; the restless activity of the inflamed brain shall be changed into the death-like coma; or the conquerable inflammation of the intestines shall be followed by fatal effusion or disorganization; and if such changes, requiring at each hour the physician's care, shall be effected in eight-and-forty hours, who shall recognise the acute disease which he visits scarcely once a week? Acute diseases must be seen at least once a day by those who wish to learn; in many cases twice a day will not be too often."

Wise advice. How many physicians carry in their minds bitter memories of mistakes made in their early days, when they had left the school capable of recognizing individual

anatomical or pathological pictures, but unfamiliar as yet with the clinical course of disease?

In the same year Bright [36] called attention

"to a particular symptom in disease, which I believe to have been but little noticed . . . a peculiar condition of 'alvine' evacuation, a portion, more or less considerable assuming the character of an oily substance resembling fat which either passes separately from the bowels, or soon divides itself from the general mass, and lies upon the surface sometimes forming a thick crust particularly about the edges of the vessel, if the fæces are of a semi-fluid consistence, sometimes floating like globules of tallow which have been moulded and become cold, and sometimes assuming the form of a thin fatty pellicle over the whole, or over the fluid parts, in which the more solid fæces are deposited."

In connexion with one of his cases he notes the abnormal size of the stool. He observed this phenomenon in three instances of extensive destruction of the head of the pancreas by neoplasms, together with more or less occlusion of the bile duct and ulceration in the duodenum. By clear and careful reasoning he points out that that which is specially common is the pancreatic involvement to which he is inclined to ascribe the phenomenon.

In his Gulstonian Lectures [41] he discusses the matter further, distinguishing this appearance from the mere presence of an increased amount of fat mixed with the stool as observed in obstructive jaundice, and mentions the confirmatory cases of Lloyd [38] and Eastcott.[37]

Finally, in his observations on jaundice [52] he remarks (p. 160) that the presence of liquid and floating fat he first observed in several cases where the obstruction had occurred in the pancreas itself, and that shortly before, he had observed another case.*

Bright's father-in-law, William Babington, died in 1833, and the first Gulstonian Lecture was preceded by a warm tribute to his friend and teacher.[40] The qualities which he praises in his master, the "sweet simplicity of manner," the "profound humility of mind," his "power of self-control," the correctness of his judgment, his "benevolence of heart," are curiously like those which Bright's friends discovered in him.

In his Gulstonian Lectures [41] (p. 415) he mentions briefly but very clearly an instance of generalized scleroderma.†

* Bright apparently did not wholly grasp the significance of the cases of Eastcott [37] and of one of these reported by Elliotson [39] to the Medical and Chirurgical Society but two weeks after the original communication, cases in which the sole lesions consisted of the obstruction of the pancreatic ducts by calculi, and the secondary changes.

† "In elephantiasis and some other morbid changes which affect the cellular membrane it becomes hard and unyielding, a condition which I once saw most

A little further on he describes the character and significance of peritoneal friction and the " dough-like sensation " or " hard, knotty feel " in the abdomen, the seat of a chronic, proliferative peritonitis.*

This subject he takes up two years later [44] in a communication in which, as pointed out by Sir William Hale-White,[105] he gives a clear and probably original description of chronic proliferative peritonitis. In connexion with one of the cases Bright observes :

" An adhesive inflammation is opposed to the throwing out of serum in the part where the adhesion actually takes place (which indeed is so far almost a self-evident proposition) but an approach to that form of inflammation may have the same effect in checking effusion without any active adhesion forming; for as soon as the adhesive process began to take place but partially in the abdomen, the tendency to effusion was manifestly diminished. If then any mode could be devised of exciting inflammatory action in the peritoneum short of producing adhesions, when the membrane is prone to an inordinate secretion, it is possible we might check the fatal source of exhaustion without incurring the incalculable evils which must arise from gluing the intestines to each other and to the parietes; and should this ever be attempted, every indication which can lead us to estimate the progress of adhesive inflammation will be doubly valuable."

At another point in his Gulstonian Lectures [41] he observes that a palpable gall bladder " will generally be found to indicate disease of the pancreas itself, or of the absorbent glands lying upon it, near its union with the duodenum; and the opening of the common duct is in these cases not infrequently obliterated."

In 1836 and again in 1839 Bright was a Censor of the Royal College of Physicians. In 1836 appeared the first volume of the *Guy's Hospital Reports*. How active Bright was during this period is indicated by the eight important communications from his pen. The first of these, on the treatment of fever,[45] in which he takes occasion to advise caution in the use of active purgatives and diaphoretics, begins with these words :

---

remarkably exhibited over the whole surface in a man who, after passing many months as a sailor on the coast of Guinea, was called to the North American station, and in him not only the cellular membrane of the abdomen had acquired a peculiar hardness, but almost all power of expression was lost, for his face and his fingers were so stiff and immovable that I believe it would have been more easy to break than to bend them."

* " Another peculiar sensation is yielded by gentle pressure on the abdomen, when fresh adhesions are forming between various parts of the peritoneum; this is an approach to crepitation—nearly the feel communicated by bending and pressing new leather. When again the deposit in the peritoneum is more complete and more general, the whole yields a solid dough-like sensation, or a hard knotty feel, according as the deposit is such as only to draw the intestines into one mass, or is so abundant and so changed as to form irregular accumulations."

" It is a duty incumbent upon the physician who has ventured at any time to lay before the profession his ideas of disease and its treatment, to review from time to time his published opinions that he may see how far subsequent experience has borne out, or modified, his former impressions; and if he detect any material alteration in his mode of viewing disease, more particularly as respects the practice he has found beneficial, it is right that he should take an opportunity to make it known."

This statement gives the opportunity to an anonymous and atrabilious scribe for the assertion that [46] ". . . Dr. Bright had for *many years* abandoned a practice which he had previously recommended for its excellence to the profession, without ever hinting to them until this very day, that that practice was materially calculated to keep up the disease which he originally designed it to lessen."

