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DISEASE:

ITS PREVENTION AND CURE

BY SIMPLE NATURAL MEANS.

IN SPECIAL RELATION TO THE AILMENT OF

HIS MAJESTY
THE
EMPEROR FREDERICK OF GERMANY.

"It is Nature that cures Disease."
—*Hippocrates.*

BY

CHARLES G. GODFREY.

LONDON:
H. GREVEL & CO.,
33, KING STREET, COVENT GARDEN.

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PREFACE.

The serious aspect, which the illness of His Majesty, the Emperor Frederick of Germany, has assumed, is the chief inducement for the publication of the following treatise; which was written with the knowledge and belief that, whatever the name of the disease, of which the illustrious patient is suffering, there still exists a possibility of restoring the health, and saving the life of a monarch, to whom all Europe looks up, as the harbinger of peace and goodwill; and who has become the object of affection by all who have watched the events of the last twenty years.

The following treatise does not claim to be considered as a work of art. Critics should know and remember the object for, and the circumstances under which it was written. With regard to its scientific bearing, however, it is necessary, to add a few words of explanation, in relation to several views advanced in the following pages; views which, although not contrary to the teachings of biology, have not, as yet, been referred to in books of physiology and pathology; or, if referred to, have not been accepted by physiologists of the present day. They will, however, serve in an eminent degree,

to assist in illustrating and explaining the various phenomena of animal life, infection, disease and cure.

Amongst these must be mentioned first the view: according to which the human body is looked upon as a highly organized cell, which appropriates at the ends of innumerable arms (analogous to the pseudopods of various forms of animalculæ) or nerves, the material required to form the skeleton and the organs of the animal body; and the consequent influence, which such a conception of our body has upon our insight into the phenomena of health and disease, and upon the adoption of the means for maintaining the former and combatting the latter.

Another view advanced here, