Medical Aspects of The Defence of Automatism*

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The increasing reliance on expert medical opinion in civil and criminal trials today show a spreading recognition of the role which science and medicine play in modern law. This is especially so in criminal cases where the defence of automatism is raised to an apparently motivated and rational antisocial act. In such cases medical examination and testimony are essential to establish a recognised cause of the alleged automatic state.

For the purposes of this paper it is intended to assume that the reader is familiar with the legal principles involved in the defence and to examine exclusively the medical aspects of this plea. Certainly, the current problem of the legal classification of alleged causes of automatism into insane and non-insane shall be given a wide berth[1] along with any attempt to correlate the legal and medical approach to the defence under consideration. Rather, it is hoped that an analysis of the purely medical aspects of automatism may benefit those faced with a practical problem in this area and perhaps foster a closer understanding between medicine and law.

Authors vary in the number of causative categories into which automatism may be placed. Legally, the classification is two-fold, being "insane automatism" and "non-insane automatism," with some dispute as to whether various defects should be classed as diseases of the mind and thereby attract the operation of the Mental Health Act 1911. Medical opinion, on the other hand, tends to split up the causes

*This paper is intended to be complementary to a paper included in last years Review which covered the legal aspects of automatism. See Vol. 1, No. 1, A.U.L.R. 15—Eds.

[1] For a comprehensive treatment of this problem see M. S. Sahu Kahn, "Automatism: Sane and Insane" [1965] N.Z.L.J. 113, 128.

into several categories. Difference of opinion arises here as to a basic classification, Wily and Stallworthy[2] attributing automatism to one of eight main causes, while McCaldon[3] classifies it in four ways.

For the purpose of this paper the fourfold classification offered by McCaldon will be adopted, this being—

1. Normal
2. Organic
3. Psychogenic
4. Feigned.

Before entering on a study of his categories, it may be of profit to note two definitions. He defines "automatism" as, "complex activity of the voluntary musculature occurring in a person who is in a state of defective consciousness."[4] This is simply the "action without conscious violition" suggested by Gresson P. in *R.* v. *Cottle.*[5] Leading on from here, "consciousness" is defined as "a sense of awareness of self and the environment"[6] which exists in degrees ranging from full awareness to coma, according to the impairment of one's consciousness by some organic or psychological defect.

Despite tremendous advances in the study of the brain, very little is yet known about the neurophysiology of consciousness. However, it is recognised that the reticular (net-like) formation in the brain-stem is responsible for the state of awareness, and differing stimuli on this will affect the degree of alertness of a person ranging from general arousal to specific focusing. These stimuli may take the form of drugs, disease, trauma, or hypnosis.

Whatever the cause of the unconsiousness, states of automatism are almost invariably accompanied by amnesia, which suggests that registration and retention of memory is also impaired by the primary cause of the automatism. The amnesia may cover the entire duration of the involuntary action or there may be "islands" of memory and in some cases, e.g. head injury, there may even occur retrograde amnesia.

Medically Recognised Causes of Automatism

Normal Automatism: It is generally accepted that this class embraces at least two types of automatism, these being somnambulism and hypnosis. With regard to the first of these, the act of sleepwalking is so common as to be considered almost normal.

Most people will have witnessed or heard of incidents at sleepwalking during which someone has performed everyday actions whilst re-

[2] H. Jenner Wily and K. R. Stallworthy, *Mental Abnormality and the Law* (1962)
[3] *Canadian Medical Association Journal* 91 No. 17 1964 p. 914.
[4] *Ibid.*
[5] [1958] N.Z.L.R. 999.
[6] *Canadian Medical Association Journal* 91 No. 17 1964 p. 914.

maining asleep. The following morning usually brings no recollection of these events and the subject has clearly been unconscious of them. Somnambulism occurs when, "with the usual personality sleep, some fragment of the personality directs the person into the performance of some complicated act."[7] Those parts of the mind concerned with the movement are awake while those governing awareness and normal intellectual activity remain asleep.

In most instances of sleepwalking the behaviour is quite normal and innocent. Only rarely is some anti-social act committed while the person is asleep, and these cases usually arise as the result of some nightmare which galvanises the somnambulist into immediate activity which may have serious consequences. Thus in *H.M. Advocate* v. *Fraser*[8] the accused strangled his child while dreaming that he was struggling with a wild beast. When acquitting him of the crime, the jury added a rider that he was never again to sleep in a room occupied by another person. Again, in *R.* v. *Dhlamins*[9] the defendant was acquitted after stabbing a man near his bed when he was half-wakened during a nightmare.

It is reassuring to note that that similar occurrences of criminal behaviour are few and far between.

The second type of normal automatism may be termed "post-hypnotic" automatism and results from hypnotic suggestion. Once again, this is a well known condition which is produced by a hysterical dissociation of consciousness and can occur in most normal people. The subject may be persuaded to carry out complicated acts before an audience in "circumstances which create a strong presumption that had he known what he was doing, he would not have done it."[10] Whether or not a subject can be induced to carry out immoral or violent acts while under hypnotic suggestion has been a matter of some speculation. It is argued with the support of experiments that a hypnotised person will not do any act which is contrary to his or her accepted standard of morals or perform any act which would be deemed unsociable by that subject. It has been contended that if the suggested behaviour is sufficiently obnoxious to the subject, his unconscious mind will reassert itself and will refuse to carry out the act. The period of post-hypnotic automatism will always be accompanied by amnesia.

Organic Automatism: Under this head can be grouped every organic disease which affects the conscious mind of a patient but leaves untouched that part of the brain controlling his physical movements. These may be classified into three subgroups depending on the nature

[7] *Ibid.*

[8] (1878) 4 Couper 70.

[9] Transvaal (1955) 1 S.A. 120.

[10] *Mental Abnormality and The Law*, p. 185.

of the damage which impairs the cerebral functioning:

(a) Temporal lope epilepsy

(b) Intake of alcohol or drugs, and chemical deficiencies

(c) Cerebral trauma.

There is often some overlapping of these causative conditions in automation states. Thus, alcoholic intoxication may act in conjunction with some dormant organic disease, e.g. epilepsy or trauma, and thereby produce involuntary unconscious action. Patients suffering from epilepsy will be warned by their doctors against the intake of alcohol which might precipitate a seizure. Since many automatisms occur during epileptic seizures, it may be helpful to give a general picture of the nature of this affliction.

Epilepsy is not a disease, but a symptom of an underlying brain disorder. It may be caused by a brain disease; it may follow after injury to the brain; in many cases the cause of epilepsy is not known. What is known is that the immediate cause of the epileptic attack is an abnormal and disordered electrical discharge from the brain cells to the patient's nervous system. The nerve impulses triggered off by the discharge may be confined to certain parts of the brain or may become generalised, resulting in a full-scale convulsion. On the other hand, the epileptic seizure may take the form of some "transient abnormal sensation in a part of the body or of hallucinations of taste, smell, vision or hearing."[11] Again, the abnormal sensation may be one of emotion such as fear or ectasy. In one instance a young man, during an attack, would find himself looking across a valley at a fairy castle.[12] In many types of epileptic fit amnesia is normal but in some cases a hazy memory remains where the automatism has occurred after the seizure. Where the patient does not suffer total loss of consciousness, his state of awareness is termed a perversion of consciousness, i.e. epileptic automatism or confusion. The highest centres of the brain are thrown into disorder and a number of things may happen. Since that part of the brain concerned with co-ordination of movements is malfunctioning, his physical movements may reflect this in unco-ordinated bodily motion. However, it may be that the patient will automatically continue to do some act which he was engaged in at the time when overcome by the fit, and it will not be until a change of action is suddenly demanded by external events that his state will be betrayed. For example, if overtaken by an epileptic fit whilst driving, it may not be until he fails to respond to traffic signs that the patient's state will be noticed. It follows also that purposive thoughts in the mind preceding epileptic fits may dictate the patient's conduct during the state,

[11] Glasgow, "The Problem of Monetary Compensation for Post-Traumatic Epilepsy" [1968] N.Z.L.J. p. 10.

[12] *Ibid.*

although this behaviour may not be appropriate in the circumstances. There was a case of a woman who was found caressing the severed hand of her child. She had been dressing the infant when she stopped and rose to cut some bread for another child. She remembered nothing more until found by neighbours and policemen.

