

AN
INAUGURAL DISSERTATION

ON

Death By Hanging

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BY

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To
The Medical Faculty
Of The
University Of Nashville
This Treatise
With The Highest Regard
For Their Worth And
Ability Individually
And Collectively
Is Inscribed

By
The Author.

Robert Gordon Shroy

1852

Death By Hanging.

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There is a great difference in the length of time persons live, suspended from the gallows, depending in a great measure upon the manner in which the rope is tied around the neck, the distance of the fall and upon the weight of the body; which may be so great as to exclude every particle of air from the lungs, while some bodies are so light that they will hang for a considerable length of time before death supervenes to relieve them from pain.

As regard to the immediate cause of death in cases of hanging, authors are not agreed; some contending that the fatal result is brought about by the induction

of an apoplectic condition of the brain, while a larger number with more reason assign asphyxia as that condition upon which death immediately depends. It is quite clear that if the air be entirely excluded from the lungs, death must speedily ensue, and there is no need to seek farther for the cause of death in the cases under consideration. Besides experiments have proven that the condition of the brain, after this mode of death, is not such as to justify the opinion we are combating. It is true that by preventing the return of the blood from the head by compression of the jugular veins, it may ac-

-cumulate upon the brain, producing insensibility, thereby lessening the sufferings of the victim, and probably to some extent hastening his death.

Others have attributed death to the arrest of the circulation, but this is evidently; but a link in the series of changes that occur, and takes place in every instance in which the air ^{is} excluded from the lungs, by whatever means it is accomplished. It is a physiological fact now too well established to require to be supported by an argument, that respiration is essential to the normal distribution of the blood through the system, if not one

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of the active forces by which
The function of The circulation
is maintained. We conclude there-
fore that the condition upon which
death immediately depends in these
cases is best expressed by the term
asphyxia.

The constitution and bodily con-
-dition of an individual will
have a great deal to do with the
length of time he will live
after being hung. Men of
strong constitutions and in
a healthy condition will resist
death by the rope for a longer
time than those of weak del-
-icate constitutions.

Merch also depends upon the mind,
for in some persons it may be

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so wrought upon as to cause death immediately. Some have been known to die through fear even before they were hung.

The convulsions following strangulation very much resemble those of epilepsy, and generally occur as soon as insensibility supervenes, which speedily follows the entire exclusion of air.

The face, neck, shoulders, arms, hands, and chest are always swollen and purgic and of a livid cast.

This lividness often extends to the abdomen.

The eyes are always open and more or less projecting, while the vessels of the conjunctiva are considerably distended with blood.

The tongue is often protruded out of the mouth and wounded by the teeth, a bloody mucus is thrown out; the mucus coming from the fauces and mixing with the blood from the wounded tongue.

The disfiguration of the features is plainly the result of the violent struggles of the sufferer.

The greater the irritation brought on in the brain proportionally greater will be the disfiguration.

Those muscles which act in raising the arms and assist in respiration are greatly contracted while the other muscles of voluntary motion are found to be more than ordinarily relaxed. They are more flacid in persons who have died

from hanging than in those who have died a tranquil death.

The mark of the rope can always be seen around the neck of a person who has been hung before death, showing a livid and depressed circle; while those who have been hung after death will have the depressed circle without the livid mark peculiar to those hung before death.

Patches of ecchymosis are very often found distributed over the upper part of the chest and superior extremities.

In every case there is an effusion of watery fluid from the neck and face; that from the neck is more profuse than that from the face, owing I suppose to the violent strug-

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-gles of the sufferer and to the
tenseness of the skin of the neck,
and to the turgidity of the face,
The hands are often firmly clenched
and the finger nails are blue.

The sphincter muscles are nearly
always relaxed admitting the
passage of the urine and feces;
while the penis becomes erect
and emits semen. Some writ-
ters doubt this as being a sure
sign of hanging before death.
But this opinion finds strong con-
firmation in the examinations made
under the microscope by Professors
Ede, Jennings and Briggs, upon
the bodies of eight of the negroes who
were hung at Dover and Gallatin for
being implicated in the intended.

massacre of the whites, in every one of whom this sign was found under the microscope to be present. Five of them were examined on the fifth day after they were executed, and the remainder on on the third day.

