

THE MEDICO-LEGAL ASPECT OF JUDICIAL HANGING

BY PROFESSOR F. WOOD JONES

THE FIRST MEETING of the Medico-Legal Society of Victoria was held at the B.M.A. Hall, East Melbourne, on August 29th, 1931.

Mr. Justice McArthur, the first President of the Society, briefly outlined the objects of the Society. He stressed the advantages which would accrue to both professions from a free interchange of ideas upon subjects which concerned both professions, and expressed the belief that the community at large would benefit from the meetings of the Society. He introduced the speaker of the evening, Dr. Frederic Wood Jones, Professor of Anatomy at the University of Melbourne, who would inaugurate the proceedings of the Society by an address on "The Medico-Legal Aspects of Judicial Hanging."

Professor Wood Jones said: Although I am only concerned with the simple question of the anatomical considerations involved in the methods of judicial executions by hanging, it is impossible to appreciate even this limited aspect of the question apart from some study of the history of our present judicial methods.

The Historical Aspect of Judicial Hanging

In general it may be said that the primitive employment of hanging in judicial procedures was merely as the suspension of a body already dead. Hanging was, under these conditions, not employed as a method of procuring death; but was rather a means of securing desirable infamy for the suspended corpse, and of affording an example to others (amongst other references, see Evelyn's Diary, May 5, 1645, where it is stated the victim was stunned, then had his throat cut, and was afterwards hanged). As an extension of this method of securing infamy by exposure of the body, steps were taken to make the example more permanent. Partial preservation (by

means of pitch and the like) of the body was aimed at; and hanging in chains or in cages was developed. This desire for a more permanent exposure of the malefactor's corpse led to the many curious practices (quartering, exposing heads on poles, gibbets, etc., etc.) quite apart from the question of judicial execution by means of hanging. As a curious extension, hanging was afterwards incorporated in the sentence of "drawing, hanging, and quartering." "Drawing" in this sentence merely implied the dragging of the prisoner (along the road or on a hurdle which was dragged along the road) to the place of execution: "hanging" implied hanging until "half dead" when the victim was cut down, disembowelled and quartered. In many later instances of the infliction of this sentence, the victims were, out of consideration, allowed to hang until they were estimated as to be quite dead. This sentence was pronounced for the last time in the executions following the Cato Street Conspiracy in 1820, and Thistlewood was the last to be hanged before subsequent mutilation.

In the last stage in Anglo-Saxon countries, mainly since it did not entail bloodshed, and therefore permitted ecclesiasts to practise it, hanging was employed as a method of procuring the death of the condemned person. Hanging having become established as the recognised method of procuring death, the business presented three possibilities:

- (a) It could be effected by hoisting the victim up. This method is that traditional in the navy, in certain States of the U.S.A., and was practised in the early days of the Australian colonies.
- (b) It could be effected by the removal of a temporary support upon which the victim stood, e.g., "kicking the bucket."
- (c) It could be effected by a "drop," when a violent jerk was added to the simple operation of constriction and suspension.

The method of the drop appears to have been employed for the first time in 1760, as a special concession, at the

execution of Earl Ferrers at Tyburn. When Tyburn gave place to Newgate as the official place of execution in 1783, a drop of some sort became usual, but it was not until 1818 that a mechanical trap was introduced into routine judicial hanging.

The method of the drop, by means of a mechanical trap, having become customary, there still remained a need to define the details of procedure, and to lay down rules for the guidance of the hangman. In general, the drop might be long or short, the knot might be suboccipital, subaural or submental or—haphazard. There might be a knot and a noose, or an eyelet might be employed. The rope might be of any type according to the fancy of the hangman.

The details were determined by the individual hangman, and until 1874 it was the custom in England to use the "short drop" of three feet or less; whereas in Ireland the "long drop" of up to seventeen feet had been usual. In either case the knot was, according to the hangman's fancy, subaural or suboccipital. As a rough generalisation it may be said that the disadvantage of the Irish long drop was the production of decapitation or something near it. This was not at all an infrequent happening in Ireland (one instance in 1870; weight 11 stone 6 lbs., drop 14 feet 6 in.: complete decapitation). The long drop was introduced into England by Marwood, the executioner, in 1874, and Patrick Harnet and Brownlees, whom he executed, were both decapitated by accident. Later on, in 1891, Berry, at Kirkdale, decapitated both Goodale and Conway.

On the other hand, the English "short drop," as practised by Calcraft, produced a long struggle of death by strangulation. This gave rise to the custom of relatives or friends, or the hangman himself, pulling upon the victim's legs. This was done by Calcraft in the last public execution in Scotland, that of Dr. Pritchard at Glasgow in 1865.

As an alternative method the hangman at times added weights to the prisoner's feet to increase the force of the drop; this plan was resorted to by Berry in the case of Ebenezer Jenkins in 1889. The fact that official judicial

hanging by the short drop and a suboccipital or subaural knot produces death only by strangulation must be considered in conjunction with the form of sentence "hang by the neck until you are dead"—and with the official directions that the victim remains suspended for *one hour* after the drop.

