INAUGURAL DISSERTATION,
ON
Death

SUBMITTED TO THE
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY
OF THE
University of Nashville,
FOR THE DEGREE OF
DOCTOR OF MEDICINE.

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OF
Tenn.

JANUARY 27th, 1857

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Death.

It has wisely entered into the views of Providence, that every thing, or the existence of all organized bodies should be temporary; that each body undergoes a change, an incessant change, so to speak. Both the animate and the inanimate part of creation are in this predicament. The most minute aggregate of matter, so also the largest material bodies, appear only destined for certain periods of continuation in the present existence. For on looking at our own earth, we see that countries are continually depopulated, and perhaps totally destroyed by encroachments of the sea, and various eruptions; whilst on the other hand, from similar circumstantial causes other countries are produced. Therefore the appearance of the earth at present is very different from what it was once, and that after the lapse of an age, the appearance will be different from what it is now. Among the many and also
the various objects around us, we see, pushing away, is the human family, they also not alone are moving onward; nor are we do not need any further example of this than every day occurrence, for it matters not how earnest in our pursuits, or how successful in carrying out enterprises of great value to fellow-men, with honor, esteem, and enjoyment to ourselves, death comes and interrupts it all. Our part is finished; but the work ceases not the world goes on. This great and wonderful change the greatest that can happen to any of us and which is sure to happen to all of us; for such is the lesson taught us by those who have been just preceded us. Nor is this better realized and brought home to our conscience than when those with whom we are intimately connected by ties of kindred, or by association in business, or position are called away. Then it is we feel the reality, the nearness, and the certainty of such
The first we will notice of the heroism of man is in childhood, which is full of life, and all the joy and pleasure as at the impulse of a moment; then minds untamed, talent awakened. The most note we take of him, he has ripened into maturity or manhood, with his mind educated, and his talent so powerful and superhuman-like as to cause motions to sweep from his bestial language; but before many years shall have registered their manner upon the book of Time. We take notice of him again. Now he is old and feeble, and the once proud hero, and manly form is now suffering with old age, worn out with the toils of this life—his race nearly run. Ere long the machine will have worn itself out, the exhalent's flag, and he slopes to rest. Like a clock worn out with eating time. The wheels of weary life at last ground still. The renovation could only be affected by the
substitution of new for the worn-out machinery. With respect to the animal part of creation, both the animal and vegetable have but a certain period destined for their existence. This period varies exceedingly, some living but a few short hours, or are no sooner ushered into existence than their race is run; whilst on the other hand, there are others that appear to live for centuries. But besides this period every animal or vegetable is liable to be cut off long before this period arrives, being exposed to violence of every kind, not only mechanical violence, but the destructive operations of a thousand causes, and to disturbances from the effect of the circumstances which are necessary to their existence. One animal is destined to devour another, and myriads of insects are constantly destroyed in storms. Therefore the limit which providence appears to have placed to every thing is certainly
It has been said by some philosophers that looking at man one would be led to the conclusion, he would last forever. That, at first sight, such a machine as the human body, unless destroyed by external violence of some kind, would appear capable of lasting forever, but we think there is nothing in the appearance of this machine which could lead one to suppose it could last to eternity. What we know of nature can be learned only from experience and it would be as correct to say, because it is summer, it will be summer forever; or because it is day, it will be day forever, unless we have contrary experience, as it would be to say that man appears capable of lasting forever. All men must die; but all do not die alike. Death is certain, life nothing more uncertain. A little practice in the words of a hospital or experience in the sick chamber will suffice to teach the
student of medicine that the causes of extinguishing the flame of life are various. In one instance the threat of life is suddenly snapped and the passage from life and apparent health to the condition of evisceration is made in a moment; in another the dissolution is slow and tedious, and we scarcely know the precise instant in which the scheme of change is made. When maturity has been rapidly attained, clearly as rapidly supervenes, therefore when the growth has been slow, and the attainment to maturity longer, the period of declension is proportionally postponed. In certain of the lower animals we have what has been termed very appropriately, cell life; that is each cell is considered to have a distinct life of its own, hence a miniscule for cell may die and be reproduced without the organism of the individual suffering, and so little is the
