of pus was about half a fluid ounce (3v); it was inodorous and creamy. The cannula was kept in until no pus and only blood oozed through it. It was then replaced by the inner tube of a silver tracheotomy cannula; (this was changed for a smaller silver drainage-tube on the second day after the operation).

Owing to the inodorous, etc., nature of the pus, I thought it wisest to leave the cavity simply draining, and without syringing it out. The issue showed that this was correct in this instance, but of course each case must be treated on its own merits, and it must be obvious that such a procedure as syringing, etc., may be rendered advisable or not, according to other circumstances than those mentioned, such as the point in the abscess wall at which the opening is made, etc. For instance, in this case there is little doubt that the abscess was tapped at or below its centre, and consequently there was no hindrance to the flow of the pus.

The periosteum and temporal muscle were replaced and adjusted round the tube, which they pretty closely enveloped, a matter of satisfaction, since the brain continued to protrude considerably (owing to the usual cedema), after the withdrawal of the pus, and of course such bulging was more successfully opposed by the addition of a layer of muscle in the covering flaps. Finally, the skin incision was everywhere completely apposed by horsehair, and a few silk sutures. The wound was covered with a carbolic gauze, boracic acid powder, and sal alembroth wool dressing.

The subsequent course of the case was really without incident, save the rapid recovery from all the symptoms. The temperature rose to 101° on the second night after the operation, but fell to normal the next day, and remained so.

December 10th, 11 P.M. Had vomited a little, and was restless. Pulse 124. Slept well after a hypodermic injection of morphine.

December 11th, 9 A.M. Pulse 96. At 6 A.M. vomited a little. No pain. Talked sensibly, but occasionally used wrong words. The aphasia was thus rapidly recovered from, as might have been expected from its special character. The loss of words, still present, was not peculiar to one class, for example, nouns. Wound dressed, and found to be uniting by the first intention.—2 P.M. Pulse 96.—6.30 P.M. Temperature 101°; pulse 108. From this time both the temperature and pulse became normal.

December 12th. Wound dressed; tube changed; answered questions rationally; no pain.

December 13th. Given solid food.

December 14th. Face: still a little weaker on the right side. Upper limb: grasp, right 87, left 93. Tactile sensation normal, and no pain on movement of limb.

December 15th. Wound dressed; tube quite empty; flaps completely healed. A little pus was syringed from the auditory meatus, which had been carefully cleansed and filled with powdered boracic acid at each dressing. At the next dressing this discharge had ceased, and never recurred.

December 23rd. Tube left out; wound simply covered with powdered boracic acid.

January 5th. The paralysis, or rather paresis, had apparently disappeared, but the grip was still deficient on the right side, thus: right 90, left 100. The fundi oculi, examined by Mr. Brudenell Carter, showed no trace of hæmorrhage (noted in right eye), and the swelling of the discs had almost vanished.

During the remainder of the patient's stay in the hospital he showed no further symptom, and was discharged in perfect health. The membrana tympani was intact, but a cicatricial (?) mark was apparently visible behind the tip of the handle of the malleus.

The genesis of the abscess in this case was singular in many respects. In the first place, it seemed as though the acute otitis media commenced at the most three or four weeks before the abscess arose. Further, here was a rapidly developed abscess of considerable size situated high up above the roof of the tympani (apparently about an inch of brain substance intervened), and yet the pus, though of course infective, showed no sign of decomposition or indication of being extremely septic in explanation of the acuteness of the mischief.

The localisation was fairly easy in view of the paresis and neuritis, coupled with the tender spot, the pain of which was not continuous with that felt in the meatus.

As regards the operative procedure, I have nothing to add to what is now common knowledge. These cases are fortunately simple, perhaps the simplest, examples of intracranial surgery, but there remains yet the method of diagnosis. This is purely a question of localisation, and of all imaginable suggestive symptoms few are more demonstrative than *graduated* paresis.

THE GOULSTONIAN LECTURES ON INSANITY IN RELATION TO CARDIAC AND AORTIC DISEASE AND PHTHISIS.

Delivered before the Royal College of Physicians of London.

By WM. JULIUS MICKLE, M.D., F.R.C.P.LOND.,
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LECTURE III.—INSANITY IN RELATION TO PHTHISIS.

THOSE who have chiefly written on so-called "phthisical insanity" have founded their description partly on cases in which the phthisis came on about simultaneously with the insanity, partly on examples in which phthisis evidently began long after the insanity, partly on others in which the recorded facts as to precedence are fragmentary and valueless. Of these three kinds of case I would reject the last two when offered as examples of phthisical insanity, and would allow to the first only a modified claim to be so entitled.

