Medicale (C.) Tussy Convals.

As we design this Treatise for others beside the Physician we shall endeavour to convey a clear idea of those parts which are generally affected in consumption; and first of those which concur in the production of a cough.

The aspera arteria, or wind pipe is that elastic, cartilagenous canal through which we breathe. It commences at the fauces & runds down to the lungs, and there it bifur-cates. The top of the wind pipe is called the larynx, which consists of five cartilages, connected together by a tuble mem-brane. The superior aperture of this canal is called the glottis, which is topped off with a cartilagenous cover termed Epiglottis. The wind pipe or aspera arteria is widest at top & gradually becomes narrower as it approaches the lungs, & is, as it approaches them divided into two spreading branches called bronchia. These ramifications divide into numberlass others, which are distributed through the substance of the lungs. They consist of cartilagenous segments & contractile mem-branes: their ultimate branches terminate in vesi-cles, & appear in clusters, & constitute the most con-siderable part of the lungs.

Every part of this elastic breathing canal is co-vered with a mucous membrane, replete with glands which secrete a mild lymph, for lubricating & defending from injury the pneumonic organs. These glands & their ducts & the whole membrane depend for their sup-ply & defence on the bronchial artery & vein. The situa-tion of these are finely expressed by Ruysch; & all these parts with their

their curious muscles, & and no less exquisite membranes are finely delineated by Malpighius. The bronchial artery & vein are subservient to the lungs as a viscus, & are in a manner seperate from the pulmonic artery & vein, considered as a part of the pneumonic, & blood-circulating apparatus. The vessels opening into the Aspera arteria, bronchiæ & vesicles do not secrete in health an excrementitious fluid, but a fluid, like the tears, for lubrication and defence, - to prevent the air conveying vessels from becoming dry by the increasing passage of that fluid in respiration. When the lymph has performed its lubricating office, it is resolved into exhalations & carried off by the expiring air to make room for a fresh supply. Hence it is said that in the lungs the exhalent vessels become excretories.

As the cough is so constant a symptom in every disorder of the breathing organs, and especially of this "morbus maximè terribilis" which we have undertaken to discuss, we deem it proper to be more particular than usual in its description. As this is well done to our hands by Dr Thomas Young F. we cannot do better than to transcribe it. "The irritating substances attached to the membrane lining the bronchiæ, require a certain velocity in the current of air for their expulsion, in the same manner as a considerable force of wind is required, for carrying along with it a portion of water, over which it sweeps; and in order to produce this velocity by the simple act of expiration, the whole

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chest would be obliged to undergo a considerable change of form, & the muscles to be violently excited: but this labour is saved, by the operation of closing the glottis, till the air within the lungs has been a little condensed, and then suddenly opening it; and it is demonstrable that the velocity produced by the expansion of the air, thus condensed, may easily be very considerable:— a force, for instance, sufficient to support a column of a quarter of an inch of mercury only, being capable of causing a velocity of about 120 feet in a second; which is greater than that of a violent gale of wind; besides the advantage of the suddenness of the impulse, and perhaps of the tremor constituting the sound, in detaching the offending substance. This action of coughing is instinctively & almost convulsively excited by the irritation, which is sympathetically referred to the neighbourhood of the larynx, where a sensation of tickling is felt. In a similar manner, the still more involuntary action of sneezing is directed by nature to the expulsion of foreign substances from the fauces & nostrils: the passage being first closed at the back of the mouth, & the soft palate being suddenly depressed, so as to allow the condensed air to pass into the nostrils, at the same moment that the base of the tongue descends, and opens the way into the mouth."

(120 feet)

(The structure & function, respt. to be continued in another place

Dr Thos. Youngs treatise on Consumption.)

Dyspepsia resumed from (B.)

If Mr Abernethy, the ingenious surgeon of St Bartholomew's Hospital in London, & Prof. of Anat. & Surgery had opportunity of as extensive reading of the works of Physicians he would not have considered his publication of the "Constitutional origin & and treatment of local diseases as entirely new doctrine The consent of parts, or the sympathy of one part of the body with a remote one, has been noticed from the days of Hippocrates to the present. The medical world is nevertheless under obligations for the confirmation of this doctrine of sympathy or consent of parts to Dr James Hamilton of Edinburgh & Mr Abernethy for their sagacious observations & rational practice in re-medying a disordered state of the stomach & bowels, or in a word of the chylopoetic viscera.

