his mental balance. This time, however, he did not relapse, and in a month he put on 21 lbs. in weight. His leucocytosis fell to about 13,000, and the polymorphonuclear cells averaged 66 *per cent.*

We are inclined to think that if we had induced a high leucocytosis in this case by means of a terebene injection early in the attack, we would have saved the patient from a long and brain-cell-destroying illness. The history of the course of this patient's illness, taken in connection with the observations made on the leucocytosis in acute mania published in the *Journal of Mental Science*, April, 1903, suggests that in the treatment of acute mania the induction of a high polymorphonuclear leucocytosis is a most important point to be attended to.

A Clinical Note on Alcoholic Automatism. By W. C. SULLIVAN, M.D., Deputy Medical Officer, H.M. Prison, Pentonville.

THE occurrence of prolonged phases of dream-consciousness is, as is well known, a not infrequent phenomenon of pathological drunkenness, and since these phases are often marked by conduct of a seriously criminal character, their study is, from a medico-legal point of view, of much practical importance. For this reason I have thought it worth while to put together a few clinical observations which seem to illustrate fairly well some of the main facts in connection with these dream-states.

I have confined myself to cases where the actions performed were not very grave socially, so as to exclude as far as possible any motive for untruthfulness on the part of the agent, on whose evidence we have necessarily to rely a good deal. It is, I think, legitimate to suppose that the nature of the dream-state in such cases is not essentially different from that which exists in automatism with, for instance, homicidal impulses; and that therefore, from the clinical conditions in the simple cases, we may infer the possibility of similar conditions in the socially graver cases.

A further qualification, which restricted one's choice very much more seriously, was that the individuals examined should possess a certain degree of intelligence and education, so as to

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be able to assist in the elucidation of their symptoms. It is needless to insist on the meaning and effect of this limitation as it regards the average chronic drunkard; and it is precisely in that class, mentally enfeebled and prone to suggestion and to objectless lying, that states of dream-consciousness are very apt to develop.

In the result, therefore, out of a very large clinical material the number of available observations is meagre.

It should be added that efforts have been made, as far as possible, in the selected cases to control the statements of the patients by outside evidence.

The object of the observations—the exact determination of certain characters of the dream-state—will sufficiently explain the minute detail of the notes on various points otherwise of trivial moment.

With the four alcoholic cases I have placed, for the sake of comparison, another observation of considerable intrinsic interest, where entirely similar symptoms developed under some other obscure influence.

Obs. 1.—H. C—, æt. 30, draper, third of a family of six children, the rest living and healthy; father, a chronic alcoholic, died of dropsy. Nothing else special in family history. Patient has suffered from attacks of vertigo as long as he can remember; at the age of eighteen he had his first attack of *grand mal*, and has had similar fits at irregular intervals since; attacks are of classic type with aura of obscured vision, tongue-biting, and occasionally enuresis.

For some years past patient has taken alcohol intermittently, drinking from convivial motives. A very small quantity makes him "lose his head," and he then gets into a state of dream-consciousness, in which he performs a series of elaborate acts of which subsequently he retains only a fragmentary memory. This peculiarity was present from the outset of his drinking habits, but has become more pronounced of late. Alcohol frequently brings on a fit, but even when no fit occurs the dream-phase is apt to develop. On the other hand, epileptic attacks occurring in the absence of alcohol are not followed by any such phase. The patient has had two or three attacks of hallucinatory delirium with zoopsy after severe drinking bouts.

Received into prison on Tuesday evening on a charge of drunkenness and disorderly conduct, patient was emotional and rather tremulous, but answered questions readily and coherently, was able to sign his name, count out the contents of his pockets, and perform other actions of a fairly elaborate character. He said he had been drinking heavily since Sunday morning, that he was arrested on Monday for repeatedly going in a state of intoxication to the shop where he was employed, that he remembered going there once, but only knew of the other times from hearing the evidence at the police court; that he had two fits last night

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in the cells (tongue was slightly bitten). He had a fresh scratch about four inches long on the right side of the neck, the origin of which he could only explain by saying that he heard he did it himself; he could not say how or why.