To work out the subject more satisfactorily, I have arranged three great groups of cases: one in which phthisis distinctly preceded insanity; one in which the two affections apparently came on about simultaneously; and one in which phthisis supervened in the course of well-established, or even chronic, insanity.

First Group: Phthisis influencing the Production of Insanity.—Taking up the first of these groups, it is desired to analyse cases in order to determine the influence of pre-existent phthisis on the production of insanity, or in modifying the clinical aspects of mental derangement subsequently arising partly or chiefly from other causes. In dealing with this as with the other parts of this subject of phthisis and insanity, I purposely exclude all cases of general paralysis, epilepsy, senile dementia, and various other conditions with gross organic brain changes; and I do so inasmuch as in these cases the clinical aspects are chiefly dominated by the intra-cranial lesions. Omitting these, I have had under my care during a term of years at least 106 cases which appeared to have some relation to the decision of the first question we meet—that of the influence of phthisis on the production of insanity—and from which the constituent members of the first two groups are selected. The third group is constructed of other and different material.

Of these 106 cases I found fifty-one not to bear so directly on the question of mental symptoms springing from phthisis as the remaining fifty-five. For in many there was doubt as to the true and precise order and dates of incidence of the phthisis and the insanity, the two either occurring at about the same time, or the history being imperfect; in many of them other causal factors were of predominating importance, and controlled the play of pathological events.

And even of the group of fifty-five, I will exclude some from further consideration in this place, and for various reasons. For example, in several the attack of insanity, supervenient on phthisis, was a second attack; in some a closer analysis revealed either an obscurity of relation or another factor, or other factors, as possibly being predominant; or revealed a possible causation too complex to permit the case to be of value for our purpose. In one or two the complication by cardiac disease, or meningeal tuberculosis, destroyed the simplicity and validity of the example: in some, on a closer scrutiny, the order of incidence of phthisis and insanity was not absolutely clear, the two apparently coming on almost simultaneously, and therefore, possibly, concomitant effects of a general deterioration of system and breakdown of the nutritive and resistive powers of the organism; a view quite compatible with that of phthisis, a form of successful bacillar invasion. For one or other of these several reasons, twenty-one cases in all have been placed in the second line, leaving the thirty-four cases most adapted and reliable for our synthetic purposes, as regards phthisis producing insanity, or modifying the clinical aspects of insanity subsequently arising, or partly so, from other causes: whilst at least twenty-four others out of the 106 will be used to cast a synopsis of those cases in which the precise order of incidence of phthisis and insanity is doubtful, but that incidence nearly simultaneous. Even of the thirty-four left as being those in which

the relations and circumstances of the cases are more clearly defined, satisfactory, and demonstrable, the evidence is not in all cases of the same validity; for the difficulty in assigning accurately the etiological factors in insanity is notorious, and, indeed, in the majority of the insane the causation is complex; the factors influencing the production of insanity usually are not single, individual, and simple, but plural, conjoint, and complex.

These cases I have placed in five sub-groups, namely, persons affected with:

1. Active, in part quasi-delirious, symptoms. Hallucinations.
2. Depressed, melancholic symptoms.
3. (a) Morose, angry mania; or (b) delusions of injury, of persecution, etc. (not systematised); or (c) rarely, gay maniacal excitement (probable organic brain disease).
4. Imperfect or abortive monomania; or monomania.
5. (a) Dementia supervening on feebleness of mind, imbecility; (b) rarely, moral insanity, impulse, and so on.

First Sub-group.—Those in whom mental derangement most clearly and immediately seems to depend on the pulmonary affection are persons, forming a comparatively small sub-group, who, in advanced phthisis, take on active and partly quasi-delirious symptoms. These persons are hallucinated; hallucinated in most cases they certainly are, and probably so in the remainder.

For example: (A) Emaciated, and with softening lungs or with actual cavities, such an one becomes restless, continually dresses and undresses himself; if in bed, gets out of it or attempts to do so; if out of it, or not yet confined to bed, rolls on the floor, and apparently fails to understand what is said to him. And for a time he may quite lose his mental control, and when it is restored, temporarily or partially, there is but a vague and slight recollection of the attack; and for some days or weeks thereafter a state of mental confusion persists, together with a feeling of being weak in mind and of impaired memory, and possibly with transient diplopia. The mental confusion evidences itself in various ways, amongst others by the mistakes made as to the identity of those who are about him, and as to the recollection of times when, and places at which, he has previously met them. Nor does the error of mind concern others only; it is manifested also in an extremely confused recollection by the patient of his surrounding and location, so that, whilst continually occupying one and the same bed, he relates his experiences of being now upstairs and now down, now in one apartment and again in another. And even on trivial matters his statements are self-contradictory. His condition fluctuates, better to-day, coherent and fairly rational; to-morrow, perhaps, he is incoherent, restless, and in bewilderment tries to rise at night, and wander about the room.

(B) The case does not always take this mild form; as compared with which the more urgent conditions may be reached by rougher paths, and with more impressive and more dramatic phenomena. Thus, a subject of advanced phthisis with bronchitic signs having become delirious, and then actively maniacal and raving, thinking his master called him from the street, has rushed to the window, and smashed it, cutting his hand; and subsequently, objecting to go to bed, has slept badly, been incoherent, excitable, and violent, especially at night; has refused food, deeming it to be poisoned, or with difficulty has been induced to take it. Then comes a space of time during which he is usually coherent and free from delusions, but the tranquillity and reasonableness are interrupted by paroxysms, lasting about a day, in which he is restless, fumbles his clothing, undresses himself, is with difficulty persuaded to eat, fails to recognise his doctor, stares as if in terror and at imaginary objects, and is apparently absorbed in his delusions and corporeal illusions. When again lucid, he tells us that in the paroxysms he felt, as it were, people pushing something up the back of his head, but was chiefly in terror and panic-stricken by fear of injury. Practically recovering from active disorder of mind, he dies a few days later, the end being precipitated, rather, by the further encroachment on the limited breathing space, made by intercurrent lobular pneumonia and pulmonary congestion, than by the invasion of a phthisis florida.

(C) This wandering of the mind, this jolting of the mental ploughshare from the furrow, or insane delirium, in a case here and there is found to take another phase; and the flight of ideas is expansive. The morbid conceptions of such an one run on daring enterprise and dazzling project. Although changeable, shifting, phantasmagorial, and expressed in a rambling way, the conceptions are large, generous, and ambitious, but deeply tinged with puerility and grotesque absurdity. For example: It is

owing, he says, to his father's head being turned by a (real) Royal visit to the town, that that parent has sent him to an asylum; and the large factory he himself is about to establish for planning improvements in tramway construction will reduce the cost per yard thereof, to that of "a flannel petticoat," as he inconsequently adds. Restless, he telegraphs to business firms for prices of wood and iron; asserts that he has invented a tramway which will pay splendidly, and talks ramblingly about his inventions, the appointment of surgeons to his factory at enormous salaries, and the erection of chambers for the spiritual benefit of those employed thereat. Correspondingly, and notwithstanding irritability of temper, the feelings are gay, buoyant, possibly exultant, the mental colouring is bright and roseate. Truly, here, "hope springs exulting on triumphant wing," but only to sink in the coexistent and deepening abyss of physical perdition; the delusive is thrown into bolder relief by its glaring inconsistency with the true; for, in desperate contrast with his large ideas, adventurous schemes and exaltation, is the real state of this sufferer from frequent pulse, diarrhoea, insomnia, advanced pulmonary phthisis and excavation, emaciation, prostration, colliquative perspiration, hypostatic oedema.

(D) Where predisposition is marked, symptoms like some already mentioned may come on at an earlier stage of phthisis; and, if recovery does not occur, assume a more fixed and settled form. Thus, at first, in maniacal agitation, incoherent, sleepless, noisy, restless, and violent to those around, the patient swears, speaks ramblingly on religious topics, declares that those near him are devils; or that he is commanded to destroy his family, because they are infidels. Or he throws himself on the floor, breathing violently, making cries, ejaculating about "God, and the sin of the world," asserts that by shouting he is saving those about him from hell, and hurls his food on the floor. Subsequently, in calmer mood, he is still confused, says he has only been as many minutes here as he has been days in reality; and is depressed in mind, hangs his head, declares he cannot speak, has lost faith in the Lord, has been starved, and must go to prison for neglecting his family. He hears the birds talk to him at night. To him, one month appears as seven, or eight, or nine. He tells how his depression is due to his being "lost," owing to his "not working with the Word;" how his mind wanders, and things that don't belong to it come up in it; and how before he entered the asylum he had been in low spirits, and when on the streets seemed to be ill-used, nicknamed, and accused of crime and of everything wrong. About these ideas there was nothing fixed or systematised. At times indisposed to take food, he smashed the table utensils. Now and then, later on, were delusions and hallucinations, such as concerned his being burnt to death, or seeing flames, or hearing whispers about him at night.

