ing in severity until 10 P.M., when Mr. Willett was called to her. He was so well satisfied with the result of the previous bleeding, that he again opened the vein and took away sixteen ounces more blood; she was also kept about four hours under the influence of chloroform. On the next day (Feb. 14) I saw her in consultation with Mr. Willett. She was much better, having had only one fit just after the last bleeding, and none since. She had not quite regained consciousness, but had asked for food, which she had taken with a good appetite. We again examined the urine and found very little albumen, the deposit forming only one-eleventh part of the whole quantity tested. She had been well purged by some calomel and compound jalap-powder, which Mr. Willett had given her, the evacuations being dark and slimy. I did not see her after this; but I heard from Mr. Willett that she went on favourably (but without entirely regaining consciousness) until February 16th (three days after the first attack of convulsions), when labour-pains set in, and she was confined between 10 and 11 P.M. with a still-born child. I should mention that no foetal movements had been felt since the convulsions had set in. From that time she went on well and made a good recovery.

Nothing, I think, could have been more satisfactory than the result of venesection in this case. In most instances, when convulsions come on during labour, it is not so easy to estimate the value of this remedy, because delivery, which is generally considered to be the most important remedy of all, is likewise resorted to. In this instance, however, there was no attempt at delivery; but after the first bleeding the convulsions were much mitigated, and after the last entirely ceased; whilst the amount of albumen in the urine, which before venesection was very large, had, after the last bleeding, been reduced to a minimum.

Since the above case was read, I have seen in the *Medical Times and Gazette* for July 30th a very conclusive case of a similar kind which occurred in the practice of Dr. Marten Cooke of Trinity Square. The patient, a primipara, was attacked with severe epileptiform convulsions eight hours after delivery, which were immediately relieved by a copious bleeding of fifty-four fluid ounces, and did not return. The fits had continued for two hours previously to the bleeding, and were apparently unaffected by sinapisms and cold to the head.

A still more satisfactory case in point is recorded in the *Lancet* for November 19th, 1870, by Dr. Deeley of New York. The patient, a primipara, was delivered by him during a violent attack of epileptic convulsions. Notwithstanding delivery, the fits recurred, sometimes as often as thrice in an hour, until the next day, when he bled her to twenty ounces. There were no more fits after the bleeding, and the patient recovered. The only medicine that gave relief prior to the bleeding was the hydrate of chloral. The first dose of this gave her two hours' respite from convulsions, but the second only one hour's. The condition of the urine was not tested.

Still more recently (in the *JOURNAL* for Saturday, Dec. 3rd), there is related a case which occurred at the Middlesex Hospital under the care of Dr. Hall Davis, and which is as conclusive as either of the above. The patient, a primipara, having previously been affected with anasarca and albuminuria, was attacked with convulsions two hours after delivery. The fits continued for some hours, notwithstanding the use of purgatives, blisters, cold to the head, and chloroform. The latter mitigated the symptoms, but "each time when its effects passed off, the fit became as violent as before". Thirty-four ounces of blood were then taken from the arm, and there was no return of the fits afterwards. The albumen in the urine rapidly diminished, and the woman made a good recovery.

Dr. Davis observed that this case was "an illustration of puerperal eclampsia occurring in a plethoric primipara, and exemplifying, on the one hand, the failure of anæsthetic treatment, and, on the other, the prompt success of blood-letting in this form of the disease."

NOTES ON CONSUMPTION.

By RICHARD PAYNE COTTON, M.D., F.R.C.P.,
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I.—VARIETIES OF CONSUMPTION.

I BELIEVE that I was amongst the first to argue that consumption has many varieties, and that such varieties present marked differences both in their symptoms and progress. Since then, this doctrine has been on the increase; so much so, indeed, that each year brings with it new and totally different views of the entire nature of tuberculous diseases, and we are asked to renounce absolutely all our previous knowledge of the subject. I believe, however, that in this particular we are going a little too fast.

