Clinical Observations on Korsakow's Psychosis.

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IN the years 1887–91 the late Professor Korsakow, of Moscow (1, 2), drew attention to a form of mental disorder associated with multiple neuritis, and characterised especially by loss of memory for recent impressions, and by the appearance of pseudo-reminiscences. In the great majority of cases the condition is of alcoholic origin, but Korsakow showed that the same psychosis might arise in association with any toxic neuritis. It thus acquired the name of "polyneuritic psychosis." Numerous considerations, which need not be discussed here, seem to show that the mental affection and the peripheral neuritis are due to the action of the same poison or toxin upon different parts of the nervous system.

The psychosis was thus studied in the first instance from the standpoint of the peripheral neuritis. In more recent years a wider view has been taken of the subject, and it has been maintained that the same affection may occur without recognisable peripheral neuritis. Hence the name "polyneuritic psychosis" has somewhat fallen into disuse, and it is now more frequently spoken of as Korsakow's disease.

The great frequency of alcoholism as an etiological factor has led, naturally, to a study of the psychosis in its relations to other alcoholic mental disorders; and it has been shown by Jolly (3), and more recently by Bonhoeffer (4), that it stands in very close relationship to delirium tremens, of which it represents a more severe and protracted form. Any number of intermediate grades are observable between delirium tremens and Korsakow's psychosis, and Bonhoeffer accordingly speaks of the latter as "chronic delirium."

In two previous papers (5, 6) I have described the symptoms and pathological appearances in three fatal cases with polyneuritis, and have made some observations on the psychosis, mainly in its bearing upon the pathology of alcoholic neuritis. In the present paper I propose to give some account of the clinical features in a few other cases, selected from about thirty

examples of Korsakow's disease which have come under my personal observation within the last five years. In all these cases there was a history of alcoholism; in all but two there were evidences of neuritis, ranging from pronounced paraplegia in several instances, through various slighter grades, down to a condition in which there was perhaps only some tenderness of the calf muscles to pressure, with some diminution of faradic excitability, and slight disturbances of cutaneous sensation in the distal parts of the limbs. In neither of the two remaining examples (one of which is published here as Case 2) could it be positively affirmed that there was no neuritis existing at the time when the patient came under observation, or in the period immediately preceding.

I would describe first of all a typical and well-marked case, in which the classical symptoms of Korsakow's disease were the only noticeable features. The majority of my cases have been of this type. Space does not permit me to describe others, nor is it now necessary to do so, for Dr. Turner has lately reported in this JOURNAL (7) twelve typical examples, and most of my own cases would appear to have closely resembled his.

The first case is selected because it well illustrates some characteristic details, and because it serves as a standard with which we may compare a few somewhat atypical cases, presenting points of clinical interest which appear worthy of study.

CASE 1.—An anæmic, poorly nourished woman, æt. 43, married; admitted to Colney Hatch Asylum July 18th, 1901. History of alcoholism (duration unknown). Duration of mental disorder on admission, six weeks. Rather talkative, excitable and emotional, usually vivacious, but readily moved to tears. Memory very bad, especially for recent events; has no idea of time or place; illusions as to identity of persons; luxuriant "romancing" (pseudo-reminiscences of imaginary journeys); imagines that yesterday she was with some relations at Richmond; next minute she talks of being at Cambridge the same day. To every question she gives a prompt answer, usually incorrect; she is continually contradicting herself. Pupils normal; knee-jerks absent; she is shaky on her legs; the calf muscles are tender to pressure; some tremor of hands, facial muscles, and tongue; speech slightly stammering.

August 15th.—Weakness of legs more marked. She is now kept in bed.

31st.—Polyneuritis now marked. Atrophy and tenderness of many muscles of arms and legs, with electrical reaction of degeneration. Tenderness of many of the limb nerves. Some defect of cutaneous sensation on legs. Plantar reflexes lively; knee-jerks absent.

October 15th.—The neuritis continues to advance.

December 19th.—Muscular atrophy, electrical changes, and tremors more marked. Commencing contractures of legs have been overcome by passive movements. There is a tubercular abscess, apparently in connection with the crest of the right iliac bone; this opened on October 21st, and is still discharging. Early tubercle of apex of right lung. The mental disorder has shown no variation since admission, and is illustrated by the following conversation (December 19th):

"How are you to-day?"—"Better thanks; I've been to Richmond this morning—no, yesterday morning; I saw my mother and mother-in-law. I've been up to my place this morning."

"Where do you mean?"—"Up to the hospital; I saw the new doctor that's come—with glasses—very nice."

