

Lecture 20<sup>th</sup> (Last physiologic lecture)

October 30<sup>th</sup> 1805

The 19 past lectures have taught us to consider man as an animated Automaton of a wonderful <sup>composition</sup> structure; the prodigious number of its minute parts; their admirable structure, surprising diversity, ~~and~~ wonderful accordance, increase our astonishment <sup>at</sup> by every new examination!

Some philosophers have called the human body the microcosmos, or the world in miniature: for it really includes all the powers in nature viz the mineral, the vegetable, <sup>the</sup> animal & intellectual; which powers are employed in the functions of nutrition, sensation, muscular motion and procreation: which in fact include all the powers, or possibilities of action throughout the body.

The function of nutrition is kept up by alimentary recruits, which are first lacteal, then serous, (partaking the nature of serum) then sanguine, then lymphatic, and lastly nervous: but all of them are made from the same nutritive jelly, or chyle, formed from either vegetable or animal substances; farther attenuated by the most subtle vessels of the secretory organs.

The mineral powers of nature, discernible within us, are employed in the growth of the bones, & ultimate apposition of matter to the solids. The vegetable powers are employed in the growth of the hair, nails & cuticle, ~~and~~ <sup>as</sup> well as in the production & reproduction of the vessels & cellular membrane. The animal powers are employed in causing motions in the muscular fibres, and <sup>giving</sup>

giving  
sensations to the intellectual mind, by ~~impulsions~~ <sup>impulses</sup> of the nervous fluid,  
all these powers are so linked together in us, that the former always  
presupposes the latter to be operating, to put them, or to keep them  
in action. The viscera, whence these powers flow, are assembled into  
three organical systems; each lodged in a cavity, venter, or story higher  
or lower according to their importance in the system. The lower venter,  
or story contains the

Natural organs, so called, w.<sup>c</sup> are they that make, <sup>separately</sup> the chyle. — the  
Urine, and those w.<sup>c</sup> perfect the Fetus: and these have a residence  
in the three chambers of the abdomen, called supra-colic: intra-  
colic, and pelvis. The first, beside the mouth & its furniture, con-  
tains the oesophagus, stomach, liver, spleen, pancreas and their  
appendages: while the smaller intestines, Mesenteric, Lacteals &  
Lymphatic glands, mixe, emulge, separate, protrude and con-  
vey the chyle or lacteal fluid on towards the Lungs. The sto-  
mach & the small intestines constitute the First passages, be-  
cause there is the first concoction, or digestion.

The organs that collect & convey the urine are the proper  
emunctory of the second passages, or 2<sup>d</sup> concoction. These are placed  
in the lowest chamber or pelvis. And here too are situated those  
organs w.<sup>c</sup> convey our species into the world. As all these with  
their contents & their offices are ~~naturally~~ the least agreeable to the  
superior organs of sense; and as their appetites when vitiated  
are the most liable to deprave both the <sup>body & the mind</sup> ~~animal~~ & the intellect,  
they are therefore wisely placed farthest from <sup>the head</sup> ~~the head~~ <sup>from</sup> observation.

We may also observe, that the excrementitious outlets are, for the same reason, placed far from the delicate organs of the senses.

Next above these come the vital organs, w.<sup>c</sup> perfect, move and distribute the blood. These organs are guarded each way by a light moveable fence or cage called the thorax. The vital organs are the heart & the lungs, and are so called because "ex vi et alimento", they immediately sustain & give action, not only to themselves, but to their subser-  
-vient viscera the stomach & chylopaetic organs, <sup>as well as</sup> but to the superior ones in the head. This system sustains & adminis-  
-ters matter for the imperial organs of sense & intellect: ~~and~~  
These are called

The Animal Organs are the <sup>Brain</sup> encephalon & its nervous productions: <sup>as they are</sup> ~~they being~~ <sup>first</sup> of the ~~best~~ <sup>most</sup> importance, and of a most delicate texture, <sup>they</sup> are lodged, ~~in~~ <sup>in</sup> a well fortified castle of ob-  
-servation, <sup>the head</sup> every way easily moveable to inspect over <sup>its</sup> ~~var~~ do-  
-minions, which are sustained, moved & governed by ~~above 500~~  
~~exp~~ innumerable bones, muscles, & vessels.