organism affected by injuries of a part, that when the animal is cut into pieces, each piece may undergo a distinct development, so as to form as many separate beings. In higher animals this is not the case; for death and reproduction of every part of the frame is taking place in the function of nutrition. Nutrition or nutritive assimilation in the language of Adelphi is the action by which every part of the body, on the one hand appropriates or assimilates to itself a portion of the blood distributed to it; and on the other hand yields to the absorbing cells a portion of the material that previously composed it. The precise mode in which nutrition is accomplished is not accurately known, it not being a microscopic object. The source of all nutrition and growth is the blood. Each element in the particle comprising, leaves, muscles, &c. seems to have the power not only of attracting
material from the blood; but of causing them to assume its structure, and to participate in its vital properties. This apparently from similar materials, nerve form nervous substances, muscle muscular substances, and it is even thought by some that morbid substances have the assimilating power. But besides the impairment—and change of composition to which all parts are subject in the discharge of their natural functions—an amount of impairment which will be in direct proportion to their activity or physical action, they are liable to decay and degenerate of their particles as Dr. Carpenter clearly showed, that every particle of the body is formed for a certain period of existence in the ordinary conditions of active life. At the end of this time which is not previously destroyed by external force it degenerates and is absorbed; or dies and is cast out; the simplest example
that can be produced of this is in the hair. An eyelash which naturally falls out without pain, is one which has lived its natural time, and has died, separated from the living in its bulb; such one will be found different from those that are still living in every period of their age. It is only when organs that are intimately associated with each other, and whose association is essential to the life of the whole, have their functions interruped, that the cessation of their functions, and general death follow. Death-taking place in the minute parts or cells has been termed Molecular death of whole body. This is the last we will found our few crimes. Back before we take up a few of the various causes of death we will refer to some of the physiological signs preceding it: For some time immediately precedeing dissolution of the human body. Here is
usually a peculiar mixed expression of countenance or a compound of apparent mental and corporeal suffering, which has given rise to the term agony. This, however, depending on the lesion of the respiratory circulation, or of the cerebral function. The word agony applied to this condition of the individual means in many languages, a violent struggle or contest; that its acceptation has been so extended as to embrace what have been termed the pangs of death. This expression, however, biologically speaking, instead of being a state of mental and corporeal turmoil and anguish, is one of insensibility. The peculiar sound on inspiration; the nose is pinched up, the eyes are sunken, the temples hollow, ears cold and contracted. Skin of the forehead is tense, lips pendulous and cold, with the eye ball in this condition slightly elevated. These sensations and more others we might mention of approaching death, instead of being evidences of suffering, are signs of the
brain having lost all or all but all sensibility to impressions, although from the moment that
Respiration, and circulation permanently cease, the body may be regarded as unquestionably
dead. Vital properties remain in some of the
organs, the presence of which is an evidence that
vitality has previously, and recently existed.
The vital properties which persist after the animal
has become dead to surrounding objects, are those
that belong to the organic class. The most marked
evidence however of the continuance of a vital prop-
erty after death is in the case of muscles, which can
be made to contract powerfully by the applic-
ation of an appropriate stimulus, even for an
hour, or two, after death. Absorption is said to have
occurred after death and the hair and beard to have
grewed, to a certain extent, this is done in parts that
are nourished by inspiration, but the apparent elong-
ation of the hair or beard is owing to the shrinking,
of the integuments. Death is the necessary, total and permanent cessation of those functions, by which life is characterized. This cessation may happen at all ages from accident or disease. A few however, cause gradually to live through the effect of ages alone; hence a minute distinction has been made into that kind of death, which is produced by the gradual wear and tear of the organs, one that which cuts off the individual prematurely. The former is termed by physiological science or Natural Death, the latter Premature or Accidental. These differ considerably, and require a distinct consideration.

Natural Death.