The fact that, when questioned during an epileptic automatism, the person may give relevant answers, does not disprove the alleged state. Epilepsy, in these circumstances, may have the same effect on the brain as alcohol. It is common knowledge that drunken persons are often able to supply relevant answers to questioning, yet can remember nothing of the incident afterwards. Sometimes the epileptic seizure is characterised by stereotyped thinking or behaviour of the type mentioned above, e.g. the case where, during an attack, a man always heard a baritone singing the first verse of "The Overlander Trail."[13] In another instance, the patient always found himself looking into a shop window watching a little man peddling a stationary bicycle. The speed of peddling would increase until the patient lost consciousness.[14]

It is often the case that it will be difficult to establish epilepsy as a cause of an alleged automatic state. Naturally, diagnosis will be assisted by a prior history of epilepsy either in the patient or his family, evidence both by the patient or any witness at the time of the event, and by clinical tests. Thus, an electroencephalogram (E.E.G.) examination may show abnormal brain wave patterns in some of the cases, while in others a doctor may be able to induce a fit in the patient by getting him to overbreath, or by the injection of certain drugs, or by some other external stimuli.

Wily and Stallworthy on the matter of diagnosis of suspect cases make the following comment:[15]

> "If a known epileptic impulsively commits some act which is unintelligible to other people and which he himself claims to be unable to remember or explain, the presumption is strong that at the time he was not responsible for his actions. The presumption is equally strong that epilepsy is not the correct explanation when a man not previously known to be an epileptic commits some act to his advantage and claims to be unable to remember it."

In those cases where the defendant's acts have a purposiveness and appear to be motivated, it will need sound medical evidence of epilepsy to rebut the natural inference at malicious intent. Absence of any intention or motivation, attempts at concealment, and lack of memory of the events will carry great weight both in the doctor's diagnosis and the acceptance of the defence by the Court.

[13] *Ibid.*
[14] *Ibid.*
[15] *op. cit.*, 162.

The second class of organic damage which impairs cerebral functioning is one of major importance today in view of the increasing incidence of motor-vehicle accidents. This is head injury. Concussion, a mild form of head injury, is produced when a mechanical force is applied to the head so that the brain stem is jarred and consciousness is lost for varying lengths of time. A common example is the footballer who receives a kick in the head, and later can remember nothing of the game although he played it through to its conclusion and aroused no suspicion from fellow players.

Usually the automatism caused by trauma will be accompanied by amnesia (post traumatic amnesia) and in some cases there will be retrograde amnesia, rarely extending for more than a few minutes prior to the injury and shrinking on recovery of the patient. Depending on the severity of the injury, return to full awareness may take from a few minutes to several weeks.

The defence of automatism induced by a blow to the head has been raised often in prosecutions for driving offences. In *R.* v. *Budd*[16] it was held to be a good defence to a charge of dangerous driving to show that the defendant was in a state of automatism produced by concussion resulting from a collision. Again, head injury as a cause of automatism constituting a defence was judicially recognised in *R.* v. *Minor*,[17] and by the Court of Appeal of New South Wales in *R.* v. *Wakefield*.[18]

Under the third sub-group within the class of organic automatism may be included all those states which are produced either by a deficiency in some element necessary for the normal functioning of the brain, e.g. oxygen or sugar, or by the intake of some element which adversely affects cerebral functioning, e.g. drugs or alcohol.

Two types of deficiency which may have, as their result, a state of automatism are cerebral annoxia and hypoglycaemia, the first following lack of oxygen in the brain and the second resulting from a deficiency in the sugar supply.

With regard to cerebral annoxia, the question will arise before the Courts mainly in connection with carbon monoxide poisoning. This type of poisoning usually results from faulty exhaust systems in motor vehicles. Thus, a defence of automatism based on this cause will commonly be pleaded in traffic charges. The accused may be able to adduce expert evidence to show that a defective exhaust resulted in an accumulation of carbon monoxide within his car. Furthermore, he may establish that this prevented an adequate supply of oxygen to his brain and that this precipitated a state of automatism. Cerebral annoxia

[16] [1962] Crim. L.R. 49.
[17] (1955) 112 C.C.
[18] (1957) 75 W.N. (N.S.W.) 66.

may also occur in high altitude flying when the pilot's pressurised oxygen supply is insufficient to compensate for the surrounding pressure. Of course, questions concerning such events will only arise in the law in respect of inquests into aircraft accidents.

Of more importance for the practicing lawyer is the condition of hypoglycaemia occurring in diabetic patients when the sugar supply to the brain drops below normal. When this happens, the patient has what is termed a "hypoglycaemic episode" analogous to automatism, during which his body may continue to function although he has no subsequent recollection of events.

The defence of automatism based on hypoglycaemia is again commonly raised in traffic prosecutions. However, there are cases where the condition has been found to justify acquittals in criminal cases other than driving charges. Thus, Wily and Stallworthy refer to the case where a man was found not guilty of the murder of his mother when it was shown by experiment that a combination of alcohol and starvation (similar to the accused's condition at the time of the offence) produced a low sugar content in his blood and caused a hypoglycaemic episode. Under the simulated conditions, a reading on the E.E.G. showed brain waves consistent with automatism.

The medico-legal aspects of hypoglycaemia were fully considered in the case of *Watmore* v. *Jenkins*,[19] and in a note on that case in *Medicine, Science and Law*, 3, 1963, 247. The following were the facts of the case: The defendant was a diabetic who took regular doses of insulin and daily tested the sugar content of his blood.

In 1961 he had suffered an attack of hepatitis but had apparently fully recovered shortly afterwards. On the day in question, he had injected himself as usual and had an easy day at work. He left his office to drive home at 6.45 p.m. and had no recollection of driving after turning off at the Mitcham Junction. He was seen to drive erratically for some 5 miles thereafter until he crashed into a parked car. He was charged with dangerous driving and driving under the influence of drugs.

Expert medical witnesses for the defence explained that an attack of hepatitis suffered by a diabetic would so affect his liver as to prevent the sweating which usually warns a normal diabetic of the onset of a hypoglycaemic episode and enables him to take sugar to counteract the excessive insulin in his system. The Court accepted this evidence and found that, from the turnoff, the defendant had, because of his infected liver, been overtaken by an unheralded hypoglycaemic episode. His confusion gradually worsened without his knowledge until his body continued to function without memory or will-power. Thus, the accused drove in a state of automatism which only became manifest

[19] [1962] 3 W.L.R. 463.

when he was called upon to react to some external stimulus. At first instance, the accused was acquitted of both charges. On the charge of driving while under the influence of drugs it was held that so far from rendering him unfit to drive, the drug was taken so as to make him fit to drive. As regards the dangerous driving charge, it was held that in actual fact he had not been driving the car since "owing to the abnormal attack which overtook him without warning, he was in a state of automatism."

The prosecution appealed against the acquittal on both counts. The Divisional Court, while accepting that the defence of automatism was available in cases of dangerous driving, were of the opinion that the evidence in this case was inadequate to support the defence. It was stated that there must have been a period during which the accused's actions were not entirely involuntary and that he must accordingly be guilty on the count of dangerous driving. However, the five judges affirmed the acquittal on the first charge.

The case stands as an example of the importance which medical opinion plays in modern justice. From it can be deduced the following principles relating to automatism based on hypoglycaemia. If a person continues to drive after there is a reasonable probability of his entering a hypoglycaemic episode or after warning signs of coma have been received by him, then he will be guilty of dangerous driving. This is analogous to the case where an accused continues driving after the onset of drowsiness. In each case he is in a position to prevent any offence being committed by taking remedial action, e.g. balancing the system by intake of sugar, or stopping the vehicle he is driving. One practical point is of interest in these cases. The prosecution must lay the charge at a point immediately before the automatism becomes effective. If the facts show that, at the point where the charge was laid, automatism had supervened so that the accused no longer had any will or ability to stop, then he is entitled to an acquittal.

On the other hand, if a hypoglycaemic episode overtakes a driver without warning, because of a disease of his liver preventing the warning signal of sweating, then the accused will not be responsible for his actions during an ensuing automatism. He will, accordingly, be entitled to a full acquittal.

Having dealt rather fully with the deficiencies causing impairment of consciousness, it is proposed to look lastly at the effects of drugs and alcohol on the normal functioning of the brain from the aspect of the defence under consideration.

