

**ON POVERTY OF THE BLOOD,
AND ITS SYMPATHETIC
DISORDERS OF THE LIVER,
STOMACH, AND NERVOUS
SYSTEM**

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POVERTY OF THE BLOOD.

THE EFFECTS OF OVERSPENT NERVOUS ENERGY AND DISORDERED SYMPATHY.

“The blood is the life of the flesh.”

NOTHING is more essential to health than an adequate generation and equal distribution of energy or nerve power. This proposition opens a field of most extensive inquiry. The sources of that power, its variable action, whether feeble, overspent, or misdirected, the medium which it affords for connecting the immaterial soul with the material atoms of our frame, and with external objects, the means by which it may be accumulated or exhausted, the position which it holds in the human economy for resisting injurious influences from without, the subtle sympathies maintained by it between every part of the frame and every other part, the extraordinary diseases to which changes in nervous action give rise—shewn by spasm, paralysis, mental aberration, vitiated secretion, and defective nutrition, indigestion, and bilious attacks, and above all its profound effects in changing the perceptions communicated

INFLUENCE OF

by the various senses of touch, sight, taste, smelling, and hearing,—all these with an infinity of other points confer a great deal of interest upon the topic in question.

Nerve power manifests itself in conveying sensation, in causing muscular motion, in controlling the organic actions of secretion, in modifying animal temperature, and in radiating sympathetic action. In the first place, it ought to be remarked that the agent by which the nerve power is exerted, is unknown except by its effects, and it has received several arbitrary names sufficiently descriptive but wholly hypothetical; such as nervous influence, nervous energy, nervous fluid, from an analogy it is thought between it and "the electric fluid." In the present state of science, no certain reply can be given to such questions as the following, because the link connecting spirit and matter is a profound mystery.

How does the will communicate with the muscle? How does the torpedo, by an act of its will, produce an electric shock which stuns if not kills its enemy? Is the *agent* material or immaterial? Is it a direct action of the energizing "spirit"* or is it some modification of electricity, galvanism or magnetism placed at the disposal of the *will*? The nervous force, however, in animal life, acts both voluntarily, as in muscular motion, and spontaneously, quite independently of the will. The muscles of the heart, chest, &c., move waking and sleeping without conscious will. But its agency can be instantly suspended by dividing the nerves of particular parts. Therefore it acts by means of the nerves. It is, therefore, a nervous influence or energy, in one part obedient, in another superior, to volition. No one can hold a weight of twenty pounds at arm's length without exhaustion of the energy of that arm gradually taking place, the strongest man

* The word spirit is here used in the Scriptural sense.—See Eccl. i. 21.

NERVOUS ENERGY.

finds the arm at length become exceedingly painful and finally powerless, yet a few moment's rest recruits the muscles. Significant fact; the nervous energy is regenerated; the will regains the instrument of its power. So the "Stand at Ease" of the army is essential to its vigorous evolutions.

Looking more closely at these instances, we see that much greater force can be developed by muscles in varied motion than by muscles held powerfully by the will in a state of rest. If an arm which can hold horizontally a twenty pound weight only for a few minutes is disabled by a continued painfully maintained position; how is it that vigorous movements of the same arm can be kept up during many hours? Clench your hand powerfully and apply the fist to the ear—a murmur will be heard similar to that of a shell. Close the jaws firmly with the ear on the pillow; a similar sound will be heard. In each case the sound is produced by rapid muscular tremor. The stethoscope discovers the same sound within any of the forcibly contracted muscles, as the biceps, &c. This tremor denotes a slight but rapid contraction and extension of the muscular fibres. The interval between those movements is not sufficient to recruit and supply the nervous influence. The blood, by its instantaneous and constant nourishment of the minute particles of muscle, invigorates the fibre to respond to the energy of the will. The muscle long kept in action becomes fatigued, that is, robbed of its natural susceptibility to the command of the will. The variously moving arm, as that of a carpenter, brings into play first one set of muscles then another, each having moments of rest to accumulate energy. From these examples we may gather that the nervous influence requires certain conditions for its energetic development. And evidently, first of all, we recognize in the changes of the moving arm, the direct result of a better circulation of blood within the fibres.