The blood never coagulates as soon in persons who have been hung, as it does in those who have died a natural death. Three of the negroes who were hung at Dover were beheaded four hours after they were cut down from the gallows, and the blood gushed freely from the arteries and veins of the neck. This occurred about half past three o'clock in the afternoon, and the next P.M. at sunset (the weather being very cold) it was still running slowly.

I said at the head of this article that the time intervening between the hanging and death of individuals differed greatly. I timed one of those hung at Dover and the time intervening the hanging and his last perceivable struggle, was five minutes and thirty seconds. He was a very large heavy negro. I timed the struggles of two of those at Gallatin and the pulse of one of them, both medium sized men. One struggled four minutes, and the other four minutes and ten seconds. The pulse of the latter was distinguishable just twelve minutes and thirty seconds.

It is evident from the above circumstances that the struggles in this mode of death are more intense than those

of almost any other. This is the case more particularly when the rope has been badly fixed, the cartilages of the neck very rigid, or from any other circumstances that may prevent the perfect occlusion of the trachea; for if that is in the least open a sufficient quantity of air will pass through, to prolong the struggles and sufferings of the victim. This is known to be the case with those who involuntarily hang themselves on account of their not knowing how to adjust the rope properly. In them therefore we necessarily find the cheeks, eyes, lips and tongue swollen, while the heart and lungs are less gorged with blood than they would have been had the air been

suddenly and entirely excluded. When the breath is not suddenly stopped, the heart distributes its blood more regularly among its cavities and large vessels; at the same time the rope compresses the jugular veins in such a manner as to prevent the return of the blood from the head, thereby causing the apoplectic appearance of the face as seen in such cases. There are no matters of apoplexy found in the brain, as shown by De Haen from some experiments on dogs which he hanged and examined.

The following experiment performed by Dr Monro of Edinburgh many years ago goes to prove what I have before

stated that the exclusion of air from the lungs is the immediate cause of death by hanging.

A dog was suspended by the neck with a cord, an opening having previously been made in the trachea below the place where the cord was tied, so that air could pass into the lungs as freely as ⁱⁿ ordinary respiration. After hanging in this state for three quarters of an hour, during which time the circulation and breathing went on as usual, he was taken down, and appeared not to have suffered materially from the operation. The cord was then shifted from above to below the opening made into the trachea, so as totally to prevent the ingress

of air into the lungs; and the animal being again suspended, was in a few moments completely dead. By the violent means frequently resorted to in this country for the execution of capital offenders, it sometimes happens that another and more suddenly fatal injury is produced, that of the dislocation of the cervical vertebrae, I believe however that such occurrences are rare, for out of ten negroes I saw hung this month I am satisfied there was not one of them had his neck dislocated. It is plain that were dislocation to take place death would immediately follow, precluding all possible chance

of recovery no matter how promptly assistance might be afforded afterwards; whereas cases are on record where persons have been brought to life after they were cut down, by inflating the lungs with air. There is a case related by Dr Plot in his natural history of Staffordshire. He says that during the reign of Henry the sixth, there was a woman of the name of Anetta de Balsam hung according to the sentence of the law; after hanging a whole night she was cut down and found to be still alive. On account of her miraculous escape she was pardoned by the

king. Dr Plott says she owed her preservation to an ossification of the larynx.

After death by hanging the right cavities of the heart and the pulmonary vessels are found upon examination to be full of blood, while the arteries and left cavities of the heart are found nearly, if not quite empty. The main difference is to be looked for in the lungs, which will be found inflated with air to a considerable extent, so that they do not easily collapse when the chest is laid open.

Dr Goodwyn measured the air contained in the lungs of two men of ordinary size who were hung to death, and found it to mea-

-sure, in one case two hundred and fifty and in the other two hundred and sixty two cubic inches; whereas those who die a natural death hold from ninety to one hundred and twenty five cubic inches. The cause of this difference is very plain. Persons who are about to be hanged are actuated by fear to make a deep inspiration just as they are about falling, and as the rope tightens on the trachea it prevents the air from being again expelled. — Thus they die.