"What have you had for dinner to-day?"—"Some mutton and a basin of soup." (Is reminded that she had milk pudding.)

"What day of the week is this?"—"Tuesday."

"No, to-day is Thursday. When did you first come here?"—"When do you mean? first of all? Oh, I couldn't tell you; it was before I went to Peterborough for a holiday; that would be October or the end of September." (Never in asylum before.)

"What month is this?"—"April."

"And what year is it?"—"1899."

"What place is this?"—"This is the North-West London Hospital. I saw Mr. C— on Monday night" (mentioning a well-known surgeon, of whom she often speaks in association with that hospital, but who has never been connected with it).

"Do you know me?"—"Oh, yes, of course."

"What is my name?"—"Now that I never did know." (Has heard often.)

"What day of the week is this?"—"Tuesday."

"No, it is Thursday; try and remember; what is it?"—"Thursday."

"What have you had for dinner to-day?"—"Meat and vegetables."

"What day of the week is this?"—"Tuesday."

"I told you it was Thursday."—"Oh, yes."

"Have you had any beer to-day?"—"Yes, I had one glass at Mrs. What's-her-name's, on the way to the station."

"What day of the week is this?"—"Tuesday."

"Who is this lady?" (indicating Nurse W—).—"Mrs. Burdett."

"Is there anyone else here you know?"—"Yes, two downstairs, Mrs. Burley and Mrs. Norris; she's suffering from the same thing as I am; I went to see her last night. I met Mr. C— in the street the night I came home. No, it was Wednesday, because that was the night I went to see Mrs. What's-her-name, and had a cup of coffee; they keep that little off-licence public-house in the Kentish Town Road."

"When were you at Whittlesea last?"—"I came home on Saturday; I went for a week. No, I left last Monday."

And so on, every day much the same. She has been bedridden four months. She has great difficulty in multiplying simple numbers. No hallucinations or marked delirious symptoms have been observed since admission. She eats and sleeps well; often goes to sleep in the middle of her dinner.

February 25th, 1902.—No improvement. Contractures of legs still threaten, and require passive movement.

April 8th.—Considerable mental and physical improvement. Defect of memory and orientation much less marked. No romancing now. Is just able to stand.

September 30th.—Mental and physical improvement continues. Can walk a little.

June 5th, 1903.—Left the asylum "recovered," save for slight defect of memory. Still a little feeble on her legs. Has gained considerably in weight.

The above conversation illustrates the almost instantaneous obliteration of mental impressions and the gross defect of observation. The patient's ideas as to where she is are constantly fluctuating. She seems for the most part to imagine she is at home, unless something different is suggested by a question ("When did you first come here?" "What place is this?"). Her attention is now directed to the environment, but only momentarily. Something about it suggests a hospital, so she names a hospital familiar to her. But presently she mistakes the nurse for a neighbour, in spite of her uniform. The next question ("Is there anyone here you know?") again implies a reference to the environment, and again we see the idea of a hospital, padded out, as it were, by an allusion to two supposed patients and a surgeon. But as soon as ever there ceases to be a direct reference to the present surroundings she immediately relapses into the idea that she is at home.

As Bonhoeffer puts it, we see the patient living in a past situation. The present environment is mistaken for a former environment; its details are construed in accordance with this misconception, and the illusions as to the identity of persons are probably to be regarded in this light. We see the same misconception in delirium tremens. The patient imagines himself in his old surroundings, following his every-day occupation, and he mistakes the most incongruous objects about him for the implements of his calling.

In Korsakow's disease the misconception of the situation is sometimes as detailed and systematised as in delirium tremens. Yet the scene is readily shifted by suggestion from without, in the manner shown in the above conversation. This "suggestibility" is, of course, also observed in delirium tremens. In a typical case of Korsakow's disease which I saw recently it was very striking. The patient fell readily into the traps which I

laid for him. By suitably framed questions he could be easily induced to imagine himself in a different situation from that in which he imagined himself a moment before. Thus:

"What place is this?"—"This is the hospital." (Patient has been in the asylum a month; he is in bed in a single room.)
"What hospital do you call it?"—"I forget what you call it; it's where the medical students come."
"Where have you been this morning?"—"I went to Covent Garden Market."
"What did you do there?"—"I bought some rhubarb."
"What did you do with it?"—"Sent it home."
"Did you have a drink while you were out?"—"Yes, I had a brandy and soda."
"Where was that?"—"Opposite your place. I see the painters have got their ladders up outside your place."
"How long have you been here?"—"A week."
"What is your work?"—"Pastrycook" (correct).
"What rent do you pay for this place here?"—"For the shop and bakehouse, do you mean? Eight shillings a week."
"Do you have anyone here to help you?"—"Well, there's the boy."
"Is he at work here to-day?"—"Yes, he's downstairs now."

