

AN  
INAUGURAL DISSERTATION

ON

*Physiology of Drunkenness*

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

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OF

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Tenn*

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By a wise and judicious  
regulation of the  
Medical Faculty of the  
University of Washville  
it has been made ob-  
ligatory upon the Stud-  
ent who presents him-  
self 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 affects  
of Drunkenness at  
the same time  
I cannot conceive that I  
am able to elucidate them well  
however

In administering medi-  
cines, 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 secre-  
-tion of the bile, he inquires  
by what process they produce  
this action; and understands that  
the first excites into increased  
action the secretory arteries of  
the kidneys, and the latter the  
secretory vessels of the liver;  
In like manner he does not rest  
rest satisfied with the trite  
knowledge that wine, and spirits  
and oils produce intoxication

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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 affect;

All the agents of which is  
intoxicating, with the exception  
of tobacco whose action from  
the first is decidedly sedati-  
-ve; operate partly by stim-  
-ulating the frame. They cause  
the heart to strike more  
vigorously and the blood to  
circulate freer; while at the  
same time they exert a pec-  
-uliar action upon the nervous  
system; The nature of this  
action it is probable will never

9  
be satisfactorily explained;  
If mere stimulation were  
all that were wanted dru-  
-knief ought to be present  
in many cases where it is  
never met with; it or more  
properly its symptoms ought  
to exist in inflammatory fev-  
-er, and after violent exercise.  
Such as running or hard  
walking; inebriating agents  
therefore with few exceptions  
have a twofold action; they  
both act by increasing the  
circulation and by influencing  
the nerves, and the later ope-  
-ration 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 sym-  
 -ptom in detail;

1<sup>st</sup> Vertigo this is partly pro-  
 -duced 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, the-  
 -se causes, by the exclusi-  
 -on 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 writers have stated from the giddiness of Drunkenness. There are indeed individuals who vomit as soon as vertigo comes over them but such are few compared with those whose Stomachs are unaffected by this sensation, swinging, smoking, sailing at sea or turning,

rapidly around. Sicknefs and vomiting are apt to occur, and there seems no doubt that they proceed in a greater measure from the vertigo brought on by these actions

The giddines of Drunkennefs 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 irritating agents, Calculi in the ureters 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 con-  
-sequence of the state of  
the stomach, in which the  
-are was an unnatural  
want of excitement. This  
organ was in a state of  
torpor. and a stimulus  
which in ordinary circum-  
-stances, would hardly have  
been felt, proves in re-  
-ality highly exciting.  
For the same reason obje-  
cts have an unnatural  
luminousness, when a  
person is suddenly  
brought from intense dar-  
kness to a brilliant light  
- 2<sup>d</sup> Double Vision, which

Occurs in Drunkness may  
be readily accounted for  
by the influence of the  
increased Circulation in  
the Brain upon the ne-  
rves of Sight, in fre-  
-nzy, and various fevers  
the same phenomenon  
occurs; every nerve is  
supplied with vessels; and  
it is conceivable that  
any unusual impulse of  
blood into the optics m-  
ay 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  
-re possible. The distorted  
images of the retina;  
The refractions of light  
in the tears. which are  
secreted more copiously than  
usual during intoxicat-  
-ion. may also assist  
in multiplying objects  
to the eyes

3<sup>d</sup> Staggering and Stammering  
these symptoms are in li-  
ke manner to be expl-  
ained, from the disordered  
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 perfor-  
- m their functions well,  
The nervous fluid is prob-  
- ably Casied to the muscles  
in a broken and irregu-  
- lar current, and the fila-  
- ments which are scattered  
over the body are the-  
- mselves directly Stunned  
and paralyzed, hence,  
the insensibility to pain,  
and other external impres-  
- sions, This insensibility  
extends every-where,  
Even to the organs of  
deglutition, and Speech and  
the utterance is thick

and indistinct, indicating  
 a loss of power in the  
 laryngeal nerves, which  
 gives action to the Ton-  
 -gue; and the same  
 want of energy seems  
 to prevail in the gusta-  
 -tory branches which  
 give it taste