(E) In other cases, with storms of excitement and depression, laughter, weeping, suicidal and other violence, are more vivid hallucinations, and hypochondriacal fancies. Here, with hereditary psychic degeneration and a monomaniacal strain, we get arrest of the advanced phthisis under treatment, and a deferring of the fatal end for years to come. For example, puppies, says one, are alive in his stomach and pain him, or on his abdomen the Saviour rests. His body is in telephonic communication with a factory; he is tied down, and for an immoral purpose; is mesmerised, his food is blood. Later on he obstinately refuses to eat, under the delusion that his relations are killed, put downstairs, and served up to him as his food. He gets strange tastes, and a strong smell of blood. He hears answers and comments on hallucinatory voices. "The birds speak to him, and the same sounds immediately go about the house." Later on he feels "a restraint on the mind," put there for some indefinitely explainable purpose; feels a connection with and hears voices from a factory. The perversion of taste and smell continues, and so does self-abuse. He says his food is manured with the excreta of diseased individuals; personages of notoriety, or of history, are buried near him by hundreds, Cavendish, Burke, Kings Charles I, Henry V, and so on.

Thus, these last two kinds of case link the present sub-group with the next.

Second Sub-group: The Sub-group Characterised by Mental Depression, by Symptoms of the Melancholic Order.—Nearly one-third of the cases of the group we are considering come into this depressed or melancholic sub-group. The limits of space preclude the insertion of detailed histories, such as those before me at the moment of writing, or even of individual summaries of these cases, and, indeed, of more than a very general summary.

Summary.—In all there is emotional depression; downcast, despondent, grieved, some of them are in tears. In very nearly all are suicidal ideas, and in many these are carried out in suicidal attempts. The emotional state is not always merely one of depression, with or without weeping, moaning, and a lugubrious aspect; indefinite fear or dread may possess the patient; he may be afraid to go to sleep, or perhaps, vaguely, of something about to happen. Some are extremely suspicious, or are timid, anxious, careworn, or are listless, or very obstinate, irritable, unsociable, sullen, sulky, slovenly, neglectful, forgetful.

Hallucinations and illusions exist in all, if we include those few cases taking the form of a *melancholia cum stupore*, where, extremely probable as is their existence, it cannot be definitely ascertained. Relatively predominating are the hallucinations of hearing, next most frequent are those of smell, and nearly as many have hallucinations of taste or of sight. At one period or another, or at several, refusal of food is a marked symptom in about two-thirds, and some disinclination for food or anorexia is noted in a few others. Insomnia is a frequent symptom. Some exhibit general apathy, at least at times. A few show marked mental confusion or excitement; and some are inattentive, or mistake the identity of their attendants, taking them for relatives; others wander aimlessly about.

Although only slight and transitory in one case, usually of *melancholia simplex*, delusions are found in all, except in the "thunderstruck" or stuporose, where, too, they doubtless exist. In some they concern the religious feelings and ideas; the patient fancies that he has done some wrong, or is forced to do it by his surroundings, or, cut off from hope of heaven, he bemoans his "poor soul," and has anxious, gloomy thoughts of the future. Some take the delusion that they have been poisoned, and usually by something placed in their food, and delusions as to their medicine, or in a few, as to deprivation of food, may be evinced. Some have delusions as to the hostility and malevolence of those around them, or of absent or of imaginary persons, or of all of these.

(To be continued.)

THE DIFFICULTY OF DIAGNOSIS BETWEEN DISEASE SYMPTOMS AND DRUG SYMPTOMS.¹

By ALFRED CARPENTER, M.D., M.R.C.P.

THE difficulty in diagnosis between symptoms produced by disease and those produced by drugs is not always an easy task to settle even by experts. It is not always easy in the police cell to distinguish between a so-called "dead drunk" person and one who is labouring under the effects of compression of the brain, caused by rupture of a cerebral vessel, or of compression produced by fractured skull. But this is not so difficult as is the task which the physician has to contend with, when called in to advise with another practitioner who has been freely exhibiting active remedies before the second opinion is sought for, or when the patient has been physicking himself with ardent spirits or other narcotics.