Korsakow speaks of certain cases in which this misconception of the situation amounts to a fixed delusion. In the cases I have seen, the patient's interpretation of his surroundings was subject to marked fluctuations, spontaneous as well as induced.

It is, perhaps, just this want of fixity of conception of the environment which makes the confabulation so often assume the form of stories of recent imaginary journeys. Yet one cannot overlook cases in which the patient, perhaps not merely from habit, still recounts such journeys, in later stages of the illness, when the disorientation is less marked, and when he can give a correct answer to the question as to where he is. But it by no means follows that because he can give this correct statement he has any continuous and connected appreciation of his surroundings, for his average attention is reduced far below the level of that which he is capable of exercising in response to stimulus. Except when he is aroused by questions, he is in a sort of dream-like state, still living in the past. Such true conceptions of the situation as his enfeebled observation affords him fade from his memory. The lacunæ thus produced are filled up by the revival of older and more persistent impressions, of which the most prominent are those which seem best

to fill the subconscious void occasioned by the poverty of ideas of time and place. The reminiscences of imaginary journeys are pre-eminently of this type, and are not to be regarded as deliberate lies. The confabulation is usually most lavish and spontaneous when disorientation is complete.

But in many cases, especially in the later stage, the patient is uncommunicative, seldom volunteering any statement, though answering promptly when spoken to. The fabrications are then chiefly "fabrications of dilemma." These are apparently designed to meet the immediate difficulty occasioned by the question, but the patient is really convinced of the truth of his statements. The influence of suggestion is very evident in these fabrications. They are quickly forgotten; the patient may give a different wrong answer each time the same question is put to him in the course of a short conversation.

The loss of memory profoundly affects the most recent impressions. Although careful examination usually shows that old impressions are also to a slight extent implicated, the patient is usually able to give more or less accurate statements as to the principal events in his past life.

Interesting questions suggest themselves with regard to the location of the backward limit of the amnesia in point of time. Turner (7) says, "Patients, it will be observed, imagine themselves still to be in the place where they were before their consciousness was seriously impaired." This is true only in a very general way. Jolly (3) describes a case (Group III, Case 4) in which the patient, just before the onset of the disorder, had come to Berlin from Breslau; she forgot the journey, and thought herself still in Breslau. And I might here call attention to the very frequent interpretation of the environment (*i. e.*, the asylum) in the sense of a hospital; here we see traces of a correct appreciation.

The amnesia sometimes stretches back over a long period preceding the onset of the disorder. I might quote the very remarkable case reported by Liepmann (*cf.* p. 129 of Bonhoeffer's *Monograph*). It was that of a journalist, a well-educated and intelligent man, who developed a Korsakow's psychosis in which there was loss of memory not only for recent impressions, but also for a period extending back thirty years, the limit of this period falling in the year 1871. He thought that his parents, and also the Kaiser William the First,

were still living; he had no recollection of having ever been a journalist, but thought he was still a student, and would talk of his teachers and fellow-students; he knew his Latin syntax, and could converse intelligently on political and historical questions, but only as they would have presented themselves in the year 1871. Here we have a true retroactive amnesia. I have never met with so marked a case as this, but I am inclined to believe that quite frequently there is loss of memory for experiences of the few days which preceded the onset of symptoms, though in a patient leading a humdrum life in one place the phenomenon may not lend itself to demonstration. The following is the most marked instance of retrogression I have seen:

CASE 2.—Man æt. 63, cab-driver, admitted to Colney Hatch November 17th, 1899, four weeks after onset of disorder. There was probably a delirious initial phase. At the workhouse infirmary from which he was sent to the asylum, it was stated that he was very dazed, got out of bed at night and wandered listlessly about the ward, stating he heard cab bells ringing, and demanding fares from the other inmates, alleging that he had just driven them in his cab. (Here we have in miniature, expressed in a sort of "occupation delirium," all the characteristic features of a Korsakow's psychosis—defect of observation and memory, disorientation, pseudo-reminiscence, and illusions as to the identity of persons).

No delirious symptoms or hallucinations have been observed since admission. His pupils were somewhat unequal, irregular, and sluggish; knee-jerks absent; gait stamping, unsteady, ataxic. There was no definite evidence of neuritis, but it could not be excluded. He had been a heavy drinker for years. Syphilis probable (scar on penis).

