AN
INAUGURAL DISSERTATION
ON
The Problem of man's proclivity to live

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BY
John W. Muddin.

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As a small token of affection I dedicate my medical 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 the latter 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 view of the object of this essay, are called *Vis Conservatrix Naturae* and *Vis Medicatrix Naturae*. The two terms, with slight modifications are physiological synonyms. The former indicates the inherent power incident in 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-
flly, wonderful being—man. The latter is applied more particularly to the effort which nature makes to restore proper balance in disordered conditions.

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. It is a combination and a form in which the still was expanded by that Architect, who conceived, planned, and created and let in motion the terribly sublime spectacle of a universe of matter and established those immutable laws which govern it, and art man was the last, best, noblest work of his creation. The question then is, what is life and what is life? In the thirteenth chapter the immortal son of the celestial and sacred humanity, what is life? and he will answer, "I can not tell; life is a mystery."

Our object is the boldness of a fanatic and essay to tell what life is, but our object...
is to point out, as far as science has en-
litened us, the laws which determine
the healthy organism and how far the
Vis Conservatory of an organ can resist
foreign impression and also to what ex-
tent the organs of the whole system sym-
pathize with this impression and resis-
tence.

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 estab-
lished as external indications, futures,
lungs divided equally, cavities, sym-
physes, eyes, ears, nostrils, teeth,
arms, bones &c., all in pairs. Their
inner structure of his system presents
the same truth still more plainly.
By this wise 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 nephroti-
zed the other will suffice to preserve
life and nor only so but if one deli-
cle be lost the other will elaborate spe-
matozoa in sufficient quantity and
development to enable him to proceed
his species. In the human structure
we find the most complete directory of
erector to accomplish a given object and
keen forceful and eager a man may
be, if he will within himself he will
learn a lesson of industry and The
Moral of that lesson is, if he does not
later the must die, for one set of organs
cease their action, in a short time the
action, mining machinery of man will
be a purposeless Cooper.

We will now make a synoptical statement of the elements which enter into the definition of man's priavity to live. 1st. 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.

2nd. Each organ must have a particular mechanical structure, and within a certain range of a definite size, and shape and weight.

3rd. Each organ must have nerves leading from it to some nervous centre and from a nervous centre to it, which are to carry the needs from it and bring an element, which these nervous centres elaborate, to it, called 'vis nervosa.' It must have 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 centre; and lastly each
organ must have a nervous connec-
tion with the great seat of nervous
power, the Sensitive Nervous System,
thereby connecting the two great characters of life
the Animal and Vegetable.

4th. Since at least two functions are
going on in every organ, viz. Nutrition
and the special function which subs-
divides in the Animal Economy so it must
have a structure adapted to each of these
structures, purposes, and besides a set
of sympathies to carry off its effects
or move out-elements.

5th. All must have the same circulating
fluid, from which each appropriates
nutrition and elaborates the elements of its special function. The structure then becomes a Tissue.

6” 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 that 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 minute and dissection view, as we enter
Upon the second feature of the problem.

The first item which this view of the subject presents is, that the influence of strength of each organ must be in a balance or equilibrium with every other organ, and the same is essential with regard to vital endowment. If this adjustment is not complied with, it will under the same amount of stimulation accomplish more functional than is required of it. Such a condition of things gives a predilection to certain channels, and this furnishes with an explanation of 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 consti-

...
tional peculiarities. From the strong development of certain organs over others, we find persons 'anguineous - leading to a sympathetic ... This feature of our subject is very inviting and interesting and I am glad to follow it farther but our essay will be sufficiently profit without doing so. Let us then that the general circulating medium, the Blood, shall be an organized fluid, composed of certain organic elements, in definite proportions, called primitive principles which may be eliminated and converted into the substances of the different tissues and also afford material out of which the working organs elaborate the material products of their special function. There is also in this circulating medium certain other elements in a chemical relation...
with each other and mechanically dissolved. They always bear a definite proportion to the circulating mass. These are as necessary to maintaining and prolonging life as the organized Prin- capital Principles, for it is given the oxidation of these elements in every part of the system circulating, 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 begin as, are,

1st. That it shall be of a Chemical-Vital organization. 2nd. That it shall always maintain a certain, definite proportion of its elements. 3rd. 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 calorificating. That this circulating mass must move with a given force and rapidity. When their condition is impaired with, the blood may be said to hold an equilibrium of relations with the different organs, and constitutes 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 Organic or Vegetative Life. The physiology of these two systems is both complex and beautiful, and while they occupy very different grades in the functions of the Animal Economy yet they are mutually dependent upon each other. All their operations which are not directly under the control of Man's will belong to the Organic Life. e.g. Digestion, Absorp
now, nutrition, inspiration, sensation and reproduction, all those which are subject to
the dictation of his authority are of the di-
vision of animal life. The vegetation, are
the class of the animal organs, and yet, it
is as true that the animal organs would
close to exist without the labor of the vege-
table green 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 compo-
ents of organs, in order that they may best
Cultures the purpose of these garments they were intended—namely, to maintain life, is that they shall not overwork each other, i.e., that the Vegetables shall not overwork their material than the Animal junctions can dispose of. Otherwise, we have detailed upon the Body that Condition denominated Hypertrophy, with all the disabilities to disease which it always brings with it. There is to some extent a guarantee against the fatal consequences of this state of things by the conservative power of nature, for the excretory organs of the body, on a decreasing function and allow the system of the bad consequences growing out of Hypertrophy, other hemorrhagic occur to accomplish the same assault. Again, if the organs of Animal Life have the predominance of energy and activity,
they exhaust material faster than the vegetable can elaborate it. Such persons are
always lean, lank, and irritable. Carvins
was this class of men. Caesar said of him,
"A chilly, let me have more about me that are fat;
stial-headed men, and such as sleep caught it. The Vegetables
nanity to youth, such men are dangerous." Metaphy.
System is overworked and taxed beyond its
Capability and thus prematurely wear out.
But to give the greater proclivity to life
there must be a well balanced relationship
between the two systems. To break that equi-
libration, diverts the probability from the
continuance of life.
These are some of the leading elements that
enter into the solution of the problem begin-
in, when all of other items than the stron-
gest balance of relationship, these are
less than the strongest proclivity to live. This
universal resultant in call the concen-
tion law of animal existence.
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 the development of the principle of attraction which keeps up the equilibrium of the Heavenly bodies in their revolutions in their respective orbits. Thus 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.