How often has that most excellent physician, the late Dr Fothergill said to the author, most of our diseases "arise from a disordered state of the stomach & bowels; he "who knows how to restore these disordered organs to their "pristine healthfulness has learnt two thirds of his profes-"-sion!" He used also to say, that in by far the greatest number of chronic disorders there is either a slight, or deep affection of the chylopoetic organs. When slight there is a diminution of appetite, & the digestion is disturbed, wc manifests itself by sour eructations, flatulency, & an unnatural fœtor & colour of the excrements, wc are generally deficient in quantity. Aber-nethy has well described it — the tongue dry, whitish or furred, particularly at the back part, & extending along the middle to the tip, while the edges remain clean. As the complaint ad-vances, a tenderness is felt when the epigastric region is com-

pressed

compressed, & the patient breathes more by the ribs, & less by the diaphragm, than in an healthy state. In this condition of the patient the urine is commonly turbid. If the disorder be not soon removed, there follows a imbecility & irritability of the affected parts, together with a deficiency, or depravity of the fluids secreted by them, upon the healthy qualities of which their free & pleasurable functions depend. The duration of dyspepsia without fatal consequences, shews, says M. Abernethy, that it is a disorder of functions, & not a disease of structure — a distinction that every physician should bear in mind. This gentleman's observations confirm the opinion we have already advanced, that pulmonary irritation, very often arises from disorder of the digestive organs. He therefore enquires, whether it produce such effects by the nervous disorder it occasions, and by its operation on the health in general, or by means of a more immediate sympathy existing between the pulmonary & digestive organs. The sympathy between the Lungs & the Stomach is intimate & constant; and not of the Lungs merely, but of the heart also, as is evinced by palpitations, & its feeble actions; for it would seem that the action of one depends on the state & condition of the other.

We have ample proof in "Dr James Hamilton's observations on the utility & administration of purgative medicines", of the sympathy of the stomach, intestines & Liver, with the Lungs, brain, & uterine system. The stomach especially sympathises with all the organs of the senses, and with the source of sensation, & as we see in hysteria, with the whole nervous system.

# The general doctrine of Human Nature.

The objects of the Physician's study are life - health, and disease.

We have already spoken of life & growth, and shewn that our bodies are gradually unfolded, like a plant; and that after it has attained its acme, or highest point of perfection, it as gradually, declines, withers & vanishes from our sight in death.

We must not allow our admiration of the character of that skillful Physician, & famous teacher in the University of Leyden, Herman Boerhaave, to blind our eyes to some of his defects. His attachment to the mechanical philosophy, predominant over chemistry in his day, marred, in some degree, his system of physiology, & affected not a little, his pathology. He considered the human body as a most exquisite hydraulic machine, & describes the arterial system as a conical, elastic, inflected canal arising from its fountain, the heart, & dividing into innumerable similar ones, proceeding from the same trunk, & running to each & every part of the body, animating & nourishing every fibre & fibrilla, discernible by the microscope, and circulating a vital fluid, the motion & fluidity of which might be explained by the laws of the mechanical philosophy. His followers believed, that the motions of this complex machine might be explained by those laws well known to the geometricians, & to mechanical philosophy. Boerhaave and

his

his followers, in Europe & America, pursued this theory so far as to loose sight of the vis vitæ, or living principle. His successor in the same University, the learned Gaubius, about seventy years ago, supplied, in a great measure this defect in the system of his illustrious predecessor. He taught us, that man was not a mere machine, wc. suffers injuries without resistance; that there is a principle within us, wc, being roused, & rendered uneasy from the sense of pain, occasioned by disorder, bends the whole force of that influence to repel the offending cause. This influence, wc. is somewhat different from the mind, operates by a sort of secret instinct, wc. assists in the preservation of life & health. He taught us that the body itself was endowed with the power of spontaneous excitement, wc. although it be moderate in health, yet when irritated by any present evil, is hurried into violent efforts to oppose the attacks of the disease. He says that the opinion that a disease is a conflict of nature fighting for her own safety, is a notion taken from the inmost receßes of medicine, & is acknowledge by every great master of the art. The celebrated John Hunter, without, it is presumed, ever reading Gaubius, was of the same opinion.

There is naturally in our bodies a very vigilant principle, sedulously careful to preserve its health & integrity, to procure such things as are salutary, & to repel whatever is noxious. Thence arise those spontaneous efforts, observable in the sick, wc. are neither to be ascribed to the cause of the disorder, nor to the remedies used, but wc. evidently tend to health; and it would seem that nothing could be more fully devised, or more happily conducted, than

than what we sometimes see in the ~~the~~ crisis of a disease. Nature therefore may properly be called the curer of diseases, for we see no good reason for altering the name used by the antients. If Nature then be the curer of diseases, the physi-cian is only her minister. The foundation of the healing art is situated in the nature of the body itself. From a curious ob-servation & imitation of Nature the art derived its origin, by the same means received improvements, & by these will it continue to improve. We must never forget, that there is an active principle in the sick distinct from the disease itself, whose motions & tendency should be closely watched by the physician. (see two leaves forward — The most perfect & least constricted &c

In every sick person, there is the disease — the cause of it — and the symptom; for in every disease there is some visible change either in the structure, excretions, or in the functions. But there is, over & beside all this a sympathy & consent between dif-ferent parts & organs, constituting one common principle; so that if one part suffers injury, others, not unfrequently all conspire in relieving the part primarily injured. Because nature is, at times, baffled in the exercise of the functions of the body & cannot perform them in that regular tenor as in health, she sometimes raises inordinate motions, & often creates greater disturbance than the original disease, whence symp-toms are accumulated upon symptoms, w.ch requires skill & experience to discriminate. Under this head come spas-modic motions, convulsions, a disordered circulation, fevers, various sorts of eruptions, alifaces, hæmorrhages, vomiting diarrhœas, sweatings, & unnatural desires, & aversions to

different

different sorts of food. These are not so much the original di-
-sease as auxiliary efforts of nature, or supervening
struggles. It is of importance that a physician discriminate
these salutary efforts of nature, lest he be alarmed & with
vain fears at things importing no danger, & to guard
him against rashly opposing these endeavours after health,
which are not to be disturbed, but properly regulated.
We do not mean to assert however, that every thing salutary
flows from this source. The metastasis of a disorder has some-
-times occasioned sudden death. It is therefore the business,
says Gaubius, of a prudent Physician not to remain an
idle spectator of Nature attempting her own cure; but to
restrain her when too violent, to stimulate when too languid,
and when deviating from the right way, to bring her
into the proper track.

It does not appear that Boerhaave, with all his pene-
-trating industry, had ever considered the vital power of a solid
fibre, by which it contracts itself, & shrinks when any irritation
is made. A living solid is not only sensible of irritation, but
is capable of moving itself. Although this power is diffused
throughout the whole living body, yet experience teaches
us that it is not equally strong in different parts, but is
more acute & permanent in some, and less, both as to
its force & duration in others. Different degrees of this
power is observable in different persons, according to the
age, sex, temperament, peculiarity of constitution &
habit. But it never must be forgotten that there is a cer-
-tain sympathy & consent among the living parts, by which
they afford

afford mutual assistance to each other, & one ex-
-cites ~~the~~ another into one common contraction,
although irritated singly. A great part of the
preservative, curative & destructive power of hu-
-man nature depends on the mobility of the living
solids. Differently from what Boerhaave believed
this vital principle resides rather in the solids, than
in the fluids, in such a manner however as to ren-
-der it probable that there is some part of it occultly
contained in the fluids themselves. This was the opinion
of the sagacious John Hunter. Others deny it & con-
-tend that the vital principle is immediately dis-
-tilled upon consolidation.

The most perfect specimen of machinary ever made by human contrivance wears itself out, though made of brass & steel, from the operation of friction, & this occasions inseparable destruction; nothing can restore its wear, & inavoidable waste. If such a machine meet with any accident, from external violence or a defect in its materials, its motion stops, & the design of its maker is defeated. But this is not the case with the human machine. It can repair itself. Its abraded parts can be renovated, & every waste supplied. Should disease reduce it to one quarter its weight & size, it possesses a power of not only recovering its pristine weight & vigour, but of attaining a great addition of both. The principle of self preservation enjoyed by the meanest animal, places it far above the most perfect production of human art, w.c so far from possessing the power of growth, is doomed to inseparable destruction.

Besides this ~~treble~~ double faculty of renovation & self preservation the human body enjoys that of reenforcement or supply, w.c is accomplished by certain instinctive notices or strong desires, which is most apparent in hunger & thirst; and these are strong in proportion to their importance to the well being of the animal system, & the perpetuation of its kind. These instinctive intimations, which have for their end the well-fare of the animal frame, should by no means be neglected by the physician. He who attends most to them, will be repaid by his success in the cure of diseases. But no one will be eminently successful if he be inattentive to the sympathy or consent of one disordered part with another. But this subject must be discussed in a distinct chapter.

# Of Sympathy —

Sympathy is a principle in the human body so connected with every action & function while in health, but more apparently so in disease, that those actions cannot be well understood, nor these diseases well explained without some just notions of this curious consent, or fellow feeling, or co-operation of of distant parts.

