AN
INAUGURAL DISSERTATION
ON
Physiology of Drunkenness
SUBMITTED TO THE
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY
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FOR THE DEGREE OF
DOCTOR OF MEDICINE.

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By a wise and judicious regulation of the Medical Faculty of the University of Nashville, it has been made obligatory upon the student who presents himself for the degree of Doctor of Medicine to write an Essay upon some subject connected with Medicine, and I select for that purpose some of the Physiological effects of Drunkenness at the same time. I cannot conceive that I am able to accommodate them both, however.
In administering medicines, the practitioner has a natural desire to learn the means by which they produce their effects upon the body. Thus he is not contented with knowing that squill acts as a diuretic, and that mercury increases the secretion of the bile; he inquires by what process they produce this action; and understands, that the first excites into increased action the secretory vessels of the kidneys, and the latter the secretory vessels of the liver; in like manner he does not rest satisfied with the simple knowledge that wine, and spirits and ails produce intoxication.
he extends his researches beyond this point; and is naturally anxious to ascertain by what peculiar action of the system these agents give rise to so extraordinary an effect; all the agents of which is intoxicating, with the exception of tobacco, whose action from the throat is decided, sedative; operate partly by stimulating the frame. They cause the heart to strike more vigorously, and the blood to circulate more; while at the same time, they excite a peculiar action upon the nervous system. The nature of this action it is probable will never
be satisfactorily explained.

If more stimulation were all that were wanted in, one ought to be present in many cases where it is never met with; it or more properly its symptoms ought to exist in inflammatory fever, and after violent exercise such as running or hard walking; inebriating agents therefore with few exceptions have a twofold action; the breath act by increasing the circulation and by influencing the nerves, and the latter operation than can be no doubt is the more important of the two;
Having stated this opinion, I propose to consider the cause of each individual symptom in detail.

1st. Vertigo. This is partly produced by the ocular delusion under which the drunkard labours, but it is principally owing to other causes; as it is actually greater when the eyes are shut or the light excluded in any other way than when there is plenty of light on the retina, these causes, by the exclusion of light, unaccountably increased;

Vertigo from intoxication is far less liable to produce
sickness and vomiting than from any other cause; and when it does produce them, it is to a very inconsiderable degree. These symptoms in ninety-nine cases out of a hundred arise from the disordered condition of the Stomach; and not as some righteous have stated from the giddiness of Drunkenness. There are indeed individuals who vomit as soon as ver. Figo comes over them but such are few compared with those whose Stomachs are unaffected by this sensation, swinging, smoking, sailing at sea or turning.
raped, around. Sicknips and vomiting are apt to occur, and there seems no doubt that they proceed in a great measure from the vintage brought on by these actions. The giddiness of drunknips, therefore, as it very rarely sickens, must be presumed to have some character peculiar to itself, in this as well as in some other affections; it seems to be the consequence of a close sympathy between the brain and nerves of the stomach; and whatever affects the latter, organ or
any other viscus sympathizing with it, may bring it on equally with inebriating agents. Calculi in the anatens of the biliary ducts are illustrations of this fact. In intoxication, the giddiness is more strongly marked, because the powers both of body and of mind are temporarily impaired, and the sensorium so disordered as to be unable to regulate the conduct. A degree of vertigo may be produced by loading the stomach too rapidly and copiously after a long fast. Common food in
This instance amounts to a strong stimulus in consequence of the state of the stomach, in which there was an unnatural want of excitement. This organ was in a state of torpor and a stimulus which, in ordinary circumstances, would hardly have been felt, proves in reality highly exciting. For the same reason objects have an unnatural luminousness, when a person is suddenly brought from intense darkness to a brilliant light.