The natural period of life is different in different individuals. It varies according to appreciable and inappreciable circumstances, the original constitution of the individual, habits of life, the locality in which he may reside.
We notice that whilst some countries are remarkable for the longevity of their inhabitants, others surprise us by the short period allotted them. M. Fournier of France asserts that the age respecting all animals, ages, is five times the period they require to mature from birth. This would give men about ninety years; but as he lives quite unmatured, three score years and ten is nearer the birth of his days on earth. It does not seem that the natural period of life has differed much in post-glacial periods; for the Palaeolithic animals, the days of our years are three score and ten, yet is their strength, labor and sorrow, for it is from cut-off each we fly away. Blumenbach asserts that by an accurate examination of numerous bills of mortality, he ascertained the fact that a considerable proportion of Europeans reach their eighty-fourth year; but few exceed it. Whilst according to M. Evolue, in the insalubrious regions of Russia,
in France, nature begins to retrograde at from twenty to thirty and fifty years in the usual term of existence. Most generally, the aged individual sinks silently to rest, totally unconscious of all that surrounds him, and in many instances he preserves his sensorial powers to the last, and is capable of locomotion, until oppression or disturbance of action of one or other of the vital functions during sleep it becomes the sleep of death. The great characteristic of this kind of death as pointed out by Bichat in one of the best of his excellent productions, is that animal life terminated long before organic life. The animal functions which connect the aged with the objects around being annihilated long before those that are concerned in nutrition; however, in other words, takes place from the circumference toward the centre, whilst in accidental death the annihilation of the functions begin in the centre.
and extends towards the circumference. This kind of death, regarded as the last sleep, characterized by a peculiarity in which the powers, partly from their lessened sensibility, increasing the difficulty of restoring the sensitive system, become incapable of the office, and the individual therefore, wakes no more.

**Accidental Death**

This term has been employed by some physiologist to include all kinds of death happening to the individual before the natural term. The cause, consisting in some accidental organic lesion, which arrests the vital movements before they would stop of themselves. This kind of death varies exceedingly from that we have been considering, the individual is perhaps in full posession of all his faculties, his organs have been previously, to all appearance, in the most favourable condition for the prolongation of life; and his death instead of natural, and unperceived by the
individual himself, is usually forced and violent. All forms of sudden death commence by the interruption of one of the three great vital acts. Circulation, Respiration or Innervation, one of the three functions ceasing first, the others die in succession. we first refer to death of circulation.