NERVOUS ENERGY

Vigorous supply of blood to the part is then indispensable. Next the blood must be capable of conveying nourishing particles as the elements of energy, that is of supplying the wear and tear of the acting parts. Thirdly: there must be an uninterrupted removal of the *debris* of action by means of the veins and absorbents, perspiration, &c., and lastly: the nerves themselves must be unimpeded and in free connection with the brain, which is the seat of the will. We enumerate then,

- (1) Determination of nervous influence,
- (2) Active nutrition,
- (3) Vigorous circulation,
- (4) Effective cleansing of the apparatus from waste matters (secretion),

As the four principal conditions of sustained muscular activity. From these data we can deduce the causes of a great number of disorders connected with the nervous state and poverty of the blood. We shall commence with some considerations which explain the variations in the generative action and power of the nervous energy.

The nervous energy is a variable force exerted by the nervous system. That it is a fluctuating power is proved by its being lowered by certain occupations and habits. It can be expended and exhausted by want of sleep, excessive fatigue of body or mind, by the too free use of stimulants, by improper or insufficient food. It can be accumulated by sleep, rest, and nutrition, &c.

We gain an idea of its existence by reflection. According to our previous regimen, habits, and exertions we are sensible within ourselves of considerable variations in the amount of nervous energy at our command; —of its deficiency and its accumulation. The English language is rich in words expressive of these conditions. We know causes only by their effects. Flow of animal spirits is the popular term for a lively nervous action,

IS VARIABLE.

whilst the vapours, megrims, blue devils and horrors &c. &c., are well known expressions for the opposite state. The sprightliness of youth gives a beautiful picture of superabundant nervous energy. Whilst innumerable ills that flesh is heir to may, in many instances, be ascribed to the effects on the constitution either of overspent or misdirected energy.

Overspent energy! How much significance lies in that single expression. It is the exponent of the times in which we live. It is the history of millions condensed into a phrase. But how few consider the true sources of mental and physical power. However comprehensive the education of the masses may be, how totally neglected is the common sense of health. You will hear the most sagacious remarks by the gentlemen of the hunt upon the conservation and the development of the health and strength of their stud. They know to a year in what period the constitution of a particular horse will be broken down under a given amount of hard work, reckoned by mileage and draught. They can foresee the precise point of using up when the animal energy shall be overspent. But who ever dreams in the pride of health and vigour of making a similar calculation upon the endurance of man? yet the health of both is essentially maintained, expended, and exhausted upon the same principles. But with this disadvantageous comparison, that the animal—man—contains within him an additional capacity for overstraining his energies in his intellectual attributes. His reason is the glory of his nature, but with a characteristic perverseness, he reasons, meditates, and plans astutely on all other subjects but the preservation of his health, without which all his achievements are a mockery and a sarcasm. He toils for half a life like a slave at the galleys to secure an elegant ease and retirement; but he omits the one condition necessary to render that repose worth having: an unbroken constitution.

OVERSPENT

There is nothing in this world which more authoritatively declares the relation of human beings to a moral law stamped and sealed by a Divine power, than the retribution which invariably follows the infringement of Nature's rights. All the terrible consequences of overspent energies witness against that spirit of avarice, ambition, or selfishness which urged its victim to overtask its powers in the greed for riches, honour, or renown, if not for baser enjoyments. The laws of Nature assert their dignity and justice in chastising the offender. They are impressed upon living matter by the same First Cause which gave gravitation, heat, and light to the elements of the solar system. And it is just as impossible for us to escape the penalty attached to a forgetfulness of those laws as for an insane man to escape injury who, forgetting the law of gravitation, precipitated himself from the monument. And as it is said that there are very few people perfectly sane in this world, we may certainly accuse those of a species of insanity who, by a continued violation of the laws of life, health, and disease, ignore that punishment which assuredly awaits them at some future day in the sufferings of their own persons. The experience of the reflecting physician reveals to him each year the extraordinary variety of punishments which Nature inflicts, adjusted to the multiplicity of wrongs committed in her kingdom. Doubtless some of these wrongs are revenged in the most marked manner, and transmitted from generation to generation in a form so distinct and decided as to extort, when least expected, a belief in a retributive design on the part of the Supreme Governor of the universe.

But what is this nervous energy or animal spirits? It is the effect of life playing among a healthy, well-nourished organism. The animal spirits are the very soul of sensuous enjoyment. They play along the nerves, yet the temperament of the individual wonder-