Whatever Bright's inward reaction to attacks of this sort may have been, he appears to have followed the wise advice of the Reverend Cotton Mather:* "*Sile et funestam dedisti plagam.*"

Beside the description of a case of tetanus [48] and studies of cerebral [47] and renal [49, 50] disease already referred to, there follows a well-described and little-known observation on diaphragmatic hernia [51] where the entire stomach lay in the chest, and then some "Observations on Jaundice." [52] This is an important article, containing a good clinical description, the first in medical literature, of acute yellow atrophy of the liver, although, as Hale-White points out,[105] the author fails clearly to distinguish acute yellow atrophy from suppurative pylephlebitis, which he seems to have regarded as its later stage. In this note he comments on the frequency with which the tender and swollen liver of chronic passive congestion is evidence of an overlooked cardiac disease. At another point he refers to the frequency of rigors in cholelithiasis. Finally, there is an excellent anatomical study of the manner in which cancerous growths invade the substance of the liver.[53]

Bright had become one of the leaders of the profession. His observations on renal disease were the subject of active discussion the world over. In the following year he published the first of a series of articles on abdominal disease, especially abdominal tumours,[56] which later were collected into a volume and edited under the auspices of the New Sydenham Society by Barlow.[89] These articles are a mine of valuable observations, and sane and acute comment. With his earlier contributions they go far

* Mather (Cotton): *Manuductio ad Ministerium.* Directions for a Candidate of the Ministry, etc. 8vo. Boston, 1726, p. 142. Printed for Thomas Hancock & Co.

towards justifying the assertion which has been made, that Bright did for diseases of the abdomen what Laennec did for diseases of the chest. The first communication [56] treats of fifteen cases of hydatid disease. The clinical and anatomical pictures are admirable, and the description of the appearances of the cysts themselves and of the development of the daughter cysts, in which he made use of the microscope, is the first in literature.

His discussion of ovarian tumours [59] is excellent reading for those who in these days of prompt and efficient surgery, so rarely see such growths other than in their earliest stages.

In the observations on diseases of the spleen [60] Bright speaks of the difficulties of diagnosis of disease of an organ as to the function of which we know so little. He recognises the frequency of anæmia and an hæmorrhagic tendency in connection with splenic disease. He notes the large, fleshy, probably leukæmic spleen and records clearly an instance of that which later became known as "Hodgkin's disease." He concludes with these words :

"On reflecting on the frequent combinations of these and other morbid states in disease, we perceive more exactly the mutual relations and unions existing between them, and this is always an interesting light in which to view disease. The chief points of approach or contact to which our attention is directed are the occasional intermixture of splenic disease with disease more or less extensive and confirmed of the absorbent system; the depressed state of circulation occurring in severe affections of the spleen; the coincidence of splenic with hepatic disease; its connection with derangement of the peritoneum; and some relation, though probably only collateral, between that state of the kidneys which produces albuminous urine and the derangement of the spleen. By holding these and such like points in our minds, we shall comprehend more fully the possible value of the knowledge to be derived from following out the history of the derangement of the spleen, than we should by simply considering the morbid state of an organ of which so little is known with certainty; for the enumeration of morbid conditions can at best only be viewed as forming an alphabet for the construction of a language into which we may hereafter translate the complicated and obscure legends of disease."

His description of tumours of the kidney [61] contains much that is interesting. In the discussion of differential diagnosis (p. 211) he says : "In cases of fæcal abscess, a disease very common from lodgments in the vermiform process, the febrile symptoms generally are much higher than in renal tumors : there is often external inflammation, and much tenderness; and,

above all, the tumor is often found too low in the iliac region to be probably produced by the kidney, though I have known such abscesses to discharge their contents almost in the lumbar region."

The remarkable description of that which we now call appendicitis, which is to be found in Bright's and Addison's *Elements of Practice*, is referred to later.

In his fifth communication, which treats of tumours of the liver,[69] the descriptions of portal cirrhosis are remarkably good. He mentions the frequency of hæmorrhage and sets forth the now familiar method of palpating the liver in the presence of ascites.

> "For this purpose the attention of the patient must be drawn away if possible to prevent the almost involuntary tension of the muscles; and then, the points of the fingers, being placed on the surface, by a quick movement are brought down with the integuments so as to displace the serum and receive the impulse of the liver; and then, taking advantage of a favourable moment, the irregularities of the surface may be felt."

And finally "The chief circumstances I would remark are that this kind of liver appears the legitimate result of dram drinking; that it was accompanied with the same slight, imperfect jaundice which accompanied three of four other cases; . . ."

In 1837 he delivered the Lumleian Lectures on disorders of the brain, which, apparently, remained unpublished. In the same year he was made Physician Extraordinary to the Queen.

In 1839 appeared the first volume of the *Elements of the Practice of Medicine*, by Bright and his associate Thomas Addison;[63] the second volume was never published. Written as a book of reference for students, it is notable for the clearness and conciseness of its excellent clinical pictures and its accurate anatomical descriptions. The authors, for instance, recognize that fæcal abscess "in the right iliac region arises in a large majority of instances from disease set up in the *appendix cæci*." * The description of this process, clinical and anatomical, as Hale-White[105] has pointed out, is far in advance of anything of its time; it can scarcely be excelled to-day.

But excellent though the work was, "the *Batts* and the *Owls*" muttered, and to a leading journal of medicine, which had already referred to a preliminary fasciculus in a somewhat condescending vein,† one of the former contributed a dismal

* See p. 499.

† In connexion with the appearance of the first fasciculus of this work the *Lancet*[54] observed: "In the fasciculus which they publish as a sample, originality of scientific views may be sought in vain."

Richd Bright

[To face page 288.

and depreciatory review of the volume.[64] The critic who airs his familiarity with, and betrays his incomprehension of the French literature, asserts solemnly that " . . . . these ' Elements ' rank much, much below mediocrity." The review ends with an attack on the existing method of distributing hospital appointments. " So long as it exists laziness will be the distinguishing characteristic of those who hold them." The rich, who buy their positions, will think of nought but striking bargains; the enthusiasm of the poor man " will be crushed, ere it can lead to action, and his spirit soured as he looks on the disgraceful inefficiency of

> " . . . those baleful, unclean birds,
> Those lazy owls, who (perched near Fortune's top)
> Sit watchful with their heavy wings
> To cuff down new-fledged virtues that would rise
> To nobler heights, and make the grove harmonious."

