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Wells a. D. 1836

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Healthy and Diseased Nutrition
Most Physiologists have ceased to consider—the assumption of a distinct entity in a Vital Principle—as at all necessary to their researches into the phenomena of organic life, or as tending to remove any of the difficulties that accompany their investigations; and when, therefore, it is said that, life is inseparable from organization, and the latter essential to the former instead of implying that there is a principle manifested in organization, which is independent of organized structure, it is rather meant that life is 'organization in action' while the so-called 'vital laws' are but the general expressions of the conditions under which its operations are accomplished.

Those who assume the existence of the distinct entity referred to derive therefrom no clue to the series of organic phenomena, or insight into the mode by which

Nature
Nature accomplishes her operations; on the contrary—she resembles men not arrived at the state of mental development which gives the facility of studying the phenomena as the effects of laws—the affaiiring of some ultimate fact. Thus the savage is in possession of this 'essential idea' (the vital principle) when he instinctively separates the land of the desert from the district that bords over it the ocean from the soil that inhabits it; respecting the vegetable world, his ideas are perhaps not equally distinct, yet he fails not to mark her different in the soil of the valley from the forest in its bottom, nor unlike the press to the wild-flowers of its crevices. But when his observation goes to limit, he forms no idea of
what is meant by organization. It is otherwise with the wise
physiologist unencumbered by the light of tradition. The nature of
man, likewise, terms it with wonder,
contemplated through the medium
of science and while he manifested
the great Creator who fashioned the
laws and elements he abides
no supernatural principle
in continued agency, what he
feels is pass and more reason-
able to attribute to causes
fixed and permanent in their
general effects.

Life — Organization — are but
terms indicative of certain condi-
tions different from our organic
matter. We cannot assert that
the one is the cause of the
other, the other the effect; they
are preparables — lake only
the life, the organization is
Almighty, directing the organization
but
But it may with perfect be asserted that, nutrition consists of the constant interchange of organic fluids in plants and animals to the tissues and sustenance of life.

In considering the nature of this process, the microscope is the pioneer of discovery. People may doubt the value in therapeutics, never in physiology. It has placed the vital elements within the scope of visual analysis and demonstrated the common structure of living bodies. The blood is known to be a complex homogeneous fluid, capillaries something else than simple tubes and nuclei on the other hand but a modification of tissue structure, the phenomena of growth and nutrition have been simplified and physiology placed on a simpler basis, while the manner which ignorance hides over the

Proc. 1
Pagination is inaccurate in original volume
process of life is confined and
true is drawn quite the line

which imagination has placed
between the living and the
dead.

In this consideration we have no-
ting to do with the existence of
that soul. The sublime dogmas of our
religion, even those never could
have revealed. While as regards the
origin of Mind the conjectures of
philosophy are but darkness. It
is to be sought in a close reflection
of its organ - the cerebrum and on
the idea of it must lie that it is an
outgrowth of the Body. For how

lay

lay
II. This refers merely to physical structure.
by the action of the senses and the development of the faculties."

The Central Nervous System is dependent on Central Nourishment, every form of blood poisoning modifies it, and to anticipate, what is the nature of physical death? The process of Instillation is characteristic of plants and animals; between the kingdoms is called which are perfectly form.