From the view we have given it appears, that Life is a per-  
petual circumrotation, segregation, mixture & remixture of the  
various particles that compose a warm red fluid called <sup>whose circulation;</sup> blood, <sup>and</sup> carried  
on between two springs, viz the Heart & Lungs, or vital main-spring, the  
Brain, or animal spring, with the nerves issuing from it; both these springs  
are wound up, or replenished, by the <sup>fountain viz</sup> nutritive spring, the stomach & its  
appendages.

It appears likewise that Health is the aggregate of all these three-  
fold powers & actions, exercised alternately, or simultaneously,  
with a due degree of harmony or consent, ease & pleasure.

It will also appear that a Disease is any discord <sup>or</sup> de-  
fect in the conspiring actions of the solids & fluids, <sup>or below</sup> above the  
ballance of health, so as to cause any remarkable destruction,  
pain, or uneasiness, throughout the whole, or some one part of the  
animal machine; and consequently Death is a total abolition,  
or cessation of all ~~these~~ <sup>the</sup> actions, & ~~of~~ <sup>of</sup> the faculties & powers ~~whence~~  
~~they arise, that is, a stop, or rest, of all the motions in the animal~~  
system.

It is apparent also that the Nutrientia or aliments are  
all such substances as are replete with an oily, sweetish muci-  
lage, that is, easily convertible by the actions of the organs of the  
body into a nutritive mucilage, or lymph, from which is made  
all our fluids & all our solids. ~~It appears that a~~ <sup>But</sup> ~~medicine~~  
medicine differs from an aliment in not being capable of ~~being~~  
<sup>being</sup> changed into our solids; but is something, w.<sup>c</sup> is in a degree  
repugnant & offensive to our fluids & solids; both of which  
conspire to drive it from the centre outwards, through some  
emunctory, through which it operates & takes its name.

A Poison is any substance, or morbid matter, w.<sup>c</sup> being im-  
mutable by the powers of the body, whose organism it, sooner or  
later, destroys & kills; but custom has applied the name to whatever sub-  
stance

substance either kills in a very small quantity, or in a very short time. It belongs therefore to the Physician to consider Health - Disease. Medicines & Poisons, if by the last term we mean the potentia nociva, or causes injuring, or tending to destroy the body. These considerations now call us from the physiology, or natural state of the body man to that which is pernal to him, for his disobedience of the pure & simple laws of nature. We turn: from the healthy or natural state of man, to the pathologicue, or suffering state of man.

Perfect health requires the temperate action of the vital influence through every part of the system. In perfect health food is sought with appetite, enjoyed with relish & digested with facility. In perfect health every secretion & excretion is duly performed. Perspiration is neither deficient nor excessive. The breathing is neither deficient nor free & easy, requiring neither conscious exertion, nor even a thought. The action of the heart and arteries with the consequent circulation of the blood is regular and placid; neither too rapid nor too indolent; neither laboured nor oppressed. In perfect health the body continues in the exercise of its proper functions without the least sensation of difficulty or embarrassment. The mind undisturbed by any violent emotions, agitations, or depressions of a corporeal nature, is in a state for exercising its noblest powers with tranquil vigour. The body is perfectly free from pain, oppression, <sup>heaviness</sup> ~~hebetude~~, & every species of <sup>uneasiness</sup> ~~uneasiness~~.

uneasiness; and a certain vivacity, not to be described by words,  
reigns throughout the system. This happy, but changeable  
condition, constitutes the mens sana in corpore sano, a sound  
mind in a sound body. The declension from this healthy  
standard into disease will constitute fill up the remaining  
part of our course. That state of the body in which it happens  
that the functions proper to man cannot be exercised according  
to the <sup>narrated</sup> before mentioned laws of health is called a Disease;  
and Pathology teaches the knowledge of the diseased state;  
with this intention that it may lead to the method of cure.  
Previously however to entering on specific diseases, it is ne-  
cessary to discuss the subject of Sympathy, or conspiratio  
partium corporis humani; for it was through this sym-  
-pathy that ~~animal magnetism~~ so much ~~practised~~, at a  
certain period, ~~in France~~, produced its wonderful & bewitching  
effects. —

Our ~~next~~ Lecture will  $\therefore$  be on the deviation  
of the body from its perfectly healthy state into ~~the~~  
disease. — To most simple state of w<sup>h</sup>: we hope to give you  
next Monday