This is indeed a sad picture !

Another London journal of medicine, a year later, says : [71]

" Drs. Bright and Addison give the course on the practice of medicine at Guy's. . . . Dr. Bright is a very heavy, conceited person, and Dr. Addison a blustering bundle of loquacity—vox et praeterea nihil. He will lecture for an hour on the cause of catarrh, or the distinction between lepra and psoriasis. . . . We firmly believe that had the last two appointments to the medical staff at Guy's . . . been awarded according to the merit of the individuals, not one of the gentlemen now holding these offices would have been elected. They have not a quality, natural or acquired, which would render their election justifiable."

And there were the " *Owls* " as well as the " *Batts*." In 1839 one Richard Bright of 25 Ely Place, Holborn, M.R.C.S., and " Author of a Popular Treatise on the Diseases of Females; entitled Every Woman's Book; or Female's Physician ", published a small octavo volume of sixty-six pages entitled " Practical observations on the nature and symptoms of dropsy in all its forms; in which a new and more correct plan of treatment is proposed and explained; with several cases illustrative of its success." [65] The author had been induced by numerous applications " received from professional brethren and others requiring explanation of my plan of treatment of dropsy . . ." to place before the public " a plain and concise description (void of technicalities or medical terms) of the principle and method of my practice in this disease, and which I have the happiness to find so eminently successful in its cure." After a somewhat unintelligent discussion of " dropsy " as a disease, there follows

a rather hazy description of his successful measures of treatment, and a series of illustrative cases. In his treatment he uses three prescriptions, of which he gives the ingredients but not their proportions,

A " compound mixture " consisting of :

" Decoct. Equiseti;
Zingiberis;
Cantharides;
Liq. Potassæ;
Sol. Chlorid. Sod."

A " liniment " consisting of :

" Digitalis;
Tabac;
Liq. Potassæ;
Tinct. Cantharides;
Ol. Rutæ.
Aqua."

" Aperient pills " composed of :

" Aloes;
Gamboge;
Jalap;
Rhubarb;
Ginger; with a *very small* proportion of calomel."

The volume is obviously the work of a member of the profession whose eye was fixed upon the main chance. At the end the author devotes a page to the defence of his medical character and standing, which have been attacked by evil-minded men. He attended " the various lectures and practice of Guy's Hospital * for nearly six years (the usual period being one year and a half)."

He became successively Licentiate of the Apothecaries' Company and Member of the Royal College of Surgeons,† " since

* In the book containing the records of the " General Entry of Pupils at Guy's Hospital " for the years 1823–32, Richard Bright's name appears on October 1, 1826. He appears to have been previously apprenticed to Mr. Mayon Appleby of Leicester, and he is recorded as having taken courses in the Practice of Medicine, Chemistry, Materia Medica, Midwifery, Physiology, Anatomy, Dissections, Surgery, and to have been a Surgical pupil. In the " Entries of Physicians' and Surgeons' Pupils and Dressers " he is recorded first on October 1, 1825, and at the end of his term, January 23, 1827, he is credited with having served " 92 mos."—which must mean " 12." In the succeeding volume, 1827–37, he is recorded as a dresser under " Mr. C." (Bransby Cooper) from Oct. 1, 1827 to April 3, 1828; " 6 mos."

† In the Signature Book and in the Examination Book of the Royal College of Surgeons, Richard Bright appears as having been received a member on the 7th August, 1827. In the " List of Fellows, Members, etc." for 1840–1843, Richard Bright appears with the address " Ely-place." Thereafter his name appears in the list of " Members who have made no return of their respective

which time I have been actively engaged in extensive practice and had a physician's diploma granted me in 1837, upon which occasion the following testimonials were very kindly furnished me by the several eminent medical gentlemen whose names are annexed." Then follows a series of brief and carefully worded but pleasant testimonials from Sir Astley Cooper, Sir Benjamin Brodie, Addison, Gordon (London Hospital), Bransby Cooper, Robert Keate (St. George's) and Charles Aston Key.

The author appears to have suffered from doubts and premonitions; all his testimonials are dated 1837, two years before the publication of his book.

The "*Batts*" may annoy but profit little by their feverish flutterings; the "*Owls*" are wiser. One may imagine that Richard of Holborn may have drawn from the public a fair measure of the balm that he sought. As he may have hoped, his great work has, for nearly fifty years, been ascribed, in one important medical bibliography at least, to another Richard Bright whose name does not appear in his book.

But the "*Batts*" and the "*Owls*" failed to disturb Bright, who seems to have gone on his way unperturbed, notwithstanding what Mather called the "unregardable allatrations" of his adversaries.*

---

places of residence in compliance with the request of the Council" until 1854, when the publication of this list was discontinued.

In the list of "Members whose places of residence have been reported since the year 1840" his name does not appear.

* Bright's equanimity appears to have been remarkable. One Holloway, [78, 79, 80, 81, 82] an advertising quack, who professed to cure many and various ills with his pills and ointment, published and distributed a picturesque handbill relating the story, sworn to before the Lord Mayor of London, of an individual suffering with "*fifteen running ulcers* on his left arm" who, after treatment at four hospitals, had been told, finally, at Guy's, by "Sir" Bransby Cooper, that "the only chance of saving his life was to *lose his arm*." He thereupon called on "Dr. Bright, chief Physician at *Guy's*," who sent him to Holloway. The result was miraculous. The patient recovered completely in three weeks. Dr. Bright was "both astonished and delighted," and could "only compare this cure to a charm."

This apparently temerarious act on the part of Holloway gave rise to fervid protests by the *Lancet*, which demanded repeatedly that Bright deny his responsibility and take legal steps to defend his reputation. But Holloway, like most of his kind, was prepared for the emergency. At his elbow stood none other than our old friend Richard of Holborn, who in due time published or furnished him for publication a cordial testimonial to the value of his ointment. "Chief Physician at Guy's" he was not; there was no "Chief Physician." But with his name and his experience at Guy's, and his distinguished contributions to literature, he was probably a sufficiently safe legal coat of mail.

Despite the indignation, the threats and the lamentations of Wakley and "Senex," [79] who refers to him as the "arch-abettor of quackery," Bright ignored it all, telling his friends [87] that the advertisement was beneath his notice.