It is becoming too much the custom to form our views of human pathology from experiments, interesting perhaps in themselves, but having, as I conceive, very little connexion either with the origin or progress of disease such as we are called upon to witness and to treat in the human subject. Alas for the poor guinea-pigs! How many of them have been tortured and slain, apparently with no other result than to prove that they are not men, and that men are not guinea-pigs; that the one differs from the other both physiologically and pathologically; and that even Darwinian ingenuity cannot lessen the vast gulf which ever has existed, and ever will exist, between them. The celebrated guinea-pig experiments of Villemin, apparently showing the inoculability of tubercle, and favouring the view of its existence as a zymotic disease, were soon disposed of by the subsequent labours of Drs. Andrew Clark, Burdon Sanderson, and Wilson Fox; and we are left, as to the real origin of tuberculous diseases, much as we were before.

I have always considered that the great variety met with in phthisis is due to original differences in the tubercular deposit—to the *grade* of tubercle, as it may be called; or, going a little further back, to what I have called the *degree of phthisis* under which the deposit is formed. It may be difficult, or perhaps impossible, to demonstrate this conclusively; but it is nevertheless, to my mind, the only view which can account for the almost endless differences we encounter both in the symptoms and progress of consumption. Gerber was, I believe, the first who distinguished tubercle according to its *grades of vitality*. He described tubercular matter as (1) unorganised or almost granular; (2) cytoblast; (3) cell; (4) filamentous—the one being just a little higher than the other in the scale of organisation. It must necessarily follow that tubercular deposit thus variously constituted would present great diversity in its tendency to further degradation or softening; and if, to such a condition, we add the almost endless varieties in the physical and constitutional state of individuals, and when we further consider how each must influence the other, we have, I think, a very reasonable explanation of the varieties of phthisis, and can understand how boundless are the differences which the disease may assume.

It may be practically useful to compare phthisis with certain other blood-diseases. It is, for example, like some eruptive affections, except in the important particular that its "eruption" (tubercle) takes place internally, instead of externally. Both in it and in them, there is a preceding diseased condition of blood; in both, there is an elimination of morbid material; and in both, such elimination sometimes does, and sometimes does not, entirely relieve the system. In both, too, there is often a temporary suspension of the constitutional disease—followed, perhaps, by one or more relapses; the patient in the interval being tolerably or even absolutely free from active symptoms, and presenting no traces of mischief, except in the presence of the eliminated material. Phthisis also may not inaptly be likened to the remitting and intermitting classes of disease, by the same exhibition of the more or less complete but temporary suspension of its constitutional symptoms. Like gout and rheumatism, too, it has both its general and local manifestations, which may be continuous, or may subside, or again and again be renewed with almost endless differences and degrees of severity; in the one case the system being purged of lithic acid, and in the other of tubercle. It appears to me that such a comparison with other disorders may help to explain the almost infinite varieties of chronic phthisis.

The various forms of consumption, therefore, depend, as I believe, not upon any essential differences in the disease itself, but upon differences in the original structure and consequent tendencies of the tubercular deposit, as determined by the severity or *degree* of phthisis under which it has been formed, acting in combination with natural varieties in the constitution and resisting capabilities of different people.

Amongst the forms of consumption regarded as having a distinct origin, the so-called *hæmorrhagic phthisis* may be first considered. This view of the disease is not new, but is founded upon an ancient creed. In the doctrine, however, I must confess myself to be a complete unbeliever, as I have never seen a case which has appeared to me to justify any faith in it. I admit that, were I disposed to seek out such a form of phthisis—were "the wish father to the thought"—I could relate several cases of consumption which might be so explained. In all such instances, however, I have found it easier, and more consistent with our admitted knowledge of disease, to discover a more simple explanation. I do not believe that pulmonary hæmorrhage of *non-tubercular* origin can fairly be admitted amongst the causes of phthisis. I regard any form of hæmorrhage from the lungs associated with phthisis as dependent upon the phthisis, and not the phthisis as dependent upon the hæmorrhage. If an escape of blood into the lung-tissue were one of the causes of tuberculosis, those consumptive cases which are accompanied with hæmoptysis would necessarily be found the most grave;

