

AN

INAUGURAL DISSERTATION,

ON

Determination of Blood

SUBMITTED TO THE

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Determination of Blood

1st The idea conveyed to the mind by the phrase, determination of blood,

2^d What we believe to be the true pathological condition of the affection. By determination, we are to understand a certain direction given or an absolute tendency to some particular point this power of directing the Blood is said by some authorities to be the sole province of the heart, and that the heart is the main organ concerned in producing determination of blood in all parts of the system. This is what we wish to controvert. Not that we are vain enough to attract the opinions of those who have written on this subject;

But we merely wish to give

Our opinions, be them right or wrong. In determination of bloods and organ or part, we believe the heart has nothing to do in producing it beyond its normal action. We were taught by the professor of surgery that all action was contraction. The heart contracting on its contents, forces the blood into the aorta. The sigmoid valves closing prevents regurgitation. The aorta contracting on the blood as it enters, keeps up its onward movement; through the whole system. Now when the arteries are in their normal condition that is capable of exerting their true physiological functions, which

Must be remembered is Contraction
in this instance all parts of the
body will receive their due
and normal quantity of
blood. But on the contrary
if any part of this set
of vessels, be in a weaker
state, they will become, expan-
ded, dilated, they yield to
the Mechanical pressure
of the blood; and of course
receive and contain more
blood than when in a hea-
lthy condition, whenever
the coats of an artery
yield; blood pushes into fill
the space, upon Hydrostatic
Principals, independent of the
heart's action. For instance a

man is taken with Convulsive
form of Apoplexy without
a moments warning, and he
falls as if shot through the
brain; at the time of seizure
the heart may be acting per-
fectly natural; now where are
we to look for the true cause
of this much to be dreaded
disease. It is our opinion
that the true cause can
only be found in the vessels
of the brain itself. The ner-
vous influence is not trans-
mitted to ^{the vessels of} this organ in due
quantity they yield to the
contained blood, becoming
turgid and in this way
erect a considerable amount

of pressure on the brain
producing all the symptoms
of Compression of
the brain. Again in blus-
hing we have another mar-
ked example of determina-
tion taking place independ-
~~ent~~ of the heart's action
the vessels of the cheeks and
face become all at once
intensely redned with gushing blood
the nervous influence being
withdrawn from those vessels
and more freely spreaded in
the brain during the great
Mental excitement, going on
with persons labouring un-
der great imbarassment, the
the blood vessels of the face;

and Check Veils dilate give
way to the blood which instan-
-taneously enters to fill the
vacuum thus created. If this
was produced by the hearts
action, why not this flushed
appearance, extend to all
parts of the body; for the
hearts action must be
general, for it cannot send
more blood to one organ than
an other, As illustrative of my
position on this point we will
take the Hydron in the vicinity
of Nashville let this basin
represent the human heart, the
Main trunk leading off (the arta)
now when the water leaves the
basin and enters the main

pipe leading off from this basin
by what power is its future
course directed, can any one
tell its future destination, in the
City below. Or in other words
has the basin any control over
the stream after it enters the
main trunk; unquestionably it
has not, the future course of
this stream must now be
under the entire control of this
main pipe, and its branches.

and this will depend entirely
upon the relative sizes of those
branches. The houses are to repre-
sent the various organs of the
human body. It is evident then
that the house that gets the most
water will of necessity have the
largest pipe leading off for

from the main trunk. Just so
~~if~~ with the circulation in man
in a healthy condition. all parts
receiving their due quantity of
blood. If otherwise, that is if
the vessels should be in a morbid
condition, distention, accumulation
and determination of blood would
necessarily take place. and
it is of the utmost importance
to the individual that this
unyielding state of the Arteries
should always be present,
for it is this very condition
of the Arteries above stated
that gives rise to aneurismal
sacks for in true aneurism
can exist without the coats
of the artery yielding; for it
is the proper function of the

Arteries to keep closely contracted
upon their contents, for it is upon
this principle that we account
for the Arteries always being
found empty after death,³
that of exerting their Contractile
powers even in articula Mortis;
The throbbing feel that is present
in an inflamed part, we take
this as still farther proof of
their weakened and dilated Con-
-dition Which is generally as-
-cribed to an effort of the heart
to propel the blood through
the inflamed part. If we re-
-ollect that the Arteries are
bent tubes, being bound down
at different parts by strong
ligaments, and bands of Muscu-
-lar fibers at the same time knowing

that they have two distinct actions
one transverse the other longitudinal
than of course when the heart is
elevated by its Systole a jerking
Motion must be given to the
Artery, and this Motion will
be increased, if the artery be
lengthened, in the same manner
as the string of the Violin is ma-
de to vibrate fuller as it becomes
less tense; so if the artery
possesses its own contractile
powers the increased fullness
of its pulsations cannot
take place, Again we can
produce these determinations of
blood ~~by~~ as remedial means for
instance we apply a blister for
the purpose as we call it of
producing a determination of blood

from a labouring organ, this is
done by the flip abstracting
the nervous fluid from the part
the vessels yield give way admit
an undue quantity of blood this
is not done by exciting the heart
to increased action, but upon
the principle above stated.

We will next speak of the treatment
of apoplexy as sustaining our pos-
ition we bleed and bleed copiously
not to moderate the action of the
heart for it is generally found to be
beating slow and soft but we
bleed to lessen the amount of blood
in the general circulation for in
so doing we of necessity, make a draw
upon the vessels of the brain
by which we give those vessels
more power to act which action is

Contraction and enable them to
expel the super abundance of
blood from the brain. Drastic
purgation has the same general
effect that of determining the
blood to the bowels also connected
with purgation. Some nervous exci-
tment may be produced in the spinal
Cord and transmitted to the brain by
reflex spinal action and in this way
aid the brain in discharging into its
vessels nervous influence, nervous fluid,
Electricity, or whatever it ~~is~~ it may be. A
want of which was the primary cause
of the attack. The good results of blood-
letting in all local determinations whether
by cups or the lancet has the same gen-
eral effect, to wit that of unloading the
congested and engorged state of the blood
vessels thereby giving them power to contract

In taking leave of my Subject
I would ask the lenient criticism
of the Faculty, upon this
my maiden piece, it being
written without reference to a
single Book; the Ideas being
gathered here and there during
the arduous labours of the
Faculty, in imparting knowl-
edge to the Medical Mind; which
is afterwards to operate over
wide extended fields, as Messengers
of ease to Suffering Man.