Seven years later the old handbill or a modification of it was circulated at Manchester and the *Association Medical Journal* [82] asks whether Bright has ever denied the story.

In the manuscript minutes of the Guy's Physical Society for October 5, 1839, there is the record of a communication by Bright on "the clavated nail and finger which was generally supposed to be indicative of a strumous diathesis." He asks under what conditions it arises, with what symptoms it is associated, and whether it is always the result of disease? "His observations, indeed, were more in the nature of an inquiry than of an ascertained fact." . . . "From certain facts which had come under his knowledge, he was convinced that the appearance above alluded to occasionally supervened very rapidly; and this happened in those cases where the volume of the lungs was extensively encroached upon, whether by empyema or long-continued purulent secretions from chronic bronchitis with dilated cells; or large and extensive vomicæ, etc. And in all cases he had noticed the appearance, it had come as a consequence of the affection of the lungs, on the left side." He mentioned five cases, several of which may not have been tuberculous.

"The doctor had seen other cases, but of which he had preserved no record. He would attempt no explanation of the phenomenon, but he had brought these cases before the Society in the hope that the members would take the opportunity of making further observations for themselves. He had never noticed that change of fingers prior to the change in the lung. The former appeared to depend in a way on the latter and to serve as a symptom of it; . . ." In his discussion as to the cause, he expressed himself as inclined to believe that "in the sluggish state of the circulation to which such a state of disease of lung, etc. must give rise, the capillaries generally and those of the finger-ends especially took on a change of action and enlarged. . . . The fact . . . is worthy of note but its application must be left to a more extended accumulation of experience."

The recognition that clubbed fingers may appear under observation, and that they are usually associated with circulatory disturbance dependent upon pulmonary changes, and not necessarily evidence of tuberculosis, is but another example of Bright's clearness of vision.

Bright had enjoyed the privilege of his position at Guy's for nearly twenty years. He had made the most of his opportunities and had observed keenly and recorded accurately and conscientiously that which he had observed. That "chastened power" of generalization and the "cautious habit of reasoning upon facts" which he had urged upon his students had enabled him greatly to enrich medical literature. He had become an international figure and one of the leading consultants in London. In 1843 he had a serious illness which appears to have been

a severe attack of jaundice,* and, at the early age of four-and-fifty, he resigned the hospital positions of which he had made such good use.† But the last use that he made of his service was notable. In the spring of 1842 he obtained the permission of the authorities of Guy's to set aside two clinical wards, forty-two beds in all, for a period of six months, for the intensive study of renal disease; in his own words:

" . . . to examine, as far as it was possible, the changes which accompanied the secretion of albuminous urine in the various functions and secretions of the body; whilst at the same time we registered the various circumstances connected with the origin, progress and treatment of the disease;—a disease than which there is certainly none which offers a more extended field for careful and well-directed observation."

This experiment, which Bright regards as the first yet made in England " to turn the ample resources of an hospital to the investigation of a particular disease, by bringing the patients labouring under it into one ward, properly arranged for observation," was wisely conceived and well executed. Between the two wards was a consulting and registration room with a communicating laboratory—what in modern parlance we should call a " clinical unit."

The results of the studies were published in the Hospital Reports for 1843 [75, 76] in the names of his chief associates, Barlow and Rees, with a short prefatory note by Bright. The communication is a fitting climax to Bright's labours on renal disease, and marks in striking manner the progress which clinical medicine had made in his day;—detailed clinical histories; thorough and accurately recorded physical examinations, careful necropsies; chemical studies of the blood and fluids by Rees, who sets forth the hydræmia; the existence in the blood of one of the ingredients of the urine; its like presence in milk and fluids effused in various cavities; the deficiency in the urine of one or more of its natural ingredients, the hyposthenuria, the albuminuria.‡

But what is yet more striking and quite characteristic is

* At the necropsy gallstones were found.

† At the time of Bright's retirement from Guy's, a journal which but a few years before had referred to him in less complimentary terms [71] published an appreciative notice of the man and his accomplishments.[74] In this article reference is made to a rumour, which was without foundation, that Bright suffered from the malady that he had described. A little later Barlow speaks delightfully of Bright and his career and announces his convalescence.[77]

‡ Case VIII (pp. 227–32) is a well-described example of sub-acute vegetative endocarditis of the mitral valve, with intermittent fever, chills, purpura, anasarca, sudden pain and tenderness in the splenic region, albuminuria, hæmaturia, massive vegetations at the mitral orifice, splenic and renal infarctions.

that these studies, planned, inspired and directed by Bright, should have been published in the name of his associates who had done the detailed work—that his name should have appeared only in the preface, in which he scrupulously mentions the names of Barlow's internes and Rees' laboratory assistant.

Bright's remaining years were given to his consulting practice, to travel and to his many artistic interests. His practice, which had been slow in coming, grew to be large, perhaps the largest in London. The honours that he deserved came to him. He was given the Monthyon prize by the Académie des Sciences of Paris. The degree of D.C.L. was conferred on him by Oxford [83] in 1853.*

As the years passed by he is said to have interrupted his work by long vacations.[86] He was aware for many years before his death that he had a valvular disease of the heart, but he was not interested in his own ills, and the one colleague who is known to have had an opportunity of placing his stethoscope over his sternum was not allowed another chance.

On the night of the eleventh of December, 1858, Bright was seized with melæna associated with great prostration, dyspnœa and anginoid pains. He failed to rally, and four days later, just after midnight, on 16/12/58, he died.†

One cannot look back on this life of unusual achievement without a sense of warm admiration for the man. Happy in his birth and in the surroundings and conditions of his early life, cultivated " by travel and society," [93] an artist, a linguist, a man of scholarly tastes, Bright made full use of his opportunities. Modest, simple, high-minded, mellowed by the broadening and softening influences of the experience of a practising physician,

* In the Creweian oration of Richard Mitchell [Mitchell (Richard), Orationes Creweianæ, etc., 4°, Lond. and Oxford, 1878, James Parker & Co., p. 41] there is the following passage: " Aspicite quaeso, hunc illustrium virorum consensum in omni propemodum arte et scientia peritissimorum," and in a footnote:

" The array of talent was indeed remarkable and such as is rarely to be found collected in one place. The art of painting was represented by Sir Charles Eastlake, President of the Royal Academy: Medicine by Dr. Bright and Dr. Forbes Winslow; Surgery by Professor J. H. Green; Chemistry by Professor Brande, F.R.S., who had very lately been chose Master of the Apothecaries Company; . . . "

Jackson's Oxford Journal for Sat., June 11,1853, gives an interesting account of the proceedings.