whereas the very opposite to this is the generally admitted fact. Hæmorrhage to any extent short of causing exhaustion and prostration is, in my experience, and I believe also in the experience of most observers, rather salutary than otherwise, tending to relieve the patient, and to render the disease more chronic, both by removing local congestion and inflammation, and by separating, to a greater or less extent, diseased or tuberculous blood. Nature in such cases appears to do in her own way internally what the physician often does in his way externally by local depletion. I am far, however, from denying that blood escaping into the lungs in large quantity is, from its mere pressure and the obstruction which it occasions, a frequent source of distress to the patient, and of temporary aggravation of disease. I am merely maintaining that it is not an original source of phthisis; and that, when it happens in the progress of consumption, it is not a new focus for the development of tubercle.

[To be continued.]

CASE OF POISONING BY CHLORAL HYDRATE.

By W. J. HUNT, L.R.C.P., and R. W. WATKINS, F.R.C.S.,
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THIS being the first reported case (so far as we are aware) of poisoning by chloral, we have thought it our duty to place on record the observations which we have made, and all the facts we have been able to ascertain.

A clergyman, aged 51, single, of sanguine temperament, and subject to dyspepsia, commenced taking chloral at night on November 15th, 1870; the dose at first being twenty grains, combined with twenty grains of bromide of potassium. This dose was gradually increased, but to what extent, and how rapidly, is uncertain; and the bromide was omitted. He at first had the prescription (which had been sent to him by a relative) dispensed by a chemist, but afterwards procured from him the chloral alone in ounce-bottles. The chemist, Mr. Tite, thinking that he was taking larger doses than were safe, cautioned him as to the use of it, and showed him an article in the *Pharmaceutical Journal* describing the ill effects of an overdose, loss of power in the lower extremities being the most prominent one. He informed Mr. Tite that on one occasion, after taking three doses in one night, he had felt that effect in the morning, having fallen down twice on getting out of bed. Mr. Tite estimated that on that occasion he had taken seventy-five grains. He subsequently procured a copy of that number of the journal, and in it there happened to be an advertisement of hydrate of chloral from a wholesale house. This, it would seem, induced him to obtain from that firm a box containing sixteen ounce-bottles of hydrate of chloral, half of which he had expressed his intention of sending to his relation.

On Friday, January 27th, he was found by his housekeeper, at half-past 8 A.M., dead in bed, the left arm being placed over the top of the head. When Mr. Hunt saw him, about 9 A.M., the face was perfectly calm and pale, covered with profuse perspiration, the clothes in good order, and no appearance of any struggle or vomiting. The body was still warm, with the exception of the exposed parts of the face and the left arm. The housekeeper had often seen him dissolving the chloral in water, in a half-pint bottle (labelled "Chloral Hydrate, 1870"), from which he was in the habit of taking a wineglassful at bedtime; but she did not know the quantity of chloral dissolved each time. She had seen him take a dose from the bottle the night before his death. On January 17th, he had purchased from Mr. Tite an ounce of chloral; and the supply from London had arrived subsequently to that date. After his death, fifteen of the bottles were found full, and one empty; about two ounces of the solution remaining in the bottle above mentioned, on the table in his bedroom. From this we conclude that, in the ten days between the 17th and 27th of January, he had taken fourteen drachms of chloral—presuming that the solution in the bottle contained an ounce to the half-pint. If, however, it contained half an ounce only, the bottle must have been four times filled; and he had, therefore, taken fifteen drachms in the ten days. He was constantly in the habit of "doctoring himself," and, among other things, frequently took carbonate of soda, as much as eighty grains at one dose—purchasing it from Mr. Tite by the half-pound. His housekeeper was not aware whether he had taken any on the night before his death; and we are, therefore, unable to ascertain whether any decomposition of the chloral had taken place.