Having met with these difficulties on several occasions, I propose to consider one or two of them, and to detail to you some that I have met with in which the treatment, having been based upon imperfect information, was rapidly tending to poison the patient, and certainly would have done so if a change of treatment had not been made. The use of the thermometer, a careful examination of the heart sounds and the character of the heart's impulse, the condition of the respiratory function, the state of the skin, the action of light upon the pupil, and the smell of the expired air from the lungs, will always enable the skilful surgeon to be certain about the police case, unless there is drink and compression combined (not a rare state of things). It is always right to err on the safe side, and to give the patient the benefit of the doubt, if there is any; though it is very unlikely that severe mischief can be produced to the brain, even if the man be drunk, without there being some evidence of its nature, if it be looked for. However, it is not my intention to enter into the consideration of police cases, so much as to refer to some other conditions which the medical practitioner occasionally meets with in the sickroom.

I propose to detail two typical cases for your consideration, just as I met with them, but for manifest reasons giving no public clue to their whereabouts.

The first was that of an eminent merchant with numerous family connections, 65 years of age, a *bon vivant*, well known as a hospitable host as well as a genial guest. I am at his bedside in consultation with his ordinary medical attendant. He is semi-comatose; he has been so for twelve hours. His friends have been summoned from different parts of the country in the expectation of his death. There is general anasarca, some oppression of breathing, but a fair pulse, regular in its beat, 78 per minute; there is an aortic murmur with the first sound of the heart, but not very loud. The patient was able to be roused if spoken to loudly, and then dimly understanding what was said to him, but lapsing again into stupor; the eyes responded equally to light, and contracted to a point, equally dilating again on its removal: the conjunctivæ were turgid, the skin dry and felt hot, but the temperature, as taken in the mouth, showed that it was below normal, namely, 97.8°. The urine was very albuminous; the bowels had been freely relieved, indeed there had been slight relaxation for some time previously to the onset of his semi-coma. He had complained of feeling faint when the bowels acted; had for some days taken freely of stimulants, principally champagne and brandy, and since the previous day had swallowed about twenty-four ounces of the latter. He had passed at least three pints of water in the preceding twenty-four hours, and it was dribbling away slightly into the bed at the time of my visit. A catheter was introduced into the bladder and a portion drawn off, which was seen to contain about a quarter albumen after boiling. The comatose condition did not appear to me to be caused by uræmia, as there had been no arrest of urinary secretion, but the contrary, and there had been also relaxed bowels. The faintness was not caused by any serious heart embarrassment, for that organ, though probably fatty, and with aortic valves imperfect in consequence, as I supposed, of atheroma, was doing its duty. I came to the conclusion that the coma was rather the sequence of alcoholism than that of uræmic poisoning. I advised the cessation of the brandy treatment, which had really been pressed by the friends and nurses rather than the doctor, because it had been advised some time previously by an eminent London physician. I advised the administration of ammonia in its place, in minute quantities, with liq. potasse, also in small doses. I urged the continuance of intestinal evacuations by means of assafoetida injections with small quantities of turpentine, and suggested a milk diet only. The following day the coma had lessened. It disappeared in forty-eight hours, and symptoms of gout manifested themselves a few days afterwards in the hands and elbows, whilst the respiratory difficulty diminished. The patient made a fair recovery in a few days from the imminent danger in which he was placed, and the anasarca lessened. He had however too much gout in his kidney, and atheroma in his aorta, to become convalescent; though he lived for four years after the time at which he was being rapidly poisoned by alcohol. The belief that the coma was due to the brandy, and not to the presence of uræmic poisoning, was thoroughly established by the result. Fortunately the kidneys did not immediately resent the excessive intrusion of the stimulant, for they continued to act freely, though the water was albuminous as long as he continued under my observation; the general dropsy declined, the aortic insufficiency however was not improved, and he remained for a long time incapable of exertion, though he did recover so much as to be able to take his place at the dinner-table again, and ultimately fell a victim to the renewal of his social habits of life, and a return to the pleasures of the after-dinner wine.

In this case, as in some others which I have met with, the aortic insufficiency has seemed to me to have been dangerously added to by the alcohol; and that in such cases, especially when there is gouty habit with albuminous urine, it seems to produce its comatose tendencies more rapidly than in other people, and in such cases I believe that all alcoholic stimulants should be rigorously withheld. This patient had been advised to take gin, by an eminent London physician, and for some weeks before the time at which I saw him had taken something like a pint a day, in the place of the port and brandy to which he was addicted. He could not or would not continue an abstaining course, for he preferred his port wine and obliviousness to discomfort and continuance in the flesh, though I am certain he would have lived some time longer if he had followed on the other tack, and even might have had a chance of recovery if he would have continued his absti-

¹ A paper read to the British Medical Temperance Association, Tuesday, February 21st, 1888.