† Bright was twice married, first to Martha, the youngest daughter of Dr. W. Babington, by whom he had one son who died, a young man, after having taken holy orders. Later he married the daughter of Mr. Benjamin Follett of Topsham near Exeter. From this marriage there were four sons and two daughters. None are now living. Two sons died young. One, the Rev. James Franck Bright, was master of University College, Oxford. The youngest son, Charles Bright, who died seven years ago, was a well-known practitioner at Cannes.

The male line of descent is extinct, but through the daughters of James Franck and Charles Bright, and the children of his daughter Mrs. Wallace, there are many descendants.

Bright appears to have been in the true sense of the word a gentleman, possessed of the *μεγαλοψυχία* of Aristotle, one who moved among men, high and low, with courtesy and sympathy and charity. His equanimity, the sober restraint of his language, his studied avoidance of intemperate or provocative words or acts, excite one's admiration. He seems to have had a rather unusually winning simplicity and purity of character, to which his obituary notices bore touching testimony.[84, 85, 86, 87, 88.]

He was a great observer.

He was not given to hasty speculation. His mind seemed never to wander from nor to anticipate the phenomena on which his attention was fixed. He examined that which was before him with an objectivity which amounted almost to genius. That which attracted his attention he *saw*, he appreciated, he remembered; often he recorded. To him who knows how to observe, who has that which we call "insight," to him Truth reveals much that she hides from the many.

A disinterested lover of truth, Bright appears to have been quite oblivious of questions of priority or of personal fame, going out of his way to give credit to his colleagues and to his associates for work done at his suggestion and under his direction. He lost nothing by his generosity. For generosity fame has a sharp and comprehending eye.

One may easily fancy that the reputation which he finally gained as a consultant was justified.

We have gone a long way since the days of Bright. The great advances in the natural sciences and their increasing application to the problems of medicine have revealed to us many secrets of physiology and pathology, and have immensely broadened our knowledge of the causes and nature of disease and of the means by which it may be avoided, recognized, arrested or healed. A new and scientific therapy based on a broader conception of the functions of the human body, and on the application of sound biological, physical and chemical principles, is full of promise for the future. The simple basic methods of physical diagnosis of the day of Laennec and Bright have been greatly augmented. The little clinical laboratory, the child of his fertile mind—with what wonder and delight would Bright have contemplated its offspring to-day!

Scientific methods have contributed much to medicine. But after all how far we are from the day when medicine may be practised by rule of thumb! Scientific methods have added greatly to our knowledge of pathology, to the art of diagnosis and of therapy. New and fascinating opportunities for research tempt the student at every turn. The increase of our knowledge

and of our technical skill have brought it about that men may devote a whole career to the practice of specialties of surprisingly limited boundaries, specialties which have given rise to a terminology bordering sometimes on the ludicrous. The other day I heard a good fellow solemnly descanting on "the science of sinuology"—the "science," if you will, of the accessory sinuses of the nose! The problems and procedures which a physician must consider to-day when consulted by a patient are far more complicated than they were in Bright's time. But all this new and precious technique supplements, it does not supplant the fundamental procedures of observation and physical examination of which Laennec and Bright made use. And we must not forget that a thorough training in the fundamental art of physical exploration is as vital as ever, that the necessary period of experience spent at the bedside of the patient has not been shortened by a day. Familiarity with the symptoms of disease, an ability to recognize and interpret these symptoms—which may be obtained only by experience, are among the first requisites for him who would be a competent physician. No amount of learning can supply this familiarity, this ability. The intelligent interpretation of symptoms is the first step. He who has not seen the development and progress of disease; he who has not followed the affected subject to his recovery or to his death; he who has not seen his diagnosis confirmed again and again after death, will be a poor practitioner of his art. The art of diagnosis may not be acquired by the contemplation of radiograms, by the perusal of reports of studies of tissues, body fluids, secreta and excreta, or by the critical consideration of data accumulated by others. As Sergent has well said, one sense may not be substituted for another; the senses are complementary; he who neglects one at the expense of another narrows his horizon.

Laennec and Bright worked with simple tools. Medicine would be poor had we to-day no more. But they worked passing well. They laid foundations on which much has been built; the foundations that they laid were sound.

Between the histories of these two men the contrasts are great. In one respect their lives were similar. Each had a good general and classical education; both were men of wide general interests. This is generally true of the greatest figures in medicine.

Bright showed early an instinctive interest in the works of nature, in botany, in zoology, in geology. His was the eye of the naturalist.

To most—indeed to every man who has the right spirit,

life would be unendurable did it not hold for him some engrossing task to accomplish which he is striving in the midst of the routine of existence, some problem he seeks to solve, some research he is endeavouring to carry out. With many a man life slips by, and, in the end, it may seem to have been a vain effort; but after all, 'twas that effort, that hope that held him up, that brought out the best that was in him.

Without this inquiring spirit no one can go far. Spurred by it the superior man may find the school of practice less alluring, perhaps, at the outset, than the chance to devote himself uninterruptedly to the study of some concrete scientific problem; but he will find it no less broadening and no less repaying in the end, and quite as full to-day, as it was in the day of Laennec and Bright, of opportunities for enduring contributions to science and to humanity.

This spirit Bright carried with him throughout his career. He could not have been called a brilliant man. He made at first no great impression on those about him. But brilliancy is often ephemeral; very often brilliancy spells instability. Bright showed a steadfastness of purpose and an equanimity that are rarer and more precious than mere brilliancy. He was a simple, straightforward, kindly man who met life with charity and tolerance and serenity; a conscientious, painstaking physician; a patient, modest, scrupulous, time-taking, thoughtful student. He became a learned and a wise man, and the fruits of his labours earned him a well-merited and an honourable immortality.