Intoxication as a basis for a plea of automatism has been sceptically regarded. This is probably because of the ease with which such a defence may be fabricated in circumstances which may not be able to

be substantiated. In some cases, however, there is room for a sound defence on this ground. Only recently a colleague related an instance to me which would, it is submitted, have provided a good defence of automatism based on intoxication. The accused was apprehended by the police in an extremely intoxicated state and charged with the conversion of a car in which he was found parked at the side of the road. On blood tests being taken, it was established that his blood alcohol content was approximately 400mg per cent. Medical literature on this subject states that a person with this content should be either comatose or dead. While the learned Magistrate preferred to hold that the surrounding circumstances in this case raised a reasonable doubt as to the commission of the offence by the accused, it is submitted that he would also have won an acquittal on a plea of automatism. Here was a case where direct medical opinion substantiated by experiment could have afforded ample evidence of a state of automatism produced by alcoholic intoxication.

No doubt, and it has been so held in the cases, the intoxication relied on must be an extreme pathological condition before it will be a medically recognised cause of automatism. In *R.* v. *H.*[20] the Appellate Division of the Supreme Court of South Africa went so far as to say that automatism must be distinguished from the unconsciousness resulting from the excessive consumption of alcohol; that in these cases the defence must be closely scrutinised and that medical evidence based on proven facts only be accepted.

Often in cases of intoxication there will be other medical conditions present which lead to an inference that the alcohol acted as a stimulus to a prior pathological condition and resulted in a loss of conscious will. Glasgow[21] refers to *R.* v. *Moana*[22] which may be taken as an example of this situation.

In that case medical evidence adduced at the trial showed that at the time of the offence Turei Moana was in a state of automatism resulting from the combined effects of the alcohol and prior head injury. The defence was accepted and the accused released.

It is submitted that a distinction must be drawn between a defence of automatism and one of intoxication. The latter is recognised as being no defence, unless the accused's state is such as to negative his

[20] *R.* v. *H.* [1962] S.A. 197.

[21] *The Anatomy of Automatism* N.Z.M.J. Sept. 165 Vol. 64, No. 397, p. 491, at p. 493.

[22] (1961) New Zealand. Supreme Court, Gisborne. (Unreported).

ability to form a requisite intent. Obviously, if intent is not an ingredient of the offence charged, then the plea of intoxication will be of no avail. However, strict liability offences would still be open to an argument that the voluntary actus reus was not committed by the accused by reason of the fact that he was at the time in a state of automatism caused by alcoholic intoxication.

Whether drugs, as distinct from alcohol, are capable of inducing automatism has been the subject of much speculation. Over the last few years many coroners' verdicts have changed from "suicide" to "death by accident" where the cause of death has been an overdose of drugs in unsuspicious circumstances. Although doubts were held on this matter until recently,[23] it is generally recognised today that patients who are under the influence of barbiturate drugs may become forgetful, drowsy and unaware, so that in their confusion they may act automatically in duplicating their prescribed dose. Often, people who have revived from a coma caused by such an overdose have no memory of taking the overdose and vehemently deny any sucidal intent. Any defence of automatism based on the effects of drugs would, of course, probably arise to a charge of murder by administering an overdose of drugs to another.

Psychogenic Automatism: This is the third category in McCaldon's classification and deals with the impairment of consciousness from the psychological aspect. Although there are many forms, hysterical disturbances of consciousness are the most commonly encountered in the legal field. In these cases depersonalisation may occur where the patient seems to himself to be another person—he appears as a separate entity and his body acts like an automaton with neither feelings nor mind. The process is called a dissociative reaction where "certain aspects or activities of the personality escape from control of the individual, become separated from normal consciousness and, thus separated, function as a unitary whole."[24] It may be found in a person suffering from an hysterical fugue. Dorlands Medical Dictionary[25] defines a "fugue" as "a disturbance of consciousness in which the patient performs purposeful acts. After the state has passed, however, he has no conscious remembrance of his actions during this period." Usually such dissociations are accompanied by amnesia which is an important factor in criminal cases, where an accused pleads lack of any recollection of

[23] *R.* v. *Mareo* [1936] G. L. R. 233

[24] *Cqnadian Medical Association Journal* 91 No. 17 (1964) p. 914 at p. 917.