Circulation

It will be sufficient for our purpose to remark that life is inseparably connected with continued circulation of the blood; so long as the circulation goes on, life, organic life, at least remains; but circulation being stopped, life is present by extirpation of the different modes of dying, resolves itself into an investigation of the different ways in which the blood may be brought to a stand. There is ample provision made in the construction of this essential function. In the first place we have an extensive hydraulic apparatus distributed throughout the whole frame, consisting,
of the heart and vessels leading to and from
the heart, secondly there is a pneumatic machine, forming
a considerable part of the thorax, which is the lungs
and their cases or pleurae, in which the lungs are
 lodged. This apparatus being the great renovator
of the blood and lastly we have the power by
which this machine is made to work, this being
vested in the nervous system. Each of these con-
stantly acting or the circulation stops and life comes
to an end. The functions they perform are called vital
functions. Their main organs, the heart, lungs, and
the brain, are denominated vital organs. In
the propelling of the current of blood by the heart,
and that it may continue propelling its two
things are necessary: first there must be a certain
power or faculty of contraction, secondly there must
be a sufficient quantity of stimuli in its
chambers to be moved. Therefore we have two means
in which death may begin at the heart. First, we
Notice that form of death caused by the close supply of blood cut-off from the heart, the best example of this, are those in which it is a consequence of sudden and profound hemorrhage, as the bursting of an aneurism. In this the circulation fails, not because the heart has lost its power of contraction but because blood does not arrive in its chambers in sufficient quantity. It is said one may be assured of this, as on the examination of an animal after death from a sudden loss of blood, when opened this organ is not dilated and full of blood; as it would be if it had ceased to act from a want of power to contract upon its contents; but it is empty or nearly so contracted. The next form beginning at the heart is the opposite of that in which we have spoken referred to. Here we have no deficiency in the proper stimulus to the heart's action; but we find a total failure of the heart to contract, as in the case of poisons, for there are certain substances
said to have the power of supplied to any part of the body, will speedily produce death. Upon examination of this, each chamber of the heart is found to be full of its proper stimulius upon which it has been unable to contract. The order in which death place here is as follows. The heart failing to propel its blood, the encephalon and grey matter of the medulla spinalis no longer receive the necessary impulse for the continuance of their functions; they therefore cease to act; the nose Dr. shortness, therefore cease to act. No air for Respiration need be taken sufficient here to remark that there is a passage from the nose or mouth to the respiratory organs, or lungs. The entrance of air into the lungs may be cut off in various ways, by hanging. Drowning. There are two ways in which death may be said to be connected with the lungs, first, mechanical obstruction of the air to the lungs, as in hanging, or in
any other way, in which the air is cut off. Secondly, when air is breathed into the lungs which contain little or no oxygen, yet can be inspired for a while. The order of death is as follows. The mechanical phenomenon cease, thus the cessation of chemical phenomena succeeds. Thus owing to the supply of air being cut off, the blood, not experiencing the necessary conversion in the lungs, soon stagnates in the pulmonary capillaries; but the heart may continue to beat, owing to the residual air in the minute ramifications of the bronchii, but this soon ceases in consequence of a defective supply of blood. The nervous centres die, and other parts in succession. There are many instances on record which have occurred to persons exploring caves or caverns, and many places where there is a deficiency of oxygen. We also have deaths from extreme cold, which may fall under this head.
This occurrence however rare in this part of the
of the country, although occasionally happens to
those individuals who are intoxicated and lay
out all night during the very cold weather, we
have a case of this kind occurring no great way
from this city during the extreme cold weather we
have had for several days. This occurs for the most-
part in countries where there are settlers. It produces
stupor coming on slowly, at the same time very like
the person is totally unconscious of its affects until
every organ is the power, or under the influence
of this powerful agent, and they yield to its
mighty influence, so it is we meet with much
effort in arousing them from their lethargy,
ev. often failing. In speaking cold we are led
to say something of cold water producing death,
of this we might cite to several cases of death
produced by this agent. As in the harvest fields
or on pursuit during the extreme heat of summer.
where the individual undergoes great fatigue, and becoming very thirsty, is apt to drink an over draught of water, which is apt to be moderately warm, which fills his stomach to distention, his system becoming relaxed, he yields to its influence. Now as the naturality would say, it was owing to the coldness of the water; but this is untrue for, believe it would be impossible for a man to drink cold water enough at one time, to hurt, therefore we think it not owing to cold water, but to the amount of warm water he is apt to take, lastly we will refer to doubts from immersion-annervation

This may occur in the gray matter medulla spinales, or in the encephalon. By severe injury close to the head, or the worst attacks of apoplexy producing loss of annervation, his sensorial functions first cease, and the individual lies deprived of sensation, volition, and mental and moral
manifestation respiration may continue, owing
to the reflex nervous system being secondarily
affected only; but it becomes progressively more
irregular and laborious and ultimately ceases.
The order of death is as follows:—the interruption
of the brain's action destroys first that of the
voluntary, and that of the mixed muscles secondly.
The mechanical phenomena of respiration cease,
and then the chemical phenomena cease. This is
followed by cessation of the heart's action, owing
to the united loss of nervous influence from the
the brain, to this succeeds the loss of general
circulation, and lastly that of functions of
nutrition, secretion, calorification. In conclusion,
An easy death is what all desire. The closing
scenes, whatever may have been the pains, in
most ailments is of this of this character, in
the beautiful mythology of the Ancients, Death
was the Daughter of Night, and sister of Sleep.
Among the Ancients, also Death was generally depicted on tombs as a friendly genius, a sleeping child, winged, with an inverted torch resting on his awnkh, and in his hand a wreath, with an inverted torch, or as Love, with a melancholy air, leaning on an inverted torch itself a beautiful emblem. In more recent times Death has been portrayed as a beautiful gentle...