Bright was buried in Kensal Green. There is a tablet dedicated to his memory in St. James's Church in Piccadilly. The inscription ends with these words:

"He contributed to medical science many discoveries
And works of great value,
And died while in the full practice of his profession,
After a life of warm affection,
Unsullied purity and great usefulness."

REFERENCES

(*Chronologically arranged.*)

[1] Aëtius Antiochenus: *De cognoscendis et curandis morbis, sermones sex*, etc. Interprete Iano Cornario. . . . Fol. Basil., Froben., 1533. Serm. XI. Cap. XVII, p. 270.

[2] W. Salicet: Cited by Allbutt (T. Clifford). *The Historical Relations of Medicine and Surgery*, etc. 33 pp. 8vo. Lond., Macmillan, 1905.

[3] Dominicus Cotunnius: *De ischiade nervosa commentarius.* 12mo. Viennæ, R. Græffer, 1770. Cited by Rayer (P.), *Traité de Maladies des Reins*, etc. 528 pp. 8vo. Paris, Baillière, 1840.

[4] L. Auenbrugger: *Inventum novum*, etc. 8vo. Vindobonæ, Trattner, 1761.

[5] John Rollo (Cruickshank): *An Account of two Cases of the Diabetes Mellitus*, etc., Chapter VI, pp. 443, 447, 448. 8vo. Lond., C. Dilly, 1797.

[6] Erasmus Darwin: *Zoönomia*, etc., Vol. I. 8vo. New York, 1796, pp. 232, 233.

[7] W. C. Wells: "Observations on the dropsy which succeeds scarlet fever," *Tr. Soc. Improve. M. & Chir. Knowl.*, Lond., 1804–12, iii. 167–86. Read Nov. 4, 1806.

[8] W. C. Wells: "On the presence of the red matter and serum of the blood in the urine of dropsy which has not originated from scarlet fever," *ibid.*, pp. 194–240. Read June 4, 1811.

[9] J. N. Corvisart: Auenbrugger, *Nouvelle méthode*, etc. 8vo. Paris, Maquignon-Marvis, 1808.

[10] Sir George Steuart Mackenzie, Bart.: *Travels in the Island of Iceland*, etc. 4to. Edinburgh, Thomas Allan & Company, 1811.

[11] R. Bright: *De Erisipelate Contagioso.* Thesis. 8vo. Edinburgh, 1813, Robert Allan.

[12] John Blackall: *Observations on the Nature and Cure of Dropsies*, etc. 8vo. Lond., Longman, etc., 1813.

[13] R. Bright: "On the Strata in the Neighbourhood of Bristol," etc., *Tr. Geolog. Soc.*, Lond., 1817, iv. 193–205.

[14] R. Bright: *Travels from Vienna through Hungary*, etc. 4to. Edinburgh, Constable *et al.*, 1818.

[15] R. Bright: "Remarks upon the hills of Badacson, Sziliget, etc. in Hungary," *Tr. Geolog. Soc.*, Lond., 1821, v. 4–8.

[16] *A.E.A.*: *Lancet*, Lond., 1825–6, ix. 135.

[17] R. Bright: "A Case of traumatic tetanus," etc., *Lancet*, Lond., 1825–6, ix. 268.

[18] R. Bright: "Singular case" (Syringomyelia, W. S. T.), *Lancet*, Lond., 1825–6, ix. 653.

[19] R. Bright: "Contagious nature of erysipelas," *Lancet*, Lond., 1825–6, ix. 717.

[20] R. H. T. Laennec: *Traité de l'auscultation médiate*, 8vo, 2nd ed. Paris, Chaudé, 1826.

[21] R. Bright: Guy's Hospital Anniversary Dinner, *Lancet*, Lond., 1826–7, x. 222.

[22] R. Bright: *Reports of Medical Cases*, etc. 4to. Lond., Longman, Rees *et al.*, 1827.

[23] R. Bright: *Outlines of a Course of Lectures on the Practice of Medicine*, delivered in the medical school of Guy's Hospital. viii + 128 pp. 8vo. London, R. Taylor, 1827. Interleaved. (This work, though in the Surgeon-General's Library at Washington, I was unable to consult.)

[24] R. Bright and J. Bostock: "Analysis of a specimen of cutaneous perspiration by J. Bostock, F.R.S., with an account of the case by Richard Bright, M.D., F.R.S.," *Med.-Chir. Trans.*, Lond., 1828, xiv. 424–36.

[25] R. Bright: Proceedings of Societies. Guy's Physical Society. *Lond. Med. Gaz.*, 1829–30, v. 91.

[26] Robert Christison: "Observations on the variety of dropsy which depends on diseased kidney," *Edinb. M. & S. J.*, 1829, xxxii. 262–91.