4 Heat & Flushing

These results from the  
 strong determination of  
 blood to the surface  
 of the body, this reddens  
 - ns and tumefies the  
 face and eyes, and excites  
 an universal glow of  
 heat,

Blood is the cause of

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animal heat. and the  
more it is determined  
to any part greater is  
the quantity of caloric  
evolved therefrom,

5. Ringing in the Ears  
This is accounted for  
by the generally increa-  
- sed action within the  
head; and more particu-  
larly by the throbbi-  
ng of the internal  
carotid arteries, which  
run in the immediate  
neighborhood of the  
Ears

6<sup>th</sup> Elevation of the spirits  
The mental pleasures of  
intoxication is not eas-

1  
ily explained on physiolo-  
- gical principles, we feel  
a delight in being ro-  
- cked gently, in swinging  
on a chair or in being  
tickled. These undoubtedly  
act upon the nervous sys-  
- tem, but in what ma-  
- nner it would be id-  
- le to attempt investiga-  
- ting the mental ma-  
- nifestations produced by  
their influence depends  
almost entirely upon the  
nerves, and are unlike  
the corporeal ones, in a  
great measure independi-  
- nt of vascular exciteme-  
- nt, the power of excit



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ing these feelings inher-  
- ent in these principles,  
can only be accounted for  
by supposing a most inti-  
- mate relation to subsist  
between the body and  
mind. The brain, through  
the medium of its nervus  
branches, is the source of  
all this excitement. These  
branches receive the imp-  
- ressions and convey them  
to that fountain head,  
whence they are showered  
like sparkling rain dr-  
- ops over the mind. in  
a thousand fantastic  
varieties

No bodily affection ever

influences the mind but  
through the remote or pro-  
ximate agency of this or-  
gan. It sits enthroned  
in the citadel of Thau-  
ght; and though mat-  
-erial itself acts with  
wizard power, both up-  
-on matter and spirit.

No other texture has the  
same pervading principle,  
If the lungs be dis-  
-eased, we have Expectorat-  
-ion and cough, if the  
liver Jaundice or Dropsy  
if the stomach indiges-  
-tion, but when the  
brain is affected we h-  
-ave not merely many

Bodily Symptoms but se-  
vere affections of the mi-  
-nd, nor are such affe-  
-ctions, ever produced by  
-any organ but throu-  
gh the agency of the  
Brain, it therefore acts  
in a double capacity, up-  
on the frame, Being  
both the source of the  
corporeal feelings and  
of the mental manifest-  
ations; admitting this to  
be true, there can be li-  
=tle difficulty in ascer-  
-taining why intoxication  
produces so powerfull a  
mental influence;  
This must proceed from

a resistless impulsive being  
given to the brain, by  
virtue of the peculiar  
action of inebriating ag  
ents upon the nerves,  
that organ of the mi  
-nd is suddenly endowed  
with increased energy,  
not only does the blood  
circulate through it more  
rapidly but an action  
is given to its whole su-  
-stance, ~~more~~ increased  
circulation, as I have al-  
-ready stated is not suffic-  
-ient, there must be so-  
-me other principle at wo-  
-rk upon its texture, and  
it is this principle

whatever it may be, which  
is the main cause of Drunkenness at first sobriety has  
a soothing affect and falls over the spirit like  
the hum of bees, or the distant murmur of a cascade, then to these soft  
dreams of Elysium succeeds a state of maddening energy and excitement in  
the brain, the thoughts which emanate from its prolific Tabernacle are more  
fervid and original than ever, they rush out with augmented copiousness  
and sparkle over the understanding like the aurora

borealis, or the eccentric  
 scintillations of light upon  
 a Summers cloud, in a w  
 ord the organ is excited  
 to a high but not a dis  
 eased action, for this is  
 coupled with pain and in-  
 - stead of pleasurable prod-  
 - uces afflicting ideas, but  
 its energies, like those of  
 any other part are apt  
 to be over excited, when  
 this takes place the bal-  
 - ance is broken, the min-  
 - d gets tumultuous and  
 disordered, and the ideas  
 inconsistent, wavering, and  
 absurd, then comes the  
 torpor and exhaustion subsig-

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- 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 phenom-  
-ena of Drunkenness