There was profound loss of memory for recent impressions. He did not know where he was; thought he had only just come; could not remember which bed he slept in, nor what he had had for dinner; could not remember the day of the week when told. Later, thought he had been in another ward at first (always in the same ward).

Though there was some *general* impairment of memory, he could give considerable details as to his past life, his date of birth in 1836, the names and addresses of firms in whose employ he had been, and the periods for which he served them. But he had no recollection of his last employers, a firm in the Caledonian Road, for whom he had worked for some time. He denies all knowledge of them, and says he has never worked for anybody in the Caledonian Road. He gave his age as 59. As far as I was able to make out, there was complete loss of memory certainly for many months, and probably extending back about four years.

After about ten months he could tell where he was, and remembered which bed he slept in, but he had no idea of the date, and only a vague notion that he had been in the asylum some months; he could not

remember for more than a minute things which he was told. The knee-jerks had returned, but gait was still defective, and there were fine tremors of hands and tongue; pupils equal.

October, 1903.—There has been little further change. He does not know the name of any one of the attendants in his ward; thinks he has been here two years. He has no recollection of the firm in the Caledonian Road. There has never been any noticeable defect of judgment, and he always converses in a rational sort of way; he has been well conducted, and respectful and pleasant in manner. Pupils equal and react to light. Gait is much better, and there is no Rombergism.

November 28th, 1903.—Questioned at some length upon London topography, he acquits himself creditably, and describes in accurate detail a number of cab routes, including short cuts through side streets and squares. He knows the cab fares between various points; also the position of various theatres, hospitals, and restaurants—Simpson's, Scott's, the Old Cheshire Cheese, etc.,—but his ignorance of the Café Monico and Romano's seems interesting. He cannot remember the name of the Queen, "but her mother was the Duchess of Kent;" she has reigned over forty years; her husband has been long dead. Mr. Gladstone's age is now about 76. Lord Beaconsfield is dead. Patient knows he is in Colney Hatch, but has only a vague idea where that is; says he has been here two years. Thinks this is the year 1902, and now says he was born in 1841. Says he had mutton for dinner to-day (soup). Does not know the name of his medical officer.

It may often be observed that while the patient has some recollection of the multiplication table, and can multiply simple numbers in accordance with his recollection, he is often unable to reverse the process for the same numbers. Thus, in reply to the question "What is twice seven?" he will promptly answer "Fourteen," but when he is thereupon asked "What is seven times two?" he gives a wrong answer, or says he does not know. He does not realise that the two questions are identical. It is not easy to decide to what defect or defects this very frequent phenomenon is due, as several factors have to be taken into account.

The psychic defects are, essentially, defects of association. Interference with sensory impressions, even in cases with severe and wide-spread neuritis, rarely plays any considerable part. In Case 1, and in several other severe neuritic cases, the mental state offered little hindrance to the rougher varieties of sensory tests. There was no appreciable impairment of auditory or visual acuity, so that there seemed to be no adequate peripheral basis for the disorder of observation. In many cases, however, defect of attention offered great difficulties, especially

at the onset, but bore no relation to the severity of the neuritis.

With the subsidence of the more pronounced confusion of the initial stage, the characteristic defects stand out in greater relief. As Meyer and Raecke remark (9) the clinical picture derives its peculiar stamp from the fact that the amnesia, disorientation, and confabulation present themselves *bei durchaus ruhigem, geordnetem Wesen.* And, as Bonhoeffer (4) says, "the formal process of thought often shows, in other respects, scarcely any damage; in purely intellectual matters, patients often exhibit quite appropriate reasoning."

The most common mode of onset is in a condition scarcely to be distinguished from delirium tremens. This initial delirious phase is often more protracted than an ordinary delirium. In a case which I have previously reported (5) it persisted for ten weeks, up to the time of the patient's death. The delirious symptoms tend to disappear more or less gradually, and the disease then assumes the characteristic aspect illustrated by Case 1. Yet in this second (amnesic) stage slight nocturnal recurrence of delirium is common. This stage may last from a few weeks to many months, or even years. Slight improvement is frequent, but complete recovery is rare; there is nearly always some residual defect of memory.

In the initial stage hallucinations of various kinds are frequent, and in later stages they may return occasionally, especially at night. In a few cases they may return in a marked form after the lapse of perhaps many months, and are then, in my experience, apt to be accompanied by delusions of persecution. I give the following instances illustrating this somewhat atypical course:

CASE 3.—Man æt. 33, carpenter at a brewery, admitted to Colney Hatch August 10th, 1900. History of five quarts of beer daily, also some rum. Delirious onset three weeks ago; "imperfectly appreciative of his environment; no memory for recent events; talks to imaginary persons under the bed or outside the ward; wet and dirty at times." On admission the delirious phase was subsiding, but there was marked loss of memory for recent impressions, and defect of orientation as to time, place, and persons, with pseudo-reminiscences of imaginary journeys. No hallucinations now observed. Marked neuritis, especially of legs; cannot stand unsupported; knee-jerks absent; pupils somewhat dilated, action to light and accommodation sluggish. Rapid, irritable heart. Syphilis four years ago.

