

AN  
INAUGURAL DISSERTATION

ON

*The Problem of man's proclivity to live*

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BY

*John W. Maddin.*

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As a small token  
of affection I Dedicate my Med-  
ical Essay to my aged Father,  
with whom it has been a main  
Object in life to leave as a legacy  
to his Children an education and  
a profession, esteeming that better  
than riches.

# The Problem of man's proclivity to live.

We propose, in as lucid a manner as lies within the scope of our capacity, to bring together all the elements which we suppose constitute man's proclivity to live and thus solve the problem of human life. Some of the forces which will be discussed, and whose names alone will convey to the medical reader a more definite idea of the object of this essay, are called Vis conservatrix naturae and Vis medicatrix naturae. These two terms with slight modifications are physiological synonyms. The former indicates the inherent power resident in <sup>the</sup> nature of man to maintain a legitimate function in each organ and an equilibrium of action in all the organs that enter into the com-



plex, wonderful being - man. The latter is applied more particularly to the effort which nature makes to restore proper ballance in disordered function.

The ingenuity of the human intellect has been taxed to its utmost - in the construction of machinery and many years of laborious study have been expended in adapting the multiplicity of parts of a magnificent whole to each other, and the world has been astonished at the invention of a Steam Engine, - so complex and wonderful in its structure, and yet amid all the mass of machinery that composed it, the proper strength - adjustment and action of the smallest piece of the machine is necessary to the integrity and movement of the whole. Again the whole mass would be motionless and useless

without its vital endowment, - Steam.

So it is with man, but on a scale infinitely more extensive and wonderful. He is a combination and a form "in which the Skill was expended of that Architect, who conceived, planned, and created and set in motion the terribly sublime Spectacle of a universe of matter and established those immutable laws which govern it, and yet man was the last, best, noblest work of his creation. ~~Then, Can~~ <sup>Can</sup> the dim sight of human reason peer into the mysteries of life and solve them? Ask the wisest Sage who ever dignified human nature, "What is life?" and he will answer "I cannot tell; - life is a mystery" nor will we assume the boldness of a fanatic and Essay to tell what life is, but our object

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is to point out, so far as science has enlightened us, the laws which determine the healthy <sup>action of</sup> Organism and how far the Vis Conservatrix of an organ can resist foreign impression and also to what extent the Organs of the whole System sympathise with this impression and resistence.

We will premise our essay by stating that man is a double being;— Nearly his entire structure is composed of a double set of organs or parts, and to make this evident Nature has established as external indications, Sutures, bones dividing equally, cavities— Symphyses, eyes, ears, nostrils, teeth, arms, bones &c, all in pairs. The internal structure of his system presents the same truth still more plainly.



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By this nice construction man has a double life, for when one vital organ is destroyed he may live with the other e.g. If one lung be collapsed or hepaticized the other will suffice to preserve life and not only so but - if one testicle be lost the other will elaborate spermatozoa in sufficient quantity and development to enable him to procreate his species. In the human structure we find the most complete division of labor to accomplish a given object and however sluggish and lazy a man may be, if he will <sup>look</sup> within himself he will learn a lesson of industry and the moral of that lesson is, if he does not labor he must die, for <sup>if</sup> one set of organs <sup>should</sup> cease their action, in a short time the active, moving machinery of man would

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be a pulseless Corpse.

We will now make a Synoptical Statement of the Elements which enter into the Evolution of man's preclivity to live. 1<sup>st</sup> He must have at birth all the organs, with which he was originally created, and they must occupy the same regions and have the same relative positions.

2<sup>nd</sup> Each organ must have a particular mechanical structure, and within a certain range <sup>be</sup> of a definite size, and shape and weight. 3<sup>rd</sup>

Each organ must have nerves leading from it to some nervous centre and from a nervous center to it, which are to carry demands from it and bring an element, which these nervous centres elaborate, to it, called Vis. Nervosa. It must have <sup>also</sup> a nervous relationship with other organs



Which establishes a sympathetic connection between them, - this is either by direct communication or through the medium of a nervous center; - and lastly each organ must have a nervous connection with the great seat of nervous power, the Encephalon, thereby connecting the two great characters of life the Animal and Vegetative.