Historical Aspect. Attempts to Regulate Procedure

The bungling that occurred during some of the last public executions directed attention to the haphazard methods employed and the uncertainty of the results produced. Dr. Pritchard was executed in public in 1865. In 1912, when I had the opportunity of examining his skull (the lesions of which are described by Dr. G. H. Edington, Glasgow Med. Journ., Feb., 1912), two medical men who had been present at the execution were still living in Glasgow. From these two gentlemen I received accounts of the execution that confirmed the curious statement of another eye witness that Pritchard, who was wearing gloves when he was hanged, removed them after the drop. It is said that 100,000 people assembled to witness the execution, and it was decided that henceforth executions should be conducted in private within the prison. In 1866, the Rev. Samuel Haughton, of Dublin University, gave much attention to the matter of hanging, and published his paper "On Hanging, considered from a mechanical and physiological point of view" (Phil. Mag., July, 1866). In this work he attempted to establish a mathematical formula, compounded of the victim's weight and the length of the drop, which should secure rapid death without fear of decapitation. Haughton's work attracted some attention in Dublin, and the next definite inquiry into the subject was in 1875, when a meeting of the Surgical Society of Ireland was held at the College of Surgeons in Dublin. Haughton attended and demonstrated his tables and called attention to the merits of the submental knot. As an outcome of these preliminary enquiries there was established in England in January, 1886, a Committee on Capital Sentences, with Lord Aberdare as

Chairman. Haughton was a member of the Committee, but it was a somewhat unsatisfactory tribunal. The Chairman was an advocate for the abolition, rather than the reform, of capital punishment, and the witnesses called were mostly prison officials. The outstanding evidence given at the sessions of the Committee was that of Col. de Zuche Marshall in favour of the submental knot. The advantages of the submental knot were also advocated by Samuel Haughton, Dr. Gibson, of Newgate Prison, and Dr. Carte, also a prison Medical Officer. Nevertheless, the submental knot formed no part of the recommendations of the Committee. The actual findings of the Committee consisted in laying down a scale of weights and drops by which a "striking force" of some 1260 foot-pounds was generated.

The Cause of Death in Judicial Hanging

Originally, hanging, as mere suspension, was frankly admitted to be a method of strangulation. When, with the aim of producing a more speedy death, the drop was introduced, varying results, ranging from decapitation to strangulation, resulted. The 1886 Commission decided that by the methods then in vogue death was produced by either (a) "suffocation"; (b) "shock to the base of the brain"; or (c) "dislocation or fracture of the neck." Haughton classified the cause of death as (a) "apoplexy, from venous congestion"; (b) "asphyxia, from pressure on the windpipe" (and he instanced the case of a man with a tracheotomy tube, whose death, after the drop, had to be brought about by closure of the tube); (c) "shock to the medulla and base of the brain"; (d) "fracture of the vertebral column."

On the other hand, de Zuche Marshall claimed that with a submental knot (kept in place by de Zuche Marshall's chin trough), fracture of the neck was inevitable. Haughton declared that only half the energy recommended by the Committee was necessary to fracture the neck if the knot was placed beneath the chin. And Dr. Gibson said, "I can quite understand that with the knot under the chin

a sudden jerk would be almost certain to snap the spinal column." It may be assumed that, with fracture of the neck, death is as instantaneous as may be.

The Present Position

In 1907 I had the opportunity of examining the skeletons of over 100 men who had been hanged in Nubia in Roman times. In no case was there any fracture of the cervical vertebrae, but the skulls showed a very uniform lesion which consisted in a dragging apart of the sutures of the base of the skull. This lesion seemed to have been produced by pulling one side of the head up while the weight of the dependent body pulled the other side down. In 1912 the skull of Dr. Pritchard was examined and the same lesion was found. There is no doubt that this is the typical effect produced by the subaural knot. In Pritchard's case it seemed safe to postulate that the knot had been under the right ear: and subsequently an eye-witness (Dr. C.S.) wrote me to say, "I was very close to the scaffold and distinctly saw the knot placed under the right ear, and the head fall over towards the left shoulder after the drop." Disruption of the base of the skull by violence cannot be regarded as an ideal method of procuring death.

Bearing in mind the many cases in the literature in which a sudden throwing back of the head, by a blow beneath the chin, had caused instantaneous death, I came independently to the conclusion that with a submental knot certain and instantaneous death could be procured with a very short drop. Such a conclusion was confirmed by the experiences of Captain C. F. Fraser, I.M.S., one-time superintendent of Rangoon Central Jail. Captain Fraser was good enough to send to the museum of the Royal College of Surgeons five sets of cervical vertebrae, in every one of which a complete and uniform fracture of the second vertebra had been procured by a submental knot and a short drop—with resulting instantaneous death. With this material as a basis of study the results of the investigation were published. ("The Ideal Lesion produced by Judicial Hanging,"

Lancet, Jan. 4, 1913). As a result of further communications and correspondence in the columns of that journal it was decided to make trial of the chin trough. Accordingly Col. de Zuche Marshall and I hanged an adult cadaver weighing only 73 pounds with a 4 foot drop. The second cervical vertebra was cleanly fractured, and the lesion would certainly have produced instantaneous death, though the force generated was only 292 pounds, instead of the 1260 pounds considered necessary in present judicial executions. It was well said by one of the witnesses at the 1886 enquiry: "The barbarous act of launching a human being into space with some ten feet of slack rope attached to the neck by a constricting noose *must* result in uncertainty." With a drop and a subaural or suboccipital knot we may strangle, asphyxiate or decapitate; we may fracture the base of the skull or produce variable lesions of the cervical vertebrae—but I do not think we can rely very much on our ability to produce, with certainty, any given lesion. It seems almost a pity that, with a certain amount of scientific knowledge available, judicial hanging should be carried out by methods that cannot be considered the best possible. There should be scientific ideals even in such a business as this, and certainly they are not attained to by present methods.

DISCUSSION

Dr. Clarence Godfrey said that he had, in his official capacity of Government medical officer, witnessed a number of hangings. In each case the knot had been placed under the left ear, and in each instance there had been a fracture of the cervical vertebra. He produced for the inspection of the members of the Society, photographs which had been taken of the fractured vertebrae. He expressed agreement with Professor Wood Jones that executions should be carried out with due regard to anatomical facts, and not haphazardly.

After further discussion of the subject of the address, a vote of thanks to Professor Wood Jones was carried by acclamation.