Thus are several other conditions which have an important bearing upon the question growing out of this law of Equilibrium which have been desisting, i.e. if by any cause the balance is broken, there is a general rally on the part of the system.
to rectify 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 then its bearings upon the problem. Suppose the mind by an act of volition appropriate 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 nervous center of the brain that presides over its economy, and by the instruction received by reflex carriers the entire contents will be ejected, or if it be not so disposed of the mediatrix authority demands of the cells of the Stomach, the Liver, the Pancreas and the more glandular systems of the body to increase their labor in order
to carry away the extra amount of materials in the stomach, and if it lies within the capacity of these organs to accomplish this end, then is an equilibrium again established and the organs return to their normal functions. But if they cannot expel the foreign stimulants, it acts as an irritant, causing inflammation or some other disease is established. The consequence is that the whole body is accustomed to a common sympathy to relieve the suffering organ, because its misfortune is felt by them all.

The healthy digestion can go on. Secretions from the glands entering into the alimentary canal is abnormal—absorption ceases; the blood is not renewed by nutrition and all its nutrient materials are soon exhausted; the tissues continue to decay and break down. The tendency of the whole economy is to death.
How 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 landlords' valor they march all their force 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 time and strength to the suffering member to enable it to extricate itself from its embarrasing condition.

We may take any other example of disorder function in vegetable or animal life and thereby demonstrate this conserving agency, which during the whole of life is in constant action and upon scarcely can spend one moment in thinking of its value and importance.
Suppose the liver from a cause which
in denominates Malaria Cleese in a
great measure its function of Decreasing
Bile from the blood; in a very short-
time that ingredient will be diffused
through every tissue in the system, even
Those more non-vascular, constituting
a disease in all Jaundines. If this
Condition continues without arrest, death
would be the result in a few days. Must
As in other taking place? Will any
Physician be so ignorant as to suppose
That the simple Cathartic Rolls which
he gives to his patient will neutralize
the poison and clear up his system
in a few drops of Sulpurric acid
will a solution of Quinia. No scientific
Physician expects to run a disease; his duty
is in administering medicines is to offer advi.
want to the power of Nature.

In the case under consideration the proper ingredients make a general attack upon all the structures of both systems of life. The excited organism puts into action the various powers with which it is endowed. The skin from its thin millions of excretory ducts urges its five outside its limits. The kidneys unaccustomed to its five obey the laws which govern it and expels its principle as it is borne along the current which flows through its confines. To do all the excruting organs answers a proper function as established both in the primarily discordant and function of the organ and those sympathetically affected.

In this way the human system yields itself of the various morbid impulses which it receives and in the other
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 conservative power of nature is stronger than the foreign stimuli, which produce abnormal action, but when the conservative force is overcome, the predilection will be to death. Now many persons from hereditary transmitted diseases have a predilection to die from birth and the wonder is not—that they die but—that they live. There is a peculiar thesis of the system which almost forecludes that the vis conservativa can ever overcome, but—yet! This power is persistent and our griefs still add to the earlier and many former victories thus it achieved our fearful
and desolating Enemies. The sole object
of the Science of Medicine is to discover
by investigation those aids and appli-
cances that may be appropriate 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 as because this power under Condi-
tion is not sufficient to do it, or at
least to do it with as much on Severity
as it is done by him, but then the Skill
of the Surgeon false. The Scare cannot be
was inflicted upon the System in remov-
ing this Tumour; he cannot heal and it
would be as fatal as the diseased aid
for the Conservation 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 on and another wise bear up in our subject and thus conclude our essay.

Even when all the conditions are implied with which on have but little enumerated which are required to determine life, there is a necessity pressing organized matter from its creation which decrees that it cannot remain in that relation only a definite time. These are all the items, so far as man is intrinsically and abstractly concerned, which enter into the probability of life; but there are certain collateral bearings which the subject assumes, to which we will only refer. The various hazards of life to which men are exposed continually must be an element in the
Estimating surely, 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 causes of epidemic diseases, which occasionally visit countries, for which the unscientific mind can conceive no causes except such as are superstitious and absurd.

John M. Maddin - Jan. 18, 1856.