Hippocrates was not inattentive to this consent of parts; & Galen has written on the subject; & has attributed head ach, and low spirits to vapours ascending from the stomach & Uterus; and the idea is retained at this day in common parlance, as succeeding writers down to the 15th. century have done little more than copy what Galen had written on this subject. Since that period. Gasp. Falpinus, speaking of sympathy, says that that it is not the nerve that conveys this joint interest, but the flesh, but that no part is capable of it that is destitute of blood. Riverius, physician to Henry IV. of France was the first who ascribed sympathetic diseases to the connection, vicinity, or similarity of parts, or to their having the same kind of office. But the indefatigable anatomist Thomas Willis of Oxford in England was the first who endeavoured to explain the various instances of sympathy between different parts of the body from the visible & palpable connexion, or communication of their nerves. In later times Ettmuller — Baglivius, Stega, Bordeau & Robert Whytte have written well on the subject. Of these Bordeau, contends, that sympathy is communicated principally by the Tela cellulosa, & system of blood vessels. But it will appear on close attention, that neither the continuity of surface, vicinity, or similarity of parts, nor their having the same kind

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of office, nor even the visible communication & connexion of the nerves can afford a satisfactory explanation of the various in-stances of sympathy in our disordered bodies. It will appear that it depends on a principle beyond the laws of mechanics. We must know more of the minute structure of the brain & of its appendages the nerves, & their laws of action, before we shall be able to explain why a delicate person, on seeing an indecent object shall have a blush on his, or her cheek: this does not arise from a sympathy between the eye & its near neigh-bour the cheek, but it is from a sympathy with the mind, or brain, whose disturbance is expressed on the cheek.

In the hope of taking a step forward in this obscure road, let us here mention some of the laws of the Nervous System, especially such as regards 1.st Sensation; 2.d sensilitas: 3.d mobility; & 4.th irri-tability.

(I.) Sensation, or the facultas sentendi, is that condition of the solids, which on a stimulus being applied, a perception arises in the mind, or sensorium commune.

(II) Sensilitas is that faculty of the living solids, by which the part feels the contact of a stimulant, whether inwardly, or outward-ly applied, but it is independent of the mind.

(III). Mobility is, not here meant the loco motion of which the experimen-tal philosophers speak, but that original power of motion by which certain parts of the body are capable of moving themselves, or are moved internally without any controul of the will; such as the motion of the heart, & of the intestines.

(IV) Irritability is a property of the living solids, by which on the ap-plication of fit stimuli, motions are excited in a part, w.ch can

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by no means be explained by the laws of elasticity.

Sensation depends entirely on the parts being connected with the brain by the nerves; but this is not the case with sensibilitas; if the communication between the brain & an irritable part be entirely cut off, a motion may be excited in that part by the application of a fit stimulus. This is manifest in an amputated limb; in the heart out out of the thorax; and most remarkably so in certain amphibious animals. It is therefore probable that the motions thus excited begin immediately in the part, & without any connection with the brain. In contemplating sympathy therefore we ought bear in mind the difference between sensatio and sensibilitas.

If the nerves going to any part be cut through the sensibility in that part is lost, which would lead one to conclude that there was a sentient fluid flowing through the nerves as tubes

If the nerve going to any part be moderately compressed, the sensibility is diminished; & if strongly compressed it will be lost; which would lead to the conclusion, that ~~motion~~ sensation was conveyed by vibrations. The effect of electricity on the body have led some to believe that the nerves were surrounded by an a subtle electric fluid. But none of these conjectures are founded on entirely satisfactory experiment. The last is encumbered with the fewest difficulties.

Every part of the body is capable of sensibilitas in a healthy or a diseased state. We take it for granted that we have made a clear distinction between sensation, or the facultas sentiendi, and sensibilitas, or vis sensitiva.

Some parts of the body, such as thick muscular parts, are capable

capable only of the sensation of pain: but there are other parts capable of a variety of sensation besides that of simple pain, as the skin of the fingers, the mouth, nose, eyes & ears.

The Stomach is capable of a variety of sensations beside pain, of more perhaps than any other whatever. In regard to sensation, the Stomach seems more like a nervous expansion of the brain, than a mere bag for dissolving the food: but more of this hereafter.

In discussing abstruse subject of animal life, it is no wonder that we sometimes are be wildered. We know that mere matter is inert; that any one particle of matter left to itself will continue always in the same state with regard to its motion or rest. But two particles of matter have the power of acting on one another, as in gravitation & cohesion. There is also an attraction of ~~gravitation~~ crystallization; and an attraction of magnetism; and an attraction of electricity; and ~~a~~ ~~an~~ chemical attraction, by w.c two particles of different bodies rush together & form one. But there is nothing in all this that can merit the name of Life.

There is in a growing vegetable a power beyond all this, a power which first moves & then conducts that latent process by which a small seed becomes a huge tree. Life belongs alike to both the vegetable & animal kind, there being an expansion of life stretching in uniform gradation from the human system till it disappears in a shade of ambiguity in the living state of vegetables*. Every body capable of growing, has a certain internal adjustment, disposition or arrangement of its

* John Brown

of its matter, which is called organization; and being capable of increasing in bulk, has a certain degree of vitality. The seed of a plant, & the egg of an animal are organized bodies, endowed with vessels; and if ~~placed~~ enjoying a due ~~degree~~ portion of moisture, & a certain degree of heat, & access of air, the fluids in both will expand by the warmth; & being once put in motion, gradually encrease & grow up into a plant, or animal, capable of propagating its kind forever.

Now the seed of the vegetable, & the egg of the animal would remain, or rather become effete & inanimate unless some agent, from without, excited or began a motion in them. The great question now is — what is this agent or stimulus? This stimulus or animating principle in a vegetable, or animal body, does not depend on its organization, nor its figure, nor any of those inferior forms, which make up the system of its visible qualities; but it is the power, w.c not being that organization, nor that figure, nor those qualities, is yet able to produce, to preserve, and to employ them. It is therefore the power, which departing, the body ceases to live, and the members soon pass into putrefaction & decay.

From an attentive observation of animated nature, we discover that life is caused, & continued by something w.c acts from without; and this something is, as far as we can discover heat, or calorie, a term now used for that all powerful agent which transforms solids into fluids, and fluids into vapour. But, to speak still more correctly, it is that subtle electric fluid, which fills the immense space

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of the whole Universe, pervades all bodies, and actuates every particle of matter. Heat is only one effect of its motion. In whatever manner a susceptable, or irritable body is operated on by this exciting power, a certain quantity of it, or a certain energy is assigned, and belongs to every individual system of organization upon the commencement of its living state.

Now a living animal has, besides those attributes common to all Bodies, as solidity, extension & gravity, a peculiar something, wc distinguishes it from a dead one; for a musular fibre will move or contract, and that not by the powers of gravitation, cohesion, crystalization, magnetism, or chemical attraction. The state of an animal fibre in which a contraction, or a fillation is produced by the influx, or contact of a stimulus, is called irritability, or susceptibility, and excitability.

That principle in animals on which sensibilitas, sensation, & all the animal powers depend, is called Life, or the Vis Vitalis. By the action of stimuli on the solids, particularly heat, or caloric, this vis vitalis is excited & preserved; when diminished it may be increased, and when suspended it may be restored.

Within every one of us there is an innate & active power, wc ceases not its work when sense & appetite are asleep; wc without any conscious co operation of the man himself, carries him from a seed or embryo to his destined magnitude. This is, strictly speaking, the animal Oeconomy, and is as perfect in a dumb beast, or a brutal Hottentot, as

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as in the brightest genius of human kind.

All this depends on a principle w.c some caec impetum faciens, other vis actuosa, and others nature. This power is innate, and is that by which man lives; it forms him, it nourishes him, moves him, animates him: By it he feels, he desires, refuses, sleeps & wakes; nevertheless it is totally different from the Mind: For in our bodies ~~our~~ is found something of quite a different nature from what has been mentioned; a power of thinking, reflecting, comparing, choosing, & representing to itself past, present and to come. This power in relation to its several operations, is termed comprehension, understanding, reason, mind, wile, freedom, or collectively by the single word Soul.

When this superior power begins its operations in us, we know not. Whether in the womb, or not untill the child breathes we know not. All that we know is, that the child is formed, grows & moves in the womb of its mother, but it never breathes there. It receives its animating principle, its heat, motion & life from the mother by a nerve & artery, w.c entering at its navel conveys conveys the blood to the heart of the infant, without ever passing through the lungs: the blood in this case goes directly on through the body of the heart by a natural opening called the foramen ovale; and from thence to the Aorta, through w.c it is driven to every part of the body; so that the circulation, nutrition & life are kept up with the mother, as if they were not two bodies but one. When the child is born, that is, seperated from its

its mother, it becomes dependent on a new principle for the continuance of its existence. When it passes from its watery habitation into the atmosphere, a new determination takes place; and instead of the umbilical cord from the mother the common air becomes the mainspring of all its actions & functions. When the child opens its mouth, in rushes the air, & expands the hitherto quiescent lungs: the blood, wch had ~~hitherto~~ heretofore passed through the heart, now takes a wider circuit, & the foramen ovale closes forever. The lungs wch had till this time, been inactive, now first begin their functions, and they cease not their action as long as life continues.

Hence then it appears, that next to the expanding power of heat, respiration is the primum mobile in the human machine. Everybody knows that the atmospheric air contains a certain vivifying principle necessary to continue the lives of animals; & that air wch has lost this vivifying spirit, deadens fire, extinguishes flame & destroys life.

From the air, & the organs of respiration, or in other words from the systema spirituale pneumonicum all the actions of the body, & all the powers which it exerts are primarily derived.

It appears from a train of experiments made by Dr E. Goodwin* & others, that the common air communicates a vivifying something to the blood when drawn into the lungs, & gives to it a stimulating quality, by which it is fitted to excite the heart to action; and that the chemical

* See his experimental Inquiry.

chemical quality, w.c the blood acquires in passing through the Lungs, is necessary to keep up the action of the heart, & consequently the health of the animal: for no sooner are the Lungs quiescent, than the heart ceases to contract, the blood stops, all the intellectual operations cease, sensation, & voluntary motion are sus-pended, & all external signs of life disappear.

When the fluids in the human body are thus at rest, what do we see? — a mere carcase — We see the person dead! But after what manner? Here are all the solids & all the fluids too. What then is lacking? — a gentle oscillation, or motion of the fluids, a cir-cumgyration of the liquors: for let there be, by what means soever, an occillation, a concussion, or excite-ment of the nervous energy, w.c may impel the fluids to move the lungs & heart, life immediately returns, with the usual circulation of the blood and other fluids, heat, colour, agility, cogitation, and every vital, natural & human action.

If it be asked — what is that vivifying something which, through the medium of the atmosphere, gives this occillation, or concussion, and continues life?

We answer; it is, we presume, a portion of that subtile electric [~~fire~~] fluid, w.c fills the immense space of the whole Universe, pervades all bodies, and actuates every particle of matter. By it the phenomena of magnetism, fire & light are produced; and on it the various & astonishing phenomena of vegetation and Animation depend. If it be asked further, what

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what & where is the source of this all powerful agent? I answer the Sun is the effecient cause of the motions of this fluid, and the various phenomena of our system are the effects of these motions.—

The union of the soul with the body is the most abstruse contemplation that can exercise the mind of the Physician. But it would seem that the Parent of Universal Nature has ordained, that to a certain degree of exquisite organization the soul should adhere; for between organization & function there exists a connexion proportioned & inseperable. When that subtile organization is ruined, the soul flies back again, like quenched fire, to the source whence it came. If so, then are not our bodies vessels, immersed in the vivifying spirit, the "anima mundi?" If the materials w.c compose these vessels be arranged after a certain manner, life, or the spirit adheres to us. If the Vessel be cracked to a certain degree, it can hold no water. If the body be to a certain degree marred, it can hold no life. If the deranged organization banish life for 15 or 20 minutes, as in persons who have lain that time underwater; and if, by communication of warmth, & agitation of the lungs, and of the heart, life should be restored, what shall we say then?— where? or in what State was the soul, or immortal part?— We can only say, that being still immersed in the anima mundi, the body is rendered, by the means used, capable of imbibing again the needful portion of that spirit in which "we live, move, & have our being?" I say imbibing again; for in the begining "He breathed into man the breath of life, and

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and the consequence was, "he became a living soul."

We feel confident that there is something in us that can be without us; what it was before us we know not; and we presume that it entered us at our first breath. Cicero, who wrote before life & immortality were brought to light by the gospel, says "Quidquid est illud quod sentit, "quod sapit, quod vult, quod viget, Caeleste et Di-"-vinum est; ob eamque rem aeternum sit necesse est."

Returning from this wide excursion, let us con-centrate our attention on the microcosmos, Man, who, as some say, resembles in miniature every part of the great world. Should the notion that he contains within himself all the properties of the be disputed, it must be allowed that he is the most perfect being on this globe, whether we consider his ma-terial structure, or intellectual powers. What being beside him-self enjoys the gift of reason? or has the power of cloathing his ideas with speech? What animal beside him can ex-hibit thoughts to the eye by means of writing? By an union of these prerogatives he renders his memory an inestimable fund of knowledge & progressive improvement. "By a stroke of the pencil he changes the dull canvas into a charming picture. By other instruments, he animates the marble & gives life to brass. By a microscope of his own invention, he discovers new worlds beneath him, with myriads of living creatures amidst invisible atoms. By changing his microscope into a telescope, he commu-nicates with the high Heavens; then returning to his study