4<sup>th</sup>. Since at least two functions are going on in every organ, viz Nutrition and the Special function which it subserves in the Animal Economy so it must have a structure adapted to each of these structures purposes, and besides a set of Lymphatics to carry off its effete or worn out-Elements.

5<sup>th</sup>. All must have the same circulating fluid, from which each appropriates

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Nutrition and elaborates the elements of its special function. The structure then becomes a Tissue.

6<sup>th</sup> All organs must possess certain vital Endowments, some Contractility and Sensibility, and all Irritability, - this is the highest order of vital endowments and each organ possesses it in different degrees or what is more probable of a different quality; and even the same organ is endowed with different degrees or qualities of irritability for its nutritive & special function.

Thus endowed, organized structure is dignified with the denomination of Living or Vitalized Tissue. These are the elements necessary to give an organ the capability of performing function, so far as it is concerned individually. But the subject comes before us now in a more and sublimer view, as we enter

upon the second feature of the problem.

The first item which this view of the subject presents is, that the mechanical strength of each organ must be on a balance or equilibrium ~~of~~ with every other organ and the same is essential with regard to vital endowment. If this requirement is not complied with, it will under the same amount of stimulation accomplish more function than is required of it. Such a condition of things gives a proclivity in certain channels, and this furnishes <sup>us</sup> with an explanation of <sup>the</sup> great constitutional peculiarities, which we denominate, Temperament. So that a want of a perfect adaptation of one part to every other or a luxation of the equilibrium of different tissues to each other, establishes great constitu-



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tional proclivities. From the strong de-  
velopment of certain organs over others,  
we find persons sanguineous - choleric,  
Lymphatic &c. ~~xxxx~~ This feature  
of our subject is very inviting and in-  
teresting and we could be glad to  
follow it farther but our essay will  
be sufficiently prolix without doing so.

Secondly, That the general circulating me-  
dium, the Blood, shall be an organized  
fluid, composed of certain organic ele-  
ments, in definite proportions, called prox-  
imate principles, which may be elimina-  
ted and converted into the substance of the  
different tissues and also afford materi-  
al out of which the secreting organs elaborate  
the material product of their special func-  
tion. There is also in this circulating medium  
certain other elements in a chemical relation

with each other and mechanically dissolved. They however always bear a definite proportion to the circulating mass, Thus are as necessary to maintaining and prolonging life as the Organized Proximate Principles, for it is from the oxidation of these elements in every part of the system circulation, from the largest vessels to the smallest - and in every tissue of the body, that Supplies Animal Heat.

The particular items in reference to the blood which require special attention in the solution of the problem before us, are,

- 1<sup>st</sup> It shall be of a Chemico-vital organization.
- 2<sup>nd</sup> That it shall always maintain a certain, definite proportion of its Elements.
- 3<sup>rd</sup> That this proportion shall always be in relation to the normal requirements of the different tissues, both for nutrition and for

their special function, and also for Calorific-  
cation - 4<sup>th</sup> That this circulating mass must  
move with a given force and rapidity.

When these conditions are complied with, the blood  
may be said to hold an Equilibrium of Relation-  
ship as with the different organs, and con-  
stitutes a healthy stimulus to their vital  
endowments, - but if this balance is broken  
then it becomes a foreign stimulus.

Third. The animal economy admits of two great,  
leading divisions - viz - Animal Life and Or-  
ganic or Vegetative Life. The physiology of  
these two systems is both complex and beau-  
tiful, and while they occupy very different  
grades in the functions of the Animal Econo-  
my, yet - they are mutually dependent upon  
each other. All those operations which are  
not directly under the control of man's will  
belong to the Organic Life, e.g. Digestion, Absorp-



tion, - Nutrition, - Respiration, - Sentience and  
Reproduction, All those which are subject to  
the dictation of his authority are of the Dis-  
position of Animal life. The Vegetative <sup>organs</sup> are  
the Stars of the Animal Organs, and yet, it  
is as true that the Animal organs would  
cease to exist without the labor of the Vegeta-  
tive ~~parts~~ organs, for the mind must have  
a medium, through which it develops itself  
and by Consent of Science that medium  
is the Brain. This medium is built and  
maintained by the action of Vegetative life,  
and again the psychical faculties must  
be constantly brought into action in determi-  
ning such food as will promote Organic  
Life and must also exercise the power of  
Volition and Locomotion in obtaining it.