August 25th, 1900.—Cannot yet tell where he is, but when shown the letters "L. C. A." on his clothes he knows they stand for "London County Asylum." Thinks he has been here a week; has no idea of the date; thinks it is spring; does not know what he had for dinner. No hallucinations observed. Quiet and well conducted. Wasting of muscles, with electrical changes; neuritis improving somewhat.

November 17th.—Memory better; knows where he is; neuritis improved.

After this he continued to improve, though there was still appreciable defect of memory. But in June, 1901, he became restless, trying to escape, imagining he heard his relatives calling him. He became gradually more troublesome and intractable, and developed delusions of illegal detention; thought his letters were kept back; wrote to the police. Handwriting good.

October 10th, 1903.—Delusions of persecution persist. He shows me some rather neat plans of carpenter's work, which he says he has made to prove that he is sane. There is now no marked defect of memory or of orientation as to time, place, or persons; no pseudo-reminiscences. Is in good health; no tremors, speech defect, or Rombergism; gait fair; knee-jerks absent; pupils normal.

CASE 4.—A man of bloated appearance, æt. 56, van-driver, admitted to Colney Hatch September 15th, 1899. This is said to be his first attack, duration unknown. History of alcoholism. Certificate (September 6th): "Has great loss of memory; thinks he was doing work among the horses at Aldershot three days ago, but cannot remember what he was paid; he says it might have been at Kingston-on-Thames; does not seem to know that he has been chargeable to the parish ever since July. Wanders aimlessly about; has no memory regarding days or weeks, or even years, and cannot say where he is or whence he came." On admission: gait very unsteady, knee-jerks absent, calf muscles tender, some loss of sensation on legs and feet; pupils equal, sluggish.

The neuritis began to improve in January, 1900, and he gained in weight. There was also some slight improvement in orientation and memory. His mental condition remained then much the same for about twelve months, and may be illustrated by the following note:

August 9th, 1900.—He knows where he is; thinks he has been here about six months; knows this is August, but cannot tell the day of the week nor what he has had for dinner. When his brother visits him he forgets all about the visit five minutes afterwards. "When did your daughter come and see you last?" "Last week" (she has never come). He often says he went out to see his brother "yesterday." At night he is restless and talkative, complaining that someone has stolen, from under his pillow, money which he has won at the races during the day. Memory for important events in his past life is good. He gives accurate statements as to his date of birth, his marriage, separation from his wife, the various employers he has worked for, his illnesses and accidents; has had typhoid fever and pneumonia; had gonorrhœa and syphilis at twenty-one—describes the symptoms and the treatment he

underwent. His statements on these points are confirmed by his brother. He answers questions promptly and carelessly, and shows marked "Trinkhumor." If he does not know the answer to a question he invents promptly (fabrications of dilemma).

Pupils small, equal, regular, react to light and accommodation. Twitchings of orbicularis oculi and other facial muscles; fine tremor of tongue; knee-jerks absent; plantar reflexes lively. There is now no wasting or tenderness of muscles, or defect of cutaneous sensation. Gait slightly unsteady.

In April, 1901, hallucinations of hearing became evident; he complained that someone was accusing him of various crimes through a telephone. Since that date he has never been free from delusions of persecution.

October 10th, 1903.—Delusions persist. He complains that people kick him, jump on him, and choke him. Has been violent at times lately. The loss of memory for recent impressions and the pseudo-reminiscences are still well marked. He knows where he is, but has no idea how long he has been here; does not know the day of the week or the month, and when asked what season of the year this is he turns to look out of the window at the trees, and says, "Summer." Thinks he has seen me at Eastbourne; does not know the names of any of the persons with whom he comes in contact daily; thinks one of the attendants is his brother-in-law. He is careless and jocose in his manner. Pupils, knee-jerks, and tremors as before. Slight Rombergism. Gait fair.

CASE 5.—Woman æt. 41, admitted to Colney Hatch August 1st, 1900. Her mother died in Banstead Asylum. Father and two brothers died of consumption. One sister dead, another living. Patient has been married fourteen years; no children. She has been for at least fourteen years a heavy drinker of beer and spirits; "never drunk." Suffered from morning vomiting and headache, and from numbness, tingling, and tremor of the hands, cramps in the calves, and starting of the limbs in bed. During the past fifteen months has had several attacks of depression—rambling in her talk, refusing food, neglecting her household duties, wandering aimlessly up and down stairs, or else sitting all day long in a chair muttering to herself, curiously scrutinising her fingers, and picking at her fingers or apron. Restless and talkative at night; got up and dressed at 3 a.m. because she thought someone was going to set fire to the house; threatened to drown herself if her step-daughter did not leave the room. This state would last about a month, and then for two or three months she would be "quite well and jolly." Had been worse the last six weeks than ever before. Had lately said she heard voices of people talking; they were in the air of the room, and frightened her.

Brought to asylum from workhouse infirmary under certificate dated July 25th, which stated that she made contradictory statements, that her memory was bad, and she did not appear to comprehend her surroundings, being quite at a loss to remember time and place for recent events; *e. g.*, she said she had run away because she was tantalised by her husband, but when asked why she came to the infirmary she

said to find her husband. Said she had been there between a week and a fortnight (really only one day), that she walked there, and that her step-daughter walked there with her (not so); and when asked what place she was in, she said, "These are oil and colour works."

Physical state on admission to asylum.—Has a dull, vacant, and morose expression, with a somewhat mask-like immobility of the cheeks; twitching of left orbicularis oculi and corrugator supercilii; tremor of lips in speech, with some slovenliness of articulation; fibrillary tremor of tongue; fine tremor of hands, and shakiness in lifting cup to drink. Gait unsteady; she staggers in turning round; slight Rombergism. Some general wasting of limb muscles, but especially of interossei, thenar, and hypothenar muscles of hands, which are tender to pressure; also triceps and forearm extensors in less degree; calf muscles wasted and tender to pressure; ulnar and posterior tibial nerves are very tender. There is marked hyperæsthesia of the feet; she complains of pains in the toes; knee-jerks and plantar reflexes brisk. Pupils of moderate size, equal; reaction to light and accommodation extremely limited and sluggish; slight lateral nystagmus.

On admission, and for a long time after, she was much confused. She occasionally gave accounts of imaginary journeys, but she seldom spoke except in response to questions; fabrications of dilemma were prominent. At first she thought she was at a country inn, but after ten days she had some vague notion she was in a madhouse. Moved to another ward on August 15th, she began about August 18th to think the place looked different, and thought she was in the London Hospital. For weeks after this she again often thought she was in an oil and colour works, or a chemical works. Had no idea of the time of day, date, or time of year; thought it was spring, 1888. Asked, in the early morning, "What have you had for dinner to-day?" she says, "Fish." August 18th, volunteers the statement, "I think my husband came to see me last night" (correct); being much prompted, she remembers that her step-daughter came also; but after a minute, when asked "When did your husband come to see you?" she says, "Last Sunday" (incorrect). "What day is this?" "Sunday" (Saturday). "Are you married?" "Yes, but I have left my husband." "How do you support yourself, then?" "Oh, I keep house for him." She can multiply simple numbers, but cannot reverse the process for the same numbers. "What is twice six?" "Twelve." "What is six times two?" "I don't know."

She imagined that people in the ward were people she knew; "I saw my brother here just now."

August 23rd.—Thinks I am "one of the governors of the place."

31st.—Thinks I am a magistrate.

After about six months she began to think I was "John Hart." This afterwards developed into a sort of delusion. "You come round here and call yourself a doctor, you rascal. I know you; you're John Hart, that's who you are; go home; mind your own business."

She was often seen looking suddenly behind her, but no more definite evidence of hallucinations was forthcoming until August 23rd, when she got out of bed, saying someone had told her to get up.

28th.—Asks, "Is it true my husband has been shot dead?"

December 14th.—Hallucinations suddenly became marked. Two of the other patients were talking about her past life, "about the rolling-pin what was found between the mattresses, and about her husband." In consequence she became somewhat aggressive for a few days.

In the first few weeks after admission she repeatedly refused food; eyed it suspiciously; thought it was poisoned; dipped her finger in the milk to see if it was drugged. She was very nervous and anxious, easily frightened, suspicious of everyone, and much alarmed at any physical examination.

The course of the malady may be indicated by the following extracts:

August 15th, 1900.—This morning she was very dazed and shaky, and apparently unable to speak; could scarcely stand. At noon she spoke, but was lost, suspicious, and frightened. In the evening is stated to have shivered for an hour. Temperature remains normal. Kept in bed.

16th.—More stuporose, feeble, and tremulous. Pupils scarcely react at all.

22nd.—Restless, tremulous, anxious, fidgety. Tries to get out of bed. Mutters unintelligibly to herself; picks her fingers, bed-clothes, etc. When asked what place this is she looks for the mark on the bed-linen or on the teacup. Feeds herself, but forgets her food, and has to be told to go on with it. Though carefully told the day of the week a number of times, and made to repeat it, she does not remember it a minute after, and thinks it is a fresh question altogether. Pupils now quite inactive to light. No external ocular paralysis. Hyperæsthesia of toes less.

28th.—Remains quite disorientated. Tremors and nystagmus well marked. Pupils quite inactive. Still kept in bed.

September 8th.—Mentally clearer, and physically a little stronger. Tells how she was taken to the studio (on September 6th) to be photographed, though she thinks it was yesterday. Says she has been here a long time. Knows some of the other patients by name. Complains more of tingling and numbness in arms and legs. Pupils react very slightly to light. Now gets up for a short time daily.

October 4th.—Distinctly less confused. Speech and gait better. Pupils react better to light and accommodation. Ophthalmoscopical examination: media and discs clear; doubtful slight hyperæmia o discs. Knee-jerks brisk; plantar reflexes normal; tenderness of muscles and nerve-trunks as before. Faradic excitability much diminished in thenar, hypothenar, and interosseus muscles of hands, almost abolished in calf muscles, and completely abolished in anterior tibial muscles; calf muscles respond slowly and sluggishly to galvanism, anterior tibials scarcely at all. Faradic reaction preserved in quadriceps and hamstrings.

December 16th.—Stronger on her legs. Knows where she is. Less confusion, but marked defect of memory and ideas of time. Illusions as to identity, auditory hallucinations, and delusions that food is poisoned, well marked. Pupils now react normally.

Later, the confusion and hallucinations became less marked, but there was still great defect of memory. She knew where she was, and answered briskly when spoken to, but was rather ill-tempered and intractable,

taking little interest in anything, and repeatedly demanding her discharge from the asylum. She gained considerably in weight. The gait was fair.

October 10th, 1903.—Still in Colney Hatch. Confabulation still marked. I asked her:

"How long have you been here?"—"A week."

"Were you here at Christmas?"—"Yes, but I have been out and come back."

"How many times have you been here, then?"—"Three times."

"When were you here last?"—"It was before I lost twins; I'm carrying now. And then they went and sent me to Banstead; I can't think why; I'm not mad."

"Why are you here, then?"—"I'm here to be recognised."

She says the ventilator gratings in the walls are "for them to look through and spy on her." Says she heard her husband's voice just now telling her to go straight from the dining hall to the ward. Repeatedly says she has been dipped in the Thames. Has delusions as to the identity of some of the other patients. She knows she is in "London County Asylum," but cannot or will not tell the name of it. Is irritable, and resents being "asked so many foolish questions." Is quiet, unoccupied, takes no interest in anything; on rare occasions her habits are faulty. She reads fairly well a few lines from a newspaper. Pupils normal. Knee-jerks brisk. Still has cramps in the legs. At the end of the interview she says, "You are Mr. Holder, aren't you?"

It appears somewhat uncommon to meet with cases in which auditory hallucinations are so prominent and persistent as here, and which in other respects present the characteristic picture of Korsakow's psychosis. But in the delirious initial phase auditory hallucinations are often recognisable. In several cases which I have had the opportunity of observing closely in the delirious stage, the combined visual and tactile hallucinations characteristic of delirium tremens were a marked feature. The patients often imagined that rats, cats, dogs, etc., were in, on, or under their beds. Several married female patients thought they had recently been delivered of children; the expression of this delusion was usually associated with the idea that the child was there in the bed at the time of speaking, and that the nurse was the midwife, while the observer was in one case believed to be the accoucheur; there was thus a systematised misconception of the environment, somewhat reminiscent of that seen in the "occupation delirium" of delirium tremens. A delusion of recent confinement of this type I do not remember to have ever observed apart from peripheral neuritis.

Dr. Percy Smith (8) remarks on the rarity of delusions of electrical shocks in polyneuritic psychosis. I have observed

them only in one case. This was in a woman who presented a typical delirious onset (she imagined rats were running over her bed); there was slight neuritis of the legs, with tenderness of muscles and loss of knee-jerks. After a few weeks the disorientation became less and the patient began to realise that she was in an asylum, but she never thought she had been there more than a few days. There was marked defect of observation, and loss of memory for recent impressions, with illusions of identity, but very few pseudo-reminiscences. In the course of a few months auditory hallucinations of angry, threatening, and accusing voices became prominent; the patient was often heard engaged in vigorous altercation with the voices. There were also powerful ideas that her husband was unfaithful. She now began to have delusions that electricity came up from the ground into her legs. Signs of active neuritis had by this time subsided. The amnesic condition persisted. The case cannot, however, be regarded as a typical case of Korsakow's disease; it approximates in some respects to alcoholic hallucinosis (Kraepelin's "hallucinatorische Wahnsinn der Trinker").

The occurrence of such transitional forms, and the occasional observation of Korsakow's symptom-complex in apparently quite different pathological conditions, such as general paralysis, senile dementia, and cases of gross cerebral lesion or intracranial tumour (9), suggest the question, often raised before, whether we are justified in speaking of a definite psychosis, or whether we have to do merely with a syndrome of unknown pathological significance. It cannot be denied, however, that the characteristic symptoms occur most frequently, and in their most marked form, in association with peripheral neuritis, upon a basis of chronic alcoholism, in cases which otherwise, and especially at the onset, resemble delirium tremens.

The following, however, is a case of general paralysis in which Korsakow's symptoms were prominent, and were ushered in by a delirious phase resembling delirium tremens.

CASE 6.—Woman æt. 42, widow, a cook, admitted to Colney Hatch October 15th, 1900. History of several years' excess in drink (whisky, stout). No history or marks of syphilis; her daughter suffers, however, from interstitial keratitis. For the last twelve months patient has complained much of pains in the legs. She had also had several severe "faints." She was seized with epileptiform convulsions on September 30th, 1900, and was taken to a hospital next day; was more or less "unconscious" till

October 4th. She then became restless; would not stay in bed; wandered about the ward, talking to herself about her work, and trying to find her boxes; was quite disorientated. She was taken to a workhouse infirmary, and thence to the asylum.

On admission to asylum: pupils of medium size, equal, Argyll-Robertson. Knee-jerks exaggerated. Gait very unsteady. Speech slurring and tremulous, typical of general paralysis. Much general tremor. Tenderness of calf muscles, with great reduction of excitability to faradism and galvanism.

She wanders about the ward; says she is cooking me a steak; removes the plants from the tables, and pulls quilts and sheets from the beds to lay as tablecloths; asks the nurses for plates, knives, and forks. "What is Mr. Arthur going to have?" (thinks I am Mr. Arthur); complains that I am not punctual at meals, and that I let the dinner get cold. "I shan't stop in this place; I shall give notice. You don't allow me any beer, and don't pay me my wages." Placed in a single room, she rattles at the half-door and says, "This is a rotten oven; you can't get the oven door open."

For about a fortnight she continued in this lively state of busy "occupation delirium." In November the delirium gradually subsided, but she was still quite disorientated; mistook those about her for old acquaintances, and gave accounts of imaginary journeys to Brixton and Tulse Hill. From the time of admission she had auditory hallucinations; she imagined she heard voices of people swearing. These hallucinations were not prominent.

There was little further change till December 7th, when she had a prolonged epileptiform seizure. After this she remained very stupid, feeble, restless, and tremulous, and could rarely be got to speak. She had another such seizure on December 28th, and yet another on the night of January 22nd, 1901, in which she died.

At the autopsy the brain showed marked characteristic macroscopic appearances of general paralysis. There was some fatty cirrhosis of the liver.

It is obvious that we cannot ignore the determining influence of the alcoholism in this instance, which perhaps suggests caution in the interpretation of other paralytic cases presenting this aspect.

It is a pleasure to me, in concluding, to express my thanks to Dr. Seward, medical superintendent of Colney Hatch Asylum, for permission to publish these cases; and to my late colleagues, Dr. C. F. Beadles and Dr. S. Lloyd Jones, for the facilities they have afforded me for examining cases from time to time since I ceased to be a medical officer at that asylum.

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Occasional Notes.

Herbert Spencer.

Herbert Spencer is dead. The last and greatest of the giants of the Victorian age has passed away; and, in the tumult and clamour of evanescent political strife, the country of his birth is strangely indifferent to the portentous loss that it has suffered. From the uttermost parts of the earth—from the length and breadth of the great continent of America; from France, Germany, and Italy; even from far-off Japan—come messages of condolence and appreciation of the mighty dead; but here his loss is scarcely noticed. Truly, a prophet is not without honour, save in his own country and among his own people. Queen Victoria was a great queen, and worthily ruled a great nation; but to distant generations the name of Queen Victoria will mean as little as the name of Semiramis means to us,