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he prescribes laws to the celestial bodies, describes their paths, measures the earth & weighs the planets.*

Such then is Man, who stands on the summit of the visible scale of creation; and such his superior powers of mind, that he alone is capable of knowing the gradation of beings & their relations. He alone is capable of surveying the Universe, & of elevating his mind to the mighty Hand that holds the reigns of the whole! —

We have said thus much to convince the young physician of the necessity of attending to the operations of the human mind, as well as to the laws of the body otherwise he will never be able to understand those disorders denominated nervous, and those various affections, wc. arise from a consent or sympathy of one part with the distress or pain of another. We know certainly that the body is changed in its conditions by the mind, and the mind is powerfully affected by certain conditions of the body. The laws of the connection between them are inexplicable; - we record only the phenomena

If a Physician's own experience has not furnished him with instances of the sympathy of one part with another, he can satisfy himself with cases by turning to writers in different ages & countries. Dr Robert Whyte of Edinburgh has collected many instances, shewing that when the brain is wounded, inflammed, suppurated, or otherwise hurt, every part of the body is liable to suffer; Vomitings, tremors, convulsions & palsies ensue; that violent convulsions, tetanus, delirium & death, have arisen from rough substances irritating the nerves of the extremities. [augment these instances.]

* Bonnet Contemp. de la Nature.

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The functions of the human body have been usually divided into (1.st) the Vital; (2d) the Naturae, and (3.d) the Animal: that is to say, the actions of the heart, & its appendages the arteries; the stomach & its adjunct viscera; the brain and its appendages the Nerves.

The heart, arteries & containing blood, may be considered as forming one system; the stomach a chylopoetic viscera another; the encephalon & nerves make up a third. Some may contend for a fourth, that of the lungs, or systema spiritale, sive pneumonicum. If so from these four fountains all the actions of man, and all the power he exerts are derived.

We should distinguish between action & function. If, e.g. the actions of the heart & arteries cease, it does not follow that they are incapable of it; for they may be revived, & the function go on; but if the function be destroyed they are dead, & putrefaction follows. It should be also

(vera.)

Although every organ in the body has an action peculiar to itself, yet all the organs are actuated by one sort of life, or vis vitalis, w.ch produces in each organ a peculiar action, according to the structure, or mechanical arrangement of the matter of that organ. This life cannot reside in, or be derived from the brain alone; or the heart alone; or lungs; or stomach ~~but~~ alone; but from the conspiration of the actions of all four; so that either of these organs being injured, pervertes in some measure, the functions of the whole. We can hardly consider these organs acting seperately, & independently; and in contemplating sympathy, we ought more especially to consider them as mutually depending on each other, like the main spring & ballance spring of a watch.

We are too apt to consider the human body as cold & lifeless, as we see in on the table of the anatomist, instead of warm, plump & pantting with life. We should remember that all is motion in the living body from the first taking in the food, till at last, by various changes, & as various ways is conveyed to all parts to recruit & maintain the whole; and to repair the constant waste occasioned by the very action of living; as is exemplified in that truly sublime sight, the circulation of the blood; the absorbent system, & the function of perspiration, together with that of respiration. Were our bodies transparent, like certain insects, or our senses acute enough to perceive all those innumerable streams flowing from all parts to all

parts

parts, the whole body would appear a system of overflowing currents. The action of the heart, the compound circulation of the air & of the blood in lungs, has an air of grandeur that may be felt, but is scarcely possible to describe. By these motions life is preserved: they are various, yet uniform, different yet agreeing; all necessary, none superfluous, being all needfull to make up the harmonious whole.

Can we wonder that the human machine is often disordered? Is it not a matter of wonder that it is so seldom out of order? It would soon been destroyed, like machines contrived by the ingenuity of man, did it not possess within itself a power of renovation, recruit & reparation of injury, as we distinctly see in the effusion of coagulable lymph, secretion of pus, formation of granulations, & the consolidation & reunion of parts destroyed. It is the business of the physician & surgeon to study these laws of reparation; and the course of it, he will find, that when one part is in danger, & cannot entirely help itself than the conspiration & co operation of a distant part is called in to an alliance in resisting the enemy. He will find that morbid affections of any of the organs of the senses will be relieved by emptying the Stomach & bowels; that affections of the stomach will destroy the lungs; and affections of the lungs, the stomach. He will learn how it is, that blistering the skin relieves inflammations of the intestine, & apparently more detached viscera.

There is something, w.c at first sight, appears plausible in the opinion, that the cellular membrane is the medium of sympathetic affections through the body. Few attend to its universality

universality: excepting the bones, the substance of the brain and the humours of the eye, what part of us is without it?