The Law with reference to these two Compart-  
ments of organs, in order that they may best

Subserve the purpose of ~~Exist~~ <sup>Existence</sup> for which they  
were intended - namely - To maintain life,  
is that they shall not overwork each other,  
i.e. that the Vegetation shall not elaborate  
more material than the Animal functions  
can dispose of, otherwise we have entailed  
upon the body that Condition denominated  
Hypertrophy, with all the liabilities to  
disease which ~~it~~ <sup>it</sup> brings with it.

There is to some extent a guarantee against  
the fatal consequences of this state of things  
in the Conservator power of nature; for the  
Excretory organs often take on a vicarious  
function and alliev the system of the  
bad consequences growing out of Hyper-  
aemia, Also Hemorrhages occur to ac-  
complish the same result.

Again if the Organs of Animal Life have  
the preponderance of Energy and activity,

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They exhaust material faster than the vegetative can elaborate it. Such persons are always lean, lank, and irritable Cassius was of this class of men. Caesar said of him, "Anthony, let me have men about me that are fat; sleek-headed men, and such as sleep o' nights." The vegetative system has a lean and hungry look. "The vegetative system is overworked and taxed beyond its capacity and thus prematurely wears out."

But to give the greatest proclivity to live there must be a well balanced relationship between the two systems. To break that equilibrium, disarranges the probabilities of ~~life~~ the continuance of life.

These are some of the leading elements that enter into the solution of the problem before us, when all of these items have the strongest balance of relationship, then we have the strongest proclivity to live. This general resultant we call the Conservative Law of Animal Existence.

x Shakespeare.



The strength of this law differs in every individual. It is of the same character of laws and the counterpart in the living Creation, of attraction to the mechanical world. We may compare it to that development of the principle of Attraction which keeps up the equilibrium of the Heavenly bodies in their revolutions in their respective orbits. When all the Conditions are Complied with Physiological life is a necessity, growing out of the invariable law of Action and Reaction of certain forces upon each other.

There are several other conditions which have an important bearing upon the question growing out of this law of Equilibrium which we have been discussing, i.e. if by any cause the balance is broken, there is a general rally on the part of the system

to restore it. This force is called the *Vis*  
*Medicatrix Naturae*, and is but another  
manifestation of the *Vis Conservatrix*.

We will select a very plain illustration of  
this force and show its bearings upon the  
problem. Suppose the mind by an act  
of *Volition* appropriates an improper  
quality or quantity of food to the Stomach.  
That organ will not tolerate the imposition.  
It will transmit the intelligence of its  
grievance along its sensory nerves to the Ner-  
vous center ~~of~~ ~~xxxx~~ that presides over its  
economy, and by the instructions received by  
reflex carriers the entire contents will be  
ejected, or if it be not so disposed of the  
*Medicatrix* authority demands of the villi  
of the Stomach, the Liver, the Pancreas  
and the Mucous Glandular System of the  
intestines to increase their labor in order

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to carry away the Extra Amount of Material  
in the Stomach, and if it lies within the  
Capacity of these Organs to accomplish  
this end, there is an equilibrium again  
established and the Organs return to their  
Normal <sup>condi</sup> ~~position~~ -; but if they cannot ex-  
pel the foreign Stimulant; it acts as  
an irritant, causing inflammation or  
<sup>some</sup> other disease is established. The consequence  
is that the whole body is awakened to a com-  
mon Sympathy to relieve the suffering Organ,  
because its misfortune is felt by them all.

No healthy digestion can go on. Secretion from  
the glands entering into the Alimentary Canal  
is abnormal, - Absorption ceases; the blood  
is not renewed by Nutrition and all its nu-  
trient materials are soon exhausted; the  
tissues continue to decay and break down.  
The tendency of the whole Economy is to death.



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Now let us see what means are set in operation to counteract this tendency. Every organ in the System has been advised that one of their allied provinces has been invaded and with laudable valor they march their forces to relieve the aggrieved organ. Each one takes upon itself a foreign function, insofar as its structure will permit it, for the purpose of giving extra tone and strength to the suffering member to enable it to extricate itself from its embarrassed condition.

We may take any other example of disordered function in Vegetable or Animal life and thereby demonstrate this conservative agency, which during the whole of life is in constant action and yet scarcely ever spend one moment in thinking of its value and importance.

Suppose the liver from a cause which  
 is denominated Malaria ceases in a  
 great measure its function of secreting  
 Bile from the blood: in a very short  
 time that ingredient will be diffused  
 through every tissue in the system, even  
 those most non-vascular, constituting  
 a disease we call Jaundice. If this  
 condition continues without arrest, death  
 would be the result in a few days. What  
 do we observe taking place? Will any  
 physician be so ignorant as to suppose  
 that the simple Cathartic Bolus which  
 he gives to his patient will neutralize  
 the poison and clear up his system  
 as a few drops of Sulphuric acid  
 will a solution of Quinia.\* No Scientific  
 Physician expects to cure a disease; his object  
 in administering medicine is to offer adju.

\* The word does not mean that Sulphuric acid will neutral





may as a general rule. We may then  
 lay it down as a Thesis for which our  
 paper is designed as the Hypothesis  
 That - a man will not die so long as the  
 Conservativ power of nature is stronger  
 than the foreign stimuli, which produce  
 Abnormal action, but when the Conserva-  
 tive force is overcome the proclivity will  
 be to death. Now many persons from  
 hereditary transmitted diseases have  
 a proclivity to die from birth and the  
 wonder is not - that they die but - that  
 they live, - There is a peculiar basis  
 of the System which almost precludes  
 hope that the vis Conservatrix can  
 ever overcome it, but yet this power is  
 persistent - and our yields till death  
 closes the contest and many proud  
 victories has it achieved our fearful

and desolating Enemies. The sole object  
of the Science of medicine is to discover  
by investigation those aids and appli-  
ances that may be appropriated to this  
one great-healing power. To this end  
all the Efforts of the Surgeon are directed.  
If he removes a Tumour with his Knife  
it is because this power under consid-  
eration is not sufficient to do it, or at  
least to do it - with as much celerity  
as it is done by him, but here the Skill  
of the Surgeon stops. The very wound he  
has inflicted upon the System in remo-  
ving this Tumour he cannot heal and it  
would be as fatal as the disease did  
not the Conservative power appropriate  
such material as will establish a con-  
tinuity of structure and vital action in  
the part.

There are a few other Considerations which  
I will notice which bear upon our sub-  
ject and then conclude our essay

Even when all the Conditions are com-  
piled with which I have ~~Abstractly~~ <sup>synoptical-</sup>  
ly enumerated, which are required  
to determine life, there is a necessity  
impressing organized matter from  
its Creation which decrees that  
it can remain in that Relation  
only a definite time. Thus on all  
the items, so far as man is intrinsically  
and abstractly concerned, which en-  
ter into the probabilities of life; but  
there are certain Collateral bearings  
which the Subject assumes, to which  
I will only refer. The various hazard  
of life to which man are exposed contin-  
ually must be an element in the



Solution; and lastly, the Atmosphere must maintain a definite Chemical arrangement and certain dynamic Conditions in order to meet the demands which man's physical Constitution requires. There must be a proper relation between its dynamics and the susceptibility of the human system in order that healthy function may be promoted.

This last item affords matter of much interest; involving as it does the cause of epidemic diseases, which occasionally devastate Countries, for which the unscientific mind can conceive no causes except such as are Superstitions and absurd.

John W. Maddin - Jan. 18. 1856.