[27] Papavoine: "Observations d'arachnites tuberculeuses," *J. hébd. de méd.*, Par., 1830, vi. 113–19.
[28] John Elliotson: *Lond. Med. Gaz.*, 1830–1, vii. 313.
[29] R. J. Graves: Abstract of a clinical lecture, etc., *Lond. Med. Gaz.*, 1830–1, vii. 585.
[30] J. C. Gregory: "On diseased states of the kidney connected during life with albuminous urine," etc., *Edinb. M. & S. J.*, 1831, xxxvi. 315.
[31] R. Bright: *Reports of Medical Cases*, etc. Vol. II., parts 1 and 2 ("Diseases of the Brain and Nervous System," part 1). Lond., 1831, Longman, Rees, etc. (*Ibid.*, part 2.)
[32] Edward Barlow: "On dropsy with coagulable urine," *Midland Med. and Surg. Reporter*, etc. Worcester, 1831–2, iii. 249–57.
[33] John Darwall: "Dropsy with coagulable urine," *Midland Med. and Surg. Reporter*, etc. Worcester, 1831–2, iii. 295–302.
[34] Anon.: "The new Fellow," *London Med. Gaz.*, 1832, x. 496.
[35] R. Bright: *Address delivered at the commencement of a course of lectures on the Practice of Medicine*. 8vo. Lond., Richard Taylor, 1832.
[36] R. Bright: "Cases and observations connected with disease of the pancreas and duodenum," *Med.-Chir. Trans.*, Lond., 1832–3, xviii. 1–56.
[37] R. D. Eastcott: "Fatty discharge from the bowels," *Lond. Med. Gaz.*, 1833, xii. 49.
[38] E. A. Lloyd: "Case of jaundice with discharge of fatty matter from the bowels," etc., *Med.-Chir. Trans.*, Lond., 1833, xviii. 57–66.
[39] John Elliotson: "On the discharge of fatty matters from the alimentary canal and urinary passage," *Med.-Chir. Trans.*, Lond., 1833, xviii. 67–85.
[40] R. Bright: "The character of the late Dr. Babington," *Lond. Med. Gaz.*, 1833, xii. 264–5.
[41] R. Bright: "On the Function of the abdomen and some of the diagnostic marks of its disease." The Gulstonian Lectures *Lond. Med. Gaz.*, 1833, xii. 281, 312, 345, 378, 411.
[42] W. W. Gerhard: "Cerebral affections of children," *Am. J. M. Sc.*, Phila., 1833, xiii. 313–59.
[43] James Copland: *A Dictionary of Practical Medicine*, etc. London, 8vo. Longmans, etc., 1858. Art. "Dropsy," pp. 611–12. (The section on dropsy appeared about 1833.)
[44] R. Bright: "Cases and observations illustrative of diagnosis when adhesions have taken place in the peritoneum, with remarks upon some other morbid changes of that membrane," *Med.-Chir. Trans.*, Lond., 1835, xix. 176–216. Also 41 pp. 8vo. London, G. Woodfall, 1835.
[45] R. Bright: "Observations on the treatment of fever," *Guy's Hosp. Rep.*, Lond., 1836, i. 1–9.
[46] *Guy's Hospital Reports*; *Lancet*, Lond., 1835–6, xxix. 596.
[47] R. Bright: "Cases illustrative of the effects produced when the arteries of the brain are diseased; selected chiefly with a view to the diagnosis in such affections—A case in which cartilaginous deposits existed upon the spine—A case of epileptic convulsions from local disease." *Guy's Hosp. Rep.*, Lond., 1836, i. 9–41.
[48] R. Bright: "Case of tetanus, in which quinine and stimulants were administered very extensively, with success," *Guy's Hosp. Rep.*, Lond., 1836, i. 111–19.
[49] R. Bright: "Cases and observations illustrative of renal disease accompanied with the secretion of albuminous urine," *Guy's Hosp. Rep.*, Lond., 1836, i. 338–80, also, summarized, *Lond. Med. Gaz.*, 1835, 36, xviii. 73–4.
[50] R. Bright: "Tabular view of the morbid appearances occurring in one hundred cases in connection with albuminous urine," *Guy's Hosp. Rep.*, Lond., 1836, i. 380–401.
[51] R. Bright: "Account of a remarkable misplacement of the stomach," *Guy's Hosp. Rep.*, Lond., 1836, i. 598–604.
[52] R. Bright: "Observations on jaundice; more particularly on that form of the disease which accompanies the diffused inflammation of the substance of the liver," *Guy's Hosp. Rep.*, Lond., 1836, i. 604–38.
[53] R. Bright: "Observations on the situation and structure of malignant diseases of the liver," *Guy's Hosp. Rep.*, Lond., 1836, i. 638–53.

[54] R. Bright: "Bright's Elements of Medicine" (Short notice), *Lancet*, Lond., 1836–7, ii. 484–5.

[55] R. Bright: "Cases and observations illustrative of diagnosis where tumours are situated at the basis of the brain," etc., *Guy's Hosp. Rep.*, Lond., 1837, ii. 279–310.

[56] R. Bright: "Observations on abdominal tumours and intumescence; illustrated by cases of acephalocystic hydatids," *Guy's Hosp. Rep.*, Lond., 1837, ii. 432–91.

[57] R. Bright: "The right of students," etc. *Lancet*, Lond., 1837–8, i. 95.

[58] R. Bright: Bright, Dr., retrospective address of, to Med.-Chirurg. Society, *Lancet*, Lond., 1837–8, i. 870.

[59] R. Bright: "Observations on abdominal tumours and intumescence; illustrated by twenty-six cases of ovarian disease," *Guy's Hosp. Rep.*, Lond., 1838, iii. 179–288, 10 pl.

[60] R. Bright: "Observations on abdominal tumours and intumescence; illustrated by twenty-eight cases of disease of the spleen; with remarks on the general pathology of that viscus," *Guy's Hosp. Rep.*, Lond., 1838, iii. 401–60.

[61] R. Bright: "Observations on abdominal tumours and intumescence; illustrated by twelve cases of renal disease," *Guy's Hosp. Rep.*, Lond., 1839, iv. 208–64.

[62] R. Bright: "Cases of spasmodic disease accompanying affections of the pericardium," *Med.-Chir. Trans.*, Lond., 1839, xxii. 1–19, also, summarized, *Lond. Med. Gaz.*, 1838–9, n.s., i. 271–2.

[63] R. Bright and Thomas Addison: *Elements of the Practice of Medicine.* 8vo. Lond., Longman (and others), 1839.

[64] Review of the last item. *Lancet*, Lond., 1838–39, xxxvi. 620.

[65] Richard Bright (of Ely Place, Holborn): *Practical observations on the nature and symptoms of dropsy in all its forms; in which a new and more correct plan of treatment is proposed and explained; with several cases illustrative of its success.* v. 7–66 pp., i. 1. 8vo. Lond., H. Hetherington, 1839.

[66] Pettigrew: (Biography of Bright). *Med. Port. Gallery.* 4to. London (1840), ii, No. 4, 14 pp., port.

[67] R. Bright: "Demonstration of intestinal concretion of phosphate of lime," *Lond. Med. Gaz.*, 1840, xxvi. 76.

[68] R. Bright: "Cases and observations illustrative of renal disease accompanied with the secretion of albuminous urine." Memoir the second. *Guy's Hosp. Rep.*, Lond., 1840, v. 101–84.

[69] R. Bright: "Observations on abdominal tumours and intumescence; illustrated by cases of diseased liver," *Guy's Hosp. Rep.*, Lond., 1840, v. 298–396.