Though a little restless during the night, he was a good deal clearer next morning; and in another twenty-four hours had quite come back to his normal level, and was able to give an intelligent account of himself. He repeated the statements he made on reception regarding the circumstances of his arrest, and his version of them was in accord with the police evidence, but he had no recollection whatever of his interview with me, knew nothing of the scratch on his neck or of the explanation of it that he originally gave, was utterly unable to account for the episode, but insisted strongly that he could not have had any suicidal idea. His memory of the other incidents during the drinking bout was very imperfect, and this amnesia was even, as had happened in previous attacks, retrospective, *e. g.*, he changed his lodgings before he got drunk on Sunday, but has now no idea of his new quarters.

Patient is above the average in intelligence. He presents no signs of chronic alcoholism, and no stigmata of hysteria.

Obs. 2.—J. S—, æt. 50, managing clerk. Convicted of indecent exposure.

A little tremulous and depressed on reception, but mentally quite clear. States that he has no recollection whatever of the alleged offence, that his mind is a blank between about 11 p.m., when he remembers coming out of the Holborn Music-hall, and 3 a.m., when he found himself being questioned in the police-station. He accepts, however, the accuracy of the police evidence which he heard at his trial, and which he correctly repeats. It appears that about 2 a.m. he was seen by some passers-by making water ostentatiously in the presence of some girls at the corner of Fleet Lane, and was therefore given into custody.

There is nothing of note in the patient's family history. Health has always been fairly good, except for syphilis contracted about ten years ago. He was temperate up to seven years ago, when, owing to special business conditions, he was induced to drink rather heavily, especially brandy. Within the last eight months he has had two attacks of delirium tremens.

He had been intemperate for fully four years before he developed any tendency to phases of automatism; of late such phases have been increasingly frequent after even slight excess. Amnesia is absolute during the attacks, which have so far never lasted more than about twenty-four hours. During the automatic phases he has frequently made business engagements, etc., of which he has subsequently no knowledge; this has been a source of considerable trouble, as his manner in this condition has been so perfectly rational and coherent as to excite no suspicion of a morbid state. He has occasionally wandered about in these unconscious phases, and has even made short train journeys, but he has never before done anything to bring him into collision with the law.

The patient presents slight nervous signs of chronic intoxication—morning tremor of hands and tongue, hyperæsthesia of the calf-muscles,

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—but no symptoms referable to the digestive system. Vision is defective, owing to extensive atrophic changes following syphilitic chorio-retinitis. There are no stigmata of hysteria.

Obs. 3.—J. S. L—, æt. 45, journalist. Convicted of larceny of a bicycle.

On reception a little tremulous, but mentally clear. It appeared from the police evidence that a constable saw the prisoner shortly before midnight near Waterloo Bridge rolling a bicycle along in an aimless way; he stopped him, and asked him what he was doing, and prisoner replied that he was minding the bicycle for "some one," whom he was unable to describe. He was taken to the station, and shortly after the messenger boy of a newspaper office where prisoner had occasional work identified the bicycle as his (the boy's) property. Prisoner gives a correct version of the above evidence, which he heard in court, but denies absolutely that he has any memory of the theft of the bicycle. He recollects drinking in a public-house in Fleet Street a little past 4 p.m., but from that time till he found himself in the police-station his mind is a blank, except that he has a hazy memory of rolling a bicycle about in the street and talking to the constable. He recalls, though imperfectly, the scene in the station when the boy identified the bicycle; he remembers particularly that he said to the boy, "Did I not ask for Mr. X?" (manager of the office and an acquaintance of his), and that the boy said, "Yes, and I told you he was in Russia." But while he remembers so questioning the boy he has no memory of the actual incidents to which the question referred. Though the prisoner, in consequence of his drinking habits, has got rather low in the world, his reputation for honesty has been hitherto good, and there appears to be no sufficient reason to doubt the truth of his statements.

There is no neuropathic taint in the family history. Prisoner always had fairly good health. At the age of nineteen, however, he had a severe nervous shock in a railway disaster; he was bruised, and his head was cut, but he did not lose consciousness. From the age of twenty-four he has been intermittently intemperate, taking spirits chiefly. He has had no hallucinatory or delirious symptoms, and no symptoms referable to the digestive organs. On the other hand, almost from the outset his drinking bouts have been marked by a tendency to automatism. In the dream-phases he has done various absurd acts, *e.g.*, on one occasion tried to drive a cab in a crowded thoroughfare, on another walked off with a cannon-ball from the Hoffman House in New York. As a rule there has been total amnesia of these actions, but in a few instances he has had a fragmentary memory of one or two episodes in the obscured period. Prisoner is physically well developed. Motor power and sensation appear normal; patellar reflexes are increased; superficial reflexes normal; pupils are rather small and do not contract to light or on convergence, no sympathetic reaction; visual acuity $= \frac{6}{6}$; colour-vision normal; fields of vision of normal extent; fundus oculi normal; sphincter functions normal, except for slight slowness in micturition, which, prisoner states, has always troubled him. Digestive and other functions normal. Memory and judgment a little defective. Emotional tone optimistic.

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Obs. 4.—J. L—, æt. 30, gardener. Convicted of indecent exposure.

Beyond slight tremulousness presented nothing abnormal on reception. Stated that on the previous day he left work about 5.30 p.m., and meeting some acquaintances went with them to a public-house where he stayed "a long time," at least over an hour and a half; he does not recollect leaving the public-house, nor does he recall anything of his movements until he was accosted by a policeman accompanied by a lady who said, "That's your man, officer." He was taken to the station, it being then a few minutes past 9 p.m., and the lady stated that he met her in the road and deliberately exposed his penis, making some indistinct remark. The place where this occurred was on the direct line from the public-house to prisoner's home, and about a quarter of an hour's walk from the former. Prisoner voluntarily adds that he has twice before been charged with the same offence under almost identical conditions. In these cases also he alleges drunkenness and amnesia. His version of the police evidence in the present instance is correct.

Prisoner is the fourth of eight children of healthy parents. There is nothing of note in the family history, or in prisoner's personal antecedents, except an obscure enteric disorder in infancy and a head injury (without loss of consciousness) in boyhood. He has worked all his life as a gardener, and has been in steady employment. A teetotaller up to twenty-three years of age, he then drank heavily after a love disappointment, and since that time has been intermittently intemperate, always from convivial motives.

From the outset of his drinking habits he has been peculiarly susceptible to alcohol, five or six glasses of beer bringing him to a condition of ambulatory automatism. In this state he is, he has been told, fairly coherent, though a good deal more talkative than usual. It has occurred to him in this phase to make gardening engagements which he has afterwards been quite unable to recall. Though his amnesia is usually complete, a striking impression, *e. g.*, the vigorous exhortation of a policeman, will often remain in his memory.

As regards his sexual history, he masturbated moderately as a boy, practised normal coitus from the age of twenty-one, and has been married for the last two years. Alcohol does not, he says, increase desire, nor does it lead to any sexual preoccupation in speech. He denies all exhibitionist tendencies when sober, and his erotic dreams are associated with images of coitus, never of exhibition. He is emotionally unstable, but of very fair intelligence. He presents no signs of alcoholism, and no stigmata of hysteria.

Obs. 5.—J. T—, æt. 54, gardener. Convicted of malicious damage to a fire-alarm.

From the police evidence it appeared that the firemen, going in response to a call to Paddington alarm station, found prisoner seated beside the alarm in a dazed condition, unable or unwilling to give any explanation of his conduct; they supposed that he was drunk.

On reception into prison he was a little confused as to time and place, spoke with some difficulty of articulation, and showed a marked tendency to use periphrasis: said he "did not know" why he broke the fire-alarm, that he "was afraid of something;" he answered questions

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with some slowness, but frankly and relevantly. Gait, writing, etc., were normal. There were no signs of chronic alcoholism.

After a night's rest he was much clearer, but still appeared a little aphasic, *e. g.*, had some difficulty in naming familiar plants in the garden. A few days later seemed practically normal, except that he complained still of some difficulty in articulation and of some fatigue in continued thought.

There was nothing of note in the family history; patient himself had enjoyed excellent health up to the present. A skilled gardener, he has always been in good work. He drinks very moderately, taking about a pint of beer a day, and hardly ever touching spirits. He has got drunk "a couple of times," his intoxication being of the ordinary type.

He states that he remembers going in the morning to a nursery-man to arrange about work, returning to Waterloo, and going on in the afternoon to Covent Garden. From that time he has no clear memory till he found himself in the police van on his way to prison, and asked where he was and how he came to be in custody. In the interval of obscured consciousness, which lasted about twenty-six hours, he can just recall the act of breaking the fire-alarm; he does not know the time or place of this occurrence, nor can he even say whether it was day or night; he only remembers that as he broke the glass he had a feeling that "something was going to happen," that he would be safe if someone came, and he recollects seeing a man in a brass helmet approach. Before and after that his memory is a blank.

Careful examination of the nervous system fails to show any defect, except that memory for recent impressions is a trifle weak, and that attention is readily fatigued. Motor power is normal; dynamometer gives pressure of 87 k. with right, 79 k. with left hand, a dynamometric index $\left(= \frac{\text{Left}}{\text{Right}} \times 100\right)$ of 91, which is above the average for men of his age and education; writing is clear and firm. Sensation, general and special, normal; reflexes normal.

Remarks.—The points which I desire specially to discuss in the light of these cases are the following:—(*a*) Conditions which predispose to the occurrence of automatism in alcoholic intoxication; (*b*) character of the defect of memory in the automatic phase; (*c*) conditions which influence conduct during the phase.

(*a*) *Conditions which predispose to automatism in alcoholic intoxication.*—An element of cerebral automatism belongs of course to the common phenomena of intoxication by alcohol. When, however, the symptom develops beyond the rudimentary stage to the prolonged dream-state which we have here in view, the cause is generally to be sought in some nervous abnormality in the intoxicated subject. Crothers lays it down in one of his earliest papers on the question that "this trance condition will

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always be found associated with a peculiar neurotic state, either induced by alcohol, or existing before alcohol was used" (1). The soundness of this opinion has been supported by all subsequent experience. When distinct automatism develops under the influence of alcohol, it may almost be taken for certain that the individual is a chronic drunkard, or that he presents some definite evidence of instability of brain. One of the cases in this paper (Obs. 4) is one of the nearest approaches to an exception that I have yet come across; and in that case, despite the absence of the more usual predisposing conditions—for the head injury in childhood seems to have been trivial,—yet the patient's emotionalism, the sentimental origin of his inebriety, and his sexual conduct, all indicate some degree of mental abnormality.

As a rule, however, the neuropathic condition is a good deal more definite. Its different causes, in the order of their numerical importance, would rank in my experience as follows:—Chronicity of intoxication; epilepsy or epileptic heredity; head injury; insane or alcoholic hereditary degeneracy; certain acute infectious diseases, notably typhoid and influenza; syphilis. Very commonly more than one of these causes are operative in a given case, but most of them, if not all, seem to be capable singly of creating the special predisposition to pathological drunkenness. An exception ought perhaps to be made for syphilis; personally, at least, I have not yet seen any case of alcoholic automatism in which it could be regarded as the sole neuropathic cause, but instances are not infrequent in which it appears to be an important co-operating influence, determining, for example, in habitual drinkers a rather earlier development of automatism. It may possibly have had some such influence in Obs. 2, and also in Obs. 3, where, though there was no history of syphilis, the pupillary symptoms were suspicious.

Epilepsy is of course, in a medico-legal aspect, a peculiarly important predisposer to automatism. Its influence is well illustrated in Obs. 1, in connection with which it may be specially noted that the dream-consciousness was related to the intoxication, and not to the epileptic fits. Epilepsy of traumatic origin seems peculiarly to predispose to automatism under alcohol.

(*b*) *Character of memory defect in automatic phase.*—Special importance attaches to the study of this question, since it is in the disorder of memory that the main evidence of the automatic

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condition is to be found. The inquiry is, however, attended with a good deal of difficulty, more even than is presented by the study of the automatism of epilepsy. The most important cause of this difficulty is that in alcoholic cases the automatic phase is, as a rule, gradual and not abrupt in its onset and termination, and is moreover subject to modifications from additional doses of the intoxicant. To avoid fallacy, accordingly, one must be able to exclude this intercurrent influence, and one must leave out of account the transitional conditions at the beginning and end of the dream-state.

Considered with these limitations, alcoholic automatism has, as has very often been noted, a close resemblance, at least in a good many cases, with the automatism of epilepsy.

In the latter disease it is of course the rule that there is total amnesia for the period of the automatic state. It is, however, a rule that admits of a good many exceptions; a partial retention of memory in the automatic phase is by no means rare, and illustrative cases are fairly numerous in medical literature, especially of late years. In alcoholic automatism also, in the majority of cases there is total amnesia; but the proportion of instances with partial memory appears to be higher than in epilepsy. For example, in a series of twenty-four personal observations of automatic suicidal attempts by female inebriates, specially noted from this point of view, there were as many as four cases of incomplete as against twenty of total amnesia.

The cases of complete absence of memory do not call for special remark here. The problems they present are practically the same as in the corresponding class of epileptics. Our interest centres in the more difficult cases where there is a more or less vague and partial memory of the incidents in the dream-phase.

The first and most important point to note is the sort of impressions that are retained in this condition. Any impression may be so retained, but I think it may be stated, at least provisionally, as a general rule that in any case where there is partial memory, a very vivid impression with intense emotional agitation will certainly persist.

The limitation of the cases recorded in the present paper to instances of socially indifferent conduct makes them irrelevant on this point; but the rule has been constant in my experience

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of suicidal and homicidal impulse. The suspicion of suicidal intent in Obs. 1 is too remote to be considered in this connection. The normal condition of things in the graver class of cases is shown in the non-alcoholic Obs. 5, where the only traces left in the patient's memory refer precisely to the emotional distress and the impulsive act arising out of it. One should certainly view with extreme suspicion an allegation of amnesia referring to serious criminal acts when trivial incidents deep in the supposed automatic phase are remembered.

Another point of considerable importance is that impressions may be recalled very soon after the automatic phase, or may be revivable in consciousness towards the end of the phase, but may subsequently lapse totally from memory. This has been noted also in cases of epileptic automatism (Samt) (2), and has then been sometimes attributed to the occurrence of a second fit. In alcoholic cases, however, an analogous explanation is not admissible; the phenomenon may be observed in circumstances where further intoxication can be absolutely excluded. Obs. 1 and 3 in this paper are cases in point: in the first the patient when seen on reception offers an explanation of the scratch on his neck, and subsequently knows nothing either of the scratch or of his own earlier account of its origin. In Obs. 3 the patient similarly shows in his cross-examination of the messenger boy a knowledge of facts occurring in the automatic phase which he afterwards forgets altogether, though remembering the questions he put regarding these facts. The point has an obviously important bearing on medico-legal practice; not infrequently it happens that in cases of alcoholic homicide the murderer immediately after the crime makes some remark which apparently implies premeditation and conscious motive, but subsequently alleges total amnesia of his act. In a case, for instance, mentioned in Maschka's *Handbuch*, the murderer, after killing his victim, said to his companions, "Don't tell any one about this;" later on he professed to have no memory whatever of the offence. Judging by analogy from the cases reported above, one must admit the possibility of such amnesia being quite genuine, despite the earlier evidence of memory.

Another question of some moment is whether the state of memory is similar in different attacks in the same individual. In epilepsy it appears to be usually so, but exceptions are met with; in one observation, for example, an epileptic who on two

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occasions had committed acts of arson in the automatic state was able to recall the circumstances in one instance, but was totally amnesic with regard to the other (3). In alcoholic automatism variations in this respect appear to be fairly frequent, even apart from ascertainable differences in the nature or amount of the intoxicant consumed on the different occasions. Cases in which chronicity of poisoning is the chief or sole predisposition to the occurrence of automatism are particularly liable to show this inconsistency; and in such cases the general tendency is for phases with total amnesia to occur earlier, phases with partial memory to occur later in the subject's alcoholic career. One sees this not infrequently, for instance, in the repeated suicidal attempts of chronic alcoholics.

(*c*) *Conditions which influence conduct during the automatic phase.*—Not less than in regard of the condition of memory, opinion has changed a good deal respecting the possibilities of conduct in the cerebral automatism of epilepsy. Clinical observation has shown often enough that the epileptic dream-state, besides acts which are habitual, imperfect, and inappropriate, admits also of conduct which is unfamiliar, elaborately co-ordinated, and hardly to be distinguished in appearance from fully purposive action.

In the automatism related to alcoholic intoxication seemingly deliberate conduct of this sort is even more frequent. It is therefore a matter of interest to determine the conditions which govern the nature and direction of such acts. Unfortunately in any given case only a very small part of the many influences concerned can, as a rule, be traced out, and even these cannot usually be established with more than an approach to accuracy. Through the obscurity, however, a few broad facts may be discerned with tolerable clearness, and they are of some practical value as guides in estimating the probabilities of conduct in such cases.

The conditions which govern impulse and thought in dream-states are thus formulated by Maudsley:—"(*a*) Impressions made on sense from without the body; (*b*) internal impressions from the viscera and other organs of the body; (*c*) stimuli arising from the state of the blood, both as regards supply and composition; (*d*) the exhausted effects of recent experiences, whereby lately vibrating parts are prone to be stirred easily into renewed vibration; and (*e*) the proclivities of the mental

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organisation, as determined by hereditary causes and the special experiences of life."

Considering these conditions in their bearing on the impulses in alcoholic automatism, one may distinguish two categories of cases, *viz.*, those in which the organic stimuli that make up the cœnæsthesis are normal, and those in which they are disordered.

In the former category of cases, where the emotional tone is optimistic or indifferent, the character of conduct presents a generally acquisitive tendency, and is more likely to be influenced by intercurrent impressions or by the residues of quite recent experiences. The cases recorded here are instances of this kind; in all of them there is a predominance of the cerebral symptoms of alcoholism, with a relative immunity from its peripheral disorders; and correspondingly their actions are expansive or neutral. The pertinacious efforts to get into the employer's shop in Obs. 1, the *sans-gêne* in the satisfaction of the need to urinate in Obs. 2, the repeated thefts and the efforts to perform difficult and unfamiliar feats in Obs. 3, all indicate a relative optimism of mood. And in Obs. 4, whatever view be taken of its more complex problems, the emotional state is similar.

In the second category of cases, on the other hand, where, either through original temperament or through the organic disorders of chronic poisoning, the affective tone has got a pathological set to pessimism, the impulses tend to be destructive, and the action of extrinsic impressions is small and limited to influencing the direction in which the impulse fulfils itself. To this category, of course, the greater number of cases of alcoholic automatism belong; pessimism is the more general rule in the chronic intoxications, and it is also the more frequent mood in the degenerate, in whom the native deformity of organisation seems to be expressed no less in disorder of the processes that underlie cœnæsthesis than in the discord of the more complex intellectual combinations. This aspect of alcoholism I have discussed at length in other papers published in this JOURNAL,(4) and I need not dwell on it further now except to reiterate the practical point that the fixity of the morbid condition in which the impulse has its origin is likely to give to action in the automatic phase a continuity with that in the waking-consciousness which is easily construed into

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evidence of premeditation. In the alcoholic, threats before murder by no means exclude automatism.

Diagnosis.—To conclude these remarks one may summarise as follows the points of most importance in arriving at an opinion in a case of alleged alcoholic automatism :

(1) Existence of one or more of the neuropathic predispositions to pathological drunkenness.

(2) Previous occurrence of automatism under the influence of alcohol.

(3) Amnesia during the automatic phase, or, if amnesia be incomplete, then retention of the emotionally keenest impressions more than of the indifferent, other things being equal.

(4) Demeanour of the agent.

(5) Character of the act.

Of these points, the last two may have, of course, a very great positive value, enough in fact at once to fix the diagnosis. The existence of total amnesia, again, is conclusive proof of automatism, but, as we have seen, the difficult cases are just those, by no means rare, where the absence of memory is incomplete. The differential mode of memory is, I believe, a valuable test in such cases, but the instances to which it can be confidently applied are few. The first two points, on the other hand, are comparatively easy of determination, have a considerable positive value and a very high negative value. The absence of a definite cause of neuropathic predisposition, and of a history of similar reaction to alcohol on previous occasions, should go far to decide against the theory of automatism in a criminal case.

References.

1. *Alienist and Neurologist*, 1882; see also "Le vertige alcoolique," *C. R. du Congrès internat. de Méd. mentale*, 1889.
2. Quoted by Burgl, *München. mediz. Wochenschr.*, 1900, No. 37.
3. Bonhöffer, *Centralbl. f. Nervenheilk.*, 1900.
4. *Alcoholism and Suicidal Impulses*, April, 1898; *Alcoholic Homicide*, October, 1900.

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