2° Double vision, which
Occurrence in Drunkenness may be readily accounted for by the influence of the increased circulation in the Brain upon the nerves of sight. In frenzy and various furies the same phenomenon occurs: every nerve is supplied with vessels; and it is conceivable that any unusual impulse of blood into the optic may so far affect that pair as to derange their actions; whence they convey false impressions to the Brain which is itself too much thrown off.
its just equilibrium to remedy, even if that un-
der any circumstances we
possible. The distorted
images of the retina;
The refractions of light
in the tears, which are
secreted more copiously than
usual, during intoster-
ation may also assist
in multiplying objects
to the eyes.
3° Staggering and Stammering
these symptoms are in li-
ke manner to be expl-
ad, from the disorder
state of the brain and
nervous system, where the
organ of sensation is
affected, it is impossible that parts whose actions depend upon it can perform their functions well. The nervous fluid is probably carried to the muscles in a broken and irregular current, and the filaments which are scattered over the body are themselves directly stunned and paralized, hence, the insensibility to pain, and other external impressions. This insensibility extends everywhere. Even to the organs of deglutition, and speech and the entrance is thick.
and indistinct, indicating a loss of power in the lingual nerves, which gives action to the tongue, and the same want of energy seems to prevail in the gustatory branches which give it taste.


These results from the strong determination of blood to the surface of the body. This sudden flushes the face and eyes, and excites an universal glow of heat, Blood is the cause of
animal of heat. and the more it is determined to any part greater is the quantity of caloric evolved thereafter.

5. Ringing in the Ears
This is accounted for by the generally increased action within the head, and more particularly by the throbbing of the internal carotid arteries, which run in the immediate neighborhood of the Ears.

The mental pleasure of intoxication is not eas-
ily explained on physiological principles, we feel a delight in being rocked gently, in swinging on a chain or in being tickled. These undoubtedly act upon the nervous system, but in what manner it would be idle to attempt investigating the mental manifestations produced by their influence depends almost entirely upon the nerves, and are unlike the corporeal ones, in a great measure independent of vascular excitement, the power of exci
ing these feelings inherent in these principles, can only be accounted for by supposing a most intimate relation to subsist between the body and mind. The brain, through the medium of its nervous branches, is the source of all this excitement. These branches receive the impressions and convey them to their fountain head, whence they are showered like sparkling rain drops over the mind, in a thousand fantastic varieties.

No bodily affection ever
influences the mind but through the remote or proximate agency of this organ. It sits enthroned in the citadel of thought, and though material itself acts with wizard power, both upon matter and spirit, no other texture has the same pervading principle. If the lungs be diseased, we have expectoration and cough, if the liver jaundice or dropsy, if the stomach indigestion, but when the brain is affected we have not merely many
Bodily symptoms but severe affections of the mind, nor are such affections even produced by any organ but through the agency of the Brain, it therefore acts in a double capacity upon the frame. Being both the source of the corporal feelings and of the mental manifestations; admitting this to be true, there can be little difficulty in ascribing all intoxication as powerfully a mental influence, this must proceed from
a resistless impulse being given to the brain, by
virtue of the peculiar action of intebriating agents upon the nerves,
that organ of the mind is suddenly endowed with increased energy.
not only does the blood circulate through it more rapidly, but an action is given to its whole sub-
stance, more increased.
Circulation, as I have already stated is not sufficient, there must be so
some other principle at work upon its texture, and it is this principle
whatever it may be, which is the main cause of drink
knew at first sight, has a soothing effect and falls over the spirit like
the hum of bees, or the distant murmurs of a cascade. Then to those soft
dreams of Elysium succeed a state of madoning in
angry and excitement in the brain. The thoughts
which emanate from its prolific Takernick are mo-
more servile and original than ever, they rush out
with augmented copiousness and sparkle over this under-
standing like the aurora
boralis, or the eccentric sentillations of light upon a luminous cloud, in a word the organ is excited to a high but not a dis eased action, for this is coupled with pain and in stead of pleasurable produces afflicting ideas, but its energies, like those of any other past an apt to be over excited, when this takes place the balance is broken, the min...
- went on such excessive stim ulus, the person falls into drowsiness or stupor, and his mind, as well as his body, is followed by languor. Corresponding to the previous excitation, such is a slight and unsatisfactory attempt to elucidate some of the more important phenomena of Drunkness.