[70] P. Rayer: *Traité des maladies de reins*, etc. 8vo. Paris, 1840, ii. pp. 503–609.

[71] [R. Bright.] Medical Portraits: the lecturers at Guy's and St. Thomas' Hospitals, *Med. Times*, Lond., 1840, ii. 133.

[72] George Robinson: *An inquiry into the nature and pathology of granular disease of the kidney and its mode of action in producing albuminous urine.* 8vo. Lond., John Churchill, 1842.

[73] R. Bright: Letter, concerning the pathology of the kidney, *Lond. Med. Gaz.*, 1841–2, xxix. 707.

[74] [R. Bright.] "Pencillings of eminent medical men," Dr. Bright, F.R.S., *Med. Times*, Lond., 1843–4, ix. 94.

[75] G. H. Barlow and G. O. Rees: "Account of observations made under the superintendence of Dr. Bright on patients whose urine was albuminous. Preface by Bright. *Guy's Hosp. Rep.*, Lond., 1843, n.s., i. 189–316.

[76] G. O. Rees: "Observations on the blood with reference to its peculiar condition in Morbus Brightii," *Guy's Hosp. Rep.*, Lond., 1843, n.s., i. 317–30.

[77] G. H. Barlow: "Bright, eulogium on Dr.," *Lancet*, Lond., 1843–4, i. 244.

[78] Bright and Holloway: *Lancet*, Lond., 1846, i. 305–7, 498–9, 606–8, 694; *ibid.*, ii. 383, 491.

[79] Bright and Holloway: Senex: "The 'Bright's Disease' quacks," *Lancet*, Lond., 1846, ii. 598.

[80] Bright and Holloway: "The case of Clark *v.* Freeman—Quack Medicines," *Lond. Med. Gaz.*, n.s., 1848, vi. 239–41.

[81] Bright and Holloway: "Bright, Dr., strictures on certain justifications of his apathy with regard to the quack Holloway," *Lancet*, Lond., 1848, i. 215–16.
[82] Bright and Holloway: *Assoc. Med. J.*, Lond., 1853, i. 520.
[83] [Richard Bright.] "Bright, Dr. R., honorary degrees at Oxford," *Lancet*, Lond., 1853, i. 543.
[84] R. Bright: Obituary, *Lancet*, Lond., 1858, ii. 665.
[85] "Richard Bright, Death of," *Med. Times and Gaz.*, Lond., 1858, n.s., xvii. 632.
[86] R. Bright: Obituary, *Med. Times and Gaz.*, Lond., 1858, xvii. 660–2.
[87] R. Bright: Obituary, *Edinburgh M. J.*, 1859, iv. 680–2.
[88] Ch. Lasègue: "Richard Bright, sa vie et ses œuvres," *Arch. gén. de med.*, Par., 1859, i. 257–74.
[89] R. Bright: "Clinical memoirs on abdominal tumours and intumescence." Reprinted from *Guy's Hospital Reports*. Edited by G. Hilaro Barlow. 1861. xviii + 326 pp. 8vo. London, New Sydenham Society.
[90] Sir Henry Holland, Bart., etc.: *Recollections of Past Life*, 8vo. New York, Appleton, 1872, p. 11.
[91] Sir Samuel Wilks: "Historical notice on Bright's disease, Addison's disease and Hodgkin's disease," *Guy's Hosp. Rep.*, Lond., 1877, 3 s., xxii. 259–74.
[92] Wm. Munk: *Roll of the Royal College of Physicians of London*, etc. 2nd ed., iii. 155, 1878.
[93] Payne: "Bright (Richard)," *Dict. of Nat. Biog.*, edited by Leslie Stephen. Smith, Elder & Co., Lond., 8vo, 1886, vi. 334–7.
[94] R. Bright: "On gangrene" (read 1813). *Dissertations by eminent members of the Royal Medical Society*. vi. 64–83. 4to. Edinburgh, David Douglas, 1892. (No. 18 of 250 copies.)
[95] Sir Samuel Wilks and G. T. Bettany: *Biographical History of Guy's Hospital*, 170 pp. 8vo. Lond., Ward, Locke, Bowden & Co., 1892.
[96] Francis Hawkins: "Two cases of chronic albuminuria, one of *twenty-five years*' and the other of *forty-three years*' duration," *Tr. Clin. Soc.*, Lond., 1892–3, xxvi. 216–222.
[97] R. Bright: "Heroes of Medicine," *Practitioner*, Lond., 1901, lxvii. 562–5. Port.
[98] R. Bright: Biographical notice, *Med. Standard*, Chicago, 1903, xxvi. 514. (A. S. Burdick.)
[99] R. Bright: Studies in Biography. No. 1. Richard Bright. *Intercolon. M. J. Australas.*, Melbourne, 1905, x. 175–9.
[100] R. Bright: Little Biographies, *Albany M. Ann.*, 1908, xxix. 431–3. (C. W. L. Hacker.)
[101] Sir Samuel Wilks: *Biographical Reminiscences of*, etc. 8vo. London, Adlard & Son, 1911.
[102] Fielding H. Garrison: "Richard Bright's travels in lower Hungary; a physician's holiday," *J. Hopkins Hosp. Bull.*, 1912, xxiii. 173–82.
[103] R. Bright: "One hundred years ago, Richard Bright on September 13, 1813," *Brit. M. J.*, Lond., 1913, ii. 683–5.
[104] Sir William Hale-White: "Richard Bright and his discovery of the disease bearing his name," *Guy's Hosp. Rep.*, Lond., 1921, lxxi. 1–20.
[105] Sir William Hale-White: "Bright's observations other than those on renal disease," *Guy's Hosp. Rep.*, Lond., 1921, lxxi. 143–57.
[106] R. T. Williamson: *English Physicians of the Past*. 8vo. Newcastle on Tyne, 1923, Andrew Reid & Co., pp. 87–95.
[107] Alexander, Gordon, *A Treatise on the Epidemic Puerperal Fever of Aberdeen*. 8vo. Lond., 1795, G. G. & J. Robinson.

PRINTED IN GREAT BRITAIN BY RICHARD CLAY & SONS, LIMITED,
BUNGAY, SUFFOLK.