[25] (23rd Ed.)

some alleged crime. In these cases where, the bona fides of the accused is suspect, there are two possibilities. He may have formed an intent to commit an act, and later, because of emotional shock, repress any memory of the event. In such cases of subsequent repression the person, of course, is legally responsible for his actions. This is because the law is concerned with the state of the accused's mind at the time of the act and not what he later remembers of it. On the other hand, where the act was committed during a genuine hysterical dissociation, then the accused would be entitled to an acquittal on the ground of automatism. Quite naturally, the burden of proof on the defence would be high to show a prima facie case of automatism where the accused's conduct is apparently motivated, purposive, and where the loss of memory is convenient.

Automatism may also occur in schizophrenic patients where negativism may alternate with automatic obedience. Schizophrenia is a type of insanity which impairs emotion and disorganises reason and may lead to hallucinations and delusions. There is unfortunately, not room here to explore the complicated field of psychoses and neuroses. Instead we shall pass to the fourth and final category of automatism outlined by McCaldon.

Feigned Automatism: It is doutbful whether this class deserves a heading of its own. Needless to say, it is not a true state of automatism on which a defence would be based. Feigned automatism amounts merely to a claim of amnesia covering a period during which the accused has committed an unlawful act or in circumstances in which the accused is shown unfavourably.

Usually, feigned automatism is encountered in cases of intoxication and attempted suicides, both of which have been dealt with above. Thus, a person who attempts suicide, will claim amnesia perhaps through drug automatism to avoid the social and legal consequences of his attempt. Where the patient's story is suspect, the truth may be revealed in some cases by careful questioning by a doctor, by a thorough medical examination, or by means of some clinical aids, e.g. polygraph. (This is commonly called a truth machine in that it records the emotional reactions of a patient in such a manner as to indicate when he is telling a lie.)

Having covered the commonly recognised causes of automatism at this point, it may be added that the list is not exhaustive. There may arise new diseases or conditions of the mind which are causative of the state of automatism and may be accepted by the Courts. Often it is no mean task to accurately diagnose and classify the cause of an

automatism. In many of the cases there are a number of overlapping conditions which will produce involuntary unconscious action.

It would perhaps be valuable at this point to see whether some general characteristics at automatism may be formulated which will aid in its diagnosis. Glasgow,[26] having had much experience in this field, affords the best analysis listing seven general features of a genuine case of automatism:

1. Any offensive behaviour will be entirely out of character with the standards of the patient's conduct in the past.
2. The abnormal behaviour will tend to appear suddenly or explosively.
3. The behaviour is likely to be unexpected or inappropriate in the circumstances and in those cases where the conduct is anti-social or criminal there will be no evidence that it is premeditated.
4. What is done will be senseless or at least poorly motivated; confused or irrational thinking may be discernible.
5. There will be no convincing attempt made to conceal the anti-social or criminal behaviour.
6. The period of abnormal behaviour will be brief, being measured in minutes or at the most an hour or so but certainly not in days or weeks.
7. There will be a period of amnesia surrounding the behaviour. There may be "islands" of memory present during the period but these will be vague memories of important events.

Each and every factor should be present before a diagnosis of automatism is reached. Should there be evidence of attempts to conceal some untoward conduct or apparent motive for the crime, or the alleged amnesia suspiciously clear cut and covering only the criminal behaviour of the patient, then both an examining doctor and the Court will need to scrutinize the circumstances very closely, approaching any defence of automatism with great suspicion. Furthermore, there must also be some medically recognised reason for the alleged automatism which will, in conjunction with the clinical features, establish the probability of this state.

It is of interest to note that Glasgow[27] was of the opinion that there was only one case among all those he had read in the reports where he

[26] *The Anatomy Automatism* N.Z.M.J. Sept. 1965. Vol. 64, No. 397 p. 494.

[27] *ibid.*, 491.

would have been prepared to give evidence that genuine automatism was revealed in the circumstances. He believed that the fraudulent cases of automatism encountered by the medical practitioner outnumbered the genuine cases. It may be fair to conclude from this that a stricter test may be demanded by both the medical and legal professions.