EXAMINATION OF THE BODY, fifty-four hours after death.—The body was well nourished and fat. There was no decomposition. The heart was perfectly natural in size and appearance, covered with fat

about the auricles and on the ventricular septum. On the left ventricle anteriorly, there was a white patch in the investing membrane, about the size of a thumb-nail, perfectly smooth. There were no adhesions. The heart, which was carefully examined, was in all other respects perfectly natural. The lungs and pleural cavity were quite healthy. The liver and gall-bladder were also healthy. The stomach was large and distended; its pyloric extremity was of uniformly pink hue, anteriorly and posteriorly; there was increased vascularity about the cardiac extremity and along the lesser curvature, with minute extravasated patches of blood (claret-coloured) under the mucous membrane at the cardiac extremity. No thickening or ulceration of the mucous membrane was found. The pylorus was healthy. The large and small intestines were quite natural. The stomach contained about three-quarters of a pint of thick fluid, about the consistency of gruel, with very small pieces of fat and red muscular fibre partly digested. The kidneys were perfectly healthy, and surrounded by much fat. The bladder contained about half a pint of urine. The cerebral membranes were adherent to a small extent on each side of the superior longitudinal sinus, with some old deposits of fibrine slightly puckered in appearance. The membranes generally were much congested, and contained about one ounce of red serum. The convolutions of the brain were remarkably large and pale. The substance was pale, and very soft and friable. There was no increased vascularity in any part, except the choroid plexus; no effusion in the ventricles, nor extravasation of blood.

ON THE USE OF THE TURKISH BATH IN ALBUMINURIA.*

By EDWIN MORRIS, M.D., F.R.C.S., etc.

ONE of the principal constituents of the human blood is albumen, which circulates in it in a dissolved state, playing an important part in the nutrition and formation of the human frame. It is of the greatest importance in the physiology of the human system. Albumen, in its free and normal condition, never coagulates; but it readily assumes a solidified form on the application of heat, or the adding to it of the mineral acids. There is a singular peculiarity with regard to albumen, that, when once it has been coagulated, it cannot again be brought, by any chemical process, to its original dissolved condition. It is true, acetic acid will in some degree dissolve it, and potash completely so; but the albumen so treated will have lost its principal physical features by which it is easily recognised; viz., the solidifying on the application of heat or on the addition of acids. According to the celebrated chemist Lecanu, the relative quantity of albumen in 1000 parts of blood is about 80. M. Denis, in his *Essai sur l'Application de la Chimie à l'Etude Physiologique du Sang de l'Homme*, states that albumen constitutes the greater part of an entire blood-globule. It is only right that I should add that several eminent physiologists doubt the correctness of this statement. It is, however, sufficient for us to know that it is an essential element in the human blood, and that its escape from the system by the urine is indicative of structural disease, or dependent on temporary congestion of some important viscera, and is generally followed by most disastrous consequences. The term "albuminuria" was proposed by the late Dr. Bright, when he first drew attention to the subject in 1827, and has been generally adopted by pathologists ever since.

It is not my intention to point out to you in this paper under what conditions of the system albuminuria occurs, or from what cause it originates, as many modern writers have thrown so much light upon this interesting subject that the profession generally are well acquainted with it. But I will confine myself to the treatment of that form of it which depends upon a peculiar disorganisation of the kidneys, called Bright's kidney, or sometimes Bright's disease, where the albumen becomes greatly diminished in the system, apparently by the abundant dropsy, and not by the actual loss through the kidneys.

In Bright's kidney, the gland is generally mottled or speckled with uneven projections; and, in the advanced stages, is contracted in bulk and hard. The chief seat of disorganisation is in its outer or cortical portion; the tubular parts of the gland are almost entirely absorbed; in fact, the internal structure of the kidneys becomes broken up, and incapable of performing the normal functions. We must, therefore, take into our consideration two points which specially merit our attention—the albuminous condition of the urine, and the disorganised state of the kidneys.

Albumen is the great agent in nutrition, and is not an excrementitious

* Read before the Midland Branch.