Detached Articles (Correspondence

A copy of Letter to Dr Letsome from DW. Dec.r 8th 1792. V.3 p.210.

Dear Dr

"I am pleased, much pleased with your present of Dr May's Treatise on consumption [This was an improvement on Salvador's plan for the treatment of that disorder, w.c S. professes to have combined from the works of Hipp. Bennet & Sydenham. It discards all medicine, & exactness of regimen & directs his patient to climb as quickly as he can, up some eminence, till he is bathed in sweat, & then to place himself near a large fire to encrease the perspiration, & to feed on salt meat & wine. — D May after giving an emetic of Ipecac & laudanum at night, directs the Cath, with a diet of soup, meat wine porter, brandy & water, eggs & oysters with proper condiments, with horse exercise & swinging.]

I have been long dissatisfied with the old mode of treating this too fatal disorder; & was glad to see any probable plan that deviated from it. The first writer I have met, who dared to deviate from the old tract was Marryat, & the others were Salvador in 1787. & May in 1788. It is certainly true that the genuine inflammatory diathesis does not exist in the phthisis pulmonalis. It never is the synocha fever. It is a disorder crowded with symptoms contra indicating repeated bleedings. Its essence is a peculiar debility; or, if I may be allowed to coin a word to express my meaning — a slack tursledness of the glandular system (while the nervous is braced or rozened up)

When I received that Treatise I was in the midst of my medical course. I gave the principles of it, both theoretical & practical, to my pupils, as one step nearer the truth than any thing we had yet been favoured with. I am in the opinion, that the con-

consumption and scrophula are nearly a kin; and that the one is the other arrived at to years of maturity.

Our venerable deceased friend (Dr Fothergill) had some prejudices against the tribe of balsams, as also against that of tonics in general, yet he did not cure consumptions. He never seemed to make the distinction between the genuine inflammatory diathesis, & that atonic inflammation observable in the phthisis pulmonalis.

It appears to me that the Phthisis pulmonalis holds a middle space between an acute & chronic disorder; and that we have erred in considering it merely a disease of the organ of respiration, instead of an universal one of the glandular system

(See Pettigrew's Letters Vol 3d p. 210) B W Rathbone

[The above must come into the introduction or preface]

The greek word Phthisis signifies consumption & is synony-
-mous with the Latin word Tabes; but nosologists in their tables of
distinction & distraction have made a difference. The first generally
signifies emaciation with hectic fever, cough & purulent expec-
-toration, w.c is strictly speaking phthisis pulmonalis. By phthisis
& tabes we mean consumption in general; and by Atrophy
we mean that consumption w.c arises from a defectiveness of
nourishment. Phthisis & Tabes may arise from scrophulous
affection of the lymphatic system, & from a morbid alteration
of certain organs of the body, & from great disturbance of the
functions, & is accompanied sooner or later with hectic
fever. Atrophy depends on an abstraction of nourishment
a starvation of the sanguiferous & lymphatic systems. Hence
it occurs after great evacuations of blood, or in Diabetes
or from a vicious nutriment bordering on the corrupted
as in sea scurvy.

To Tabes Cullen assigns three species, – the purulent,
from suppuration internal or external; scrofulous; more es-
-pecially from the mesenteric glands; and venenata, or poisons.
The tabes dorsalis – nutricum, sudatoria, a sanguifluxed,
syphilitica, and a hydropsa are referred to the genus Atrophy.

The Tabes Mesenterica is from a scrophulous taint. It is
excited by bad food, harsh treatment, long continued symp-
-toms of teething; the suppression of eruptions; imprudently checking
~~diarrhoea~~ diarrhoeas, and the consequence of measles,
small pox & other exanthematous fevers.

In this complaint the appetite is very irregular, sometimes
deficient, & sometimes voracious; shooting pains in the abdomen,
varying both in their seat & in their intensity

The belly swells, & grows hard, the limbs & countenance are emaciated; the strength & spirits decline, & hectic fever comes on.
On dissection the disease of the mesenteric glands are often found to have extended to the other viscera, especially to the lungs; tubercles & purulent matter, it is said are found in them. Sometimes the diseased glands are softer to the touch than natural. When the disorder advances the matter is more like that of scrophula than true pus. Sometimes children from change of place & management recover from the tabes mesenterica. Dr Gregory says, on this subject we ought scarce ever to despair of a child's life while it can breathe. Small doses of calomel are found serviceable in this complaint, together with mild vegetable tonics, as cascarilla chamomile & infusions of the bark. Also dry friction —