This is in the great system to distinct boundary in spirit of appearance for to a point of nature. The primary forms of either one all organisms, and that is of prime importance for any contemplation of them. Then the simplest development is, in fact, speaking, a series of cells — a collection of "knots." The primitive stellae are typically of stellate figure, composed of four parts: an exterior integument or wall, a...
nucleus, and an intertwinement of granular matter. Such a food by this simple selves the simplest type of existence. Line of ascent clearly traced lead therefore to the higher development till pollen grains from stamens indented with blossom fall on the one of the seed-few, or Man of simple structure, and people all above his fellows, with the one with the Father of his being, both the plant and the animal gifted with the capacity of double conception of finite existence and finite with constancy of the species. Indeed the animal ultimate function of living structure is the gradual metamorphosis comprehended in the groups to which the type of texture, form, quality established by the species are faithfully handed down from parent
fear to offeering without paper devotion or change.
To repeat: the perfect plant or animal is an elaboration of the lower. The transformation of the vegetable cellular embryo in the special organs of perfecty established the parts of plant structure is accentuated by modification of the parenchymatous texture. This is an uninterrupted linkage from leaf to petticoat to petticoat to calyx from calyx to corolla from corolla to stamens and from stamens to pistillum.
The ovum of the animal is a simple cell: the structure of the ovum is corpuscular, that is to say composed of corpuscles of slight coherency. When four weeks old nothing can be detrited but texture soft and cellular, not fibrous or coherent, neither vessels nor nerves nor anything in the shape of cartilage.
But, in time, according to the multiplied observations of competent observers, in this order are evolved the final elements of the structure — cells, fibro-cartilage, bone, while the formation, separation of the cell organisms, into these takes place, previous to the formation of blood cells, thereby to that. On this, for, the growth of the human being is identical with that of the vegetable prior to the formation of a green leaf, aerial, phloem, and xylem, leaf and the spiral cells of the stem, superficial to the , simplex, existence, of more than the cells of the blood and brain and that interstitial capillaries, in the solid textures, prolong the , map, and vitality. This is the morphology of life — much imperfectly sketched in a
very general way, and it is of
plentiful that, while the main
of the plant, is towards more
influence of structure that of
the animal, pre-eminently
Aquaminal.

The animal functions are the
visible expressions of this enemy,
and an elaborated structure
is perhaps more remarkable for
differentiation than extent, while
Health & Disease are the result
of the ratio of the co-ordinated
actions of the tissues whose urgent
we have traced. For we should
never allow consideration of these
functions & elaborate them on
ideas of the living system, the
accolation of the framework on
which they depend — of it
they are the outgrowth, — as
the stem — of the case or the
matrix — of the coral,

Like the case of the Herrons
system, the wing of an local
elevation
elevation. The simplest animal has as definite an end as the leaf of a plant, after all, arising from the adjustment of cells. The contractility of the vegetable cells in the leaf has phenomena of the higher resistance. In the brain, then, are the rudiments of diffuse and the diverse properties of the nervous system. Thus in the Radiata, you can trace groups of ganglionic cells with afferent and efferent branches of the nervous system; the reproductive instinct predominates at first but in proportion as the relations of the animal multiply, and it begins to repay its obligations to the organic system, the differentiation of specific organs is induced and not particularly is developed the apparatus necessary for the phenomena of reproduction. In the brain of man are concentrated the
the scattered form of the nervous system, while this contrast to
but a congress of cells and
tubes, restless bodies are often
by the blood of the Body.
Again, as in the case with
the circulation that is with
the current of the Blood. In
while the progress is caused
by the vital attraction of the
tissues and the stimuli, that result
from the firm and mechanism
of the heart. The blood itself
not only cooperate a cell-born
like the feet - "moving flesh"
epithel of corpuscles of life into
which get to form through contact
posterior to the other constituent the
"Liquor Synovialis."

But not dwell further on the
point, such is the nature of our
earthly tenement - the body at-
least tells that, the membranes
adherent of inner feeling is the
ultimate touch of physical life.
In the lowest forms, when the associated forces of attraction and repulsion are accomplished through the medium of a flexible cell, this is very apparent. And as regards Man! we have built him up and torn him to be composed of Morae, and it was easy to show that the fluid intussusception referred to in him was maintained by a repetition of the primordial plan in which cells, tubes of filiferous the presence of the simple cells. All must admit the propriety of the view with respect to the foetus in the womb before the appearance of filigreyness, while it is yet proliferation to the vascular system of the parent and some by interstitial tissue of the chorion fold the villi of the chorion from the facing surface of the body. But that human race will hesitate before utilizing
The wonderful frame of the adult to the fane reduction, yet we too traditional wonder must owe its influence, and for that purpose set all arbitrary distinctions between Nutrition, Secretion, and Absorption as three separate functions be dispensed — such distinctions are but coloured lenses that distort the view — the three may be fitted together — the process which is properly supposed by one act the term — Nutrition, as the internal transfer of the organic matter in living bodies.

The food of life is not immediately absorbed to the tissues but gains the current of the circulation and diffused by means of the diastatic force is directly supplied to the tissues of the body. For the maintenance of life moreover it is not enough that these take place the deposit of building materials — there
There must take place the constant removal of effete matter which in its turn is replaced by the materials aforesaid. Hence, as has been observed in a great publication legible life is confined to the buds, the flowers, and the leaves in trees and shrubs so that in them the place of the earth is supplied to these parts by the consistent sucked - a sort of organized earth. For, the giving interchange of material has no place in the economy of the solid stem. We then notice that vital action as such is of short duration it may be said to cease on the completion of the structure it produced, indeed the structure has a special object to serve other than connected with its building as a new organized material. But on the other hand, secreting cells, muscular fibers, connective neurine we continue...
the 'life of the body.' Harvey's discovery of the circulation caused a change of opinion; it made men look on disease with mechanical eyes, and thus was constituted a new kind of enquiry — the 'dynamical.'

This tended to Solidism, which drew exclusive attention to the solid tissues, and the tendency was upheld by the increased study of the nervous system and the prevalent idea of such disputes as the 

Balanci of such diseases as the 

Stalactists about irritability, while amidst the confusion of systems, emerged the doctrine of disease from spasm or relaxation of the 

vessels from variations of atonicity, and the 'nervous' theory of 

Boerhaave. Cullen was the 

ornament of the dynamical school — it reached its climax in 

John Hunter. The present century has promulgated the theory that 

diseases consist of a peculiar form of Nutrition, the 

vessels

defined
defined it — in the joint affected. Now this is no phantasmic theory — no useless hypothesis — if it be true — and by enlightened consent, it is true — we are thus provided with a guide of great practical importance. For instance, Hunter held that cartilage could not inflame because it had no vessels, but palatability for the pathologist in question it presented to the eye of those days the stereotyped tendenciness of anti-inflammation. To meet the difficulty, many veins were proffered, as held it was not subject to ulceration in the proper sense, but merely to attrition; another that there was superficially a vital process attendant with development of vessels; but through the recent researches of Professor Farrier and Dr. Redfern, we are able to understand the nature of the affection.
You can hardly call this an inflammatory reaction; but it is a diseased condition of the skin characterized by excessive endogenous development of the corpuscles. And as a very clever example—because the latest and furthest development of the doctrine—we have but to recall the extraordinary influence exerted by the opinions and researches of Professor Bennett, on the practice of the day. Yet it may be said that not a certain pathologist has written a too pre-eminent influence in disease to the elements of non-vascular tissue.

To determine this, let us shortly institute a comparison between the part played by the vessels and the process referred to.

1. The former distinct from the vessels—non-vascular.
By the individual existence, in the lowest forms, even, of a discordant action, we're induced in one of those prismatic organisms, it would be merely a disturbance of the vital relations of attraction and repulsion, independent of vascular action.

And what is true of the foliary cell is true of each permanent cell which in a conjugal sense constitutes the human tissue; mutatis mutandis, and the discase action might be termed a change in the normal relations of the permeating fluids of the organism. This seen, it is important to remember is applicable to the study of the blood principally composed of corpuscles, by their means, blood forming, the true of nutrient, vitality, adapted to the events of the organism. The whole is exemplified on a large scale in those non-vascular types.
After叙述 by interstitial fluid

The vessels

We have viewed the vessels as something else than mere carriers of nutriment — they are living structures which live by the abstraction like the others — and they, of course, exercise an influence on the contained tissue. It is through them that the mutual relations of the circulation are accomplished, and through the all the elaboration among the tissues to be mantained. In balance of Nutrition, the whole are particularly involved. This takes its culmination in the three doctrines of Solidism, Humorism, and Vitalism, and is difficult to perceive how Pathology is to be advanced unless some such simplification be generally adopted.
question - How much in a mobilized lesion is due to the extravascular, how much to the vascular tissue? - Let us suppose the vessels suddenly become dead membranes. All the action of nutrition stops. That is the natural result. Subject to the ordinary play of physical laws on material matter, extraneous and surrounding it, abnormal action - the hematome of the corpuscles will join the serum - the serum takes the place of the plasma fluid entirely. And thus shows that were it not for the timer of the vessels to sustain the blood within normal limits, disease or death would be the inevitable result from abnormal transudation of the liquid serous, and the most properly. If exudation has failed the essential phenomena of inflammation, while the other
tity of disease, as Cancer and Tuberculosis are similarly produced. All disease is impairment of nutrition, hyperplasia or atrophy are relative terms—hence, the therapeutic conclusion—treatment (child) consist of extirpation of function.

"Having learned the usage of Nature, we shall be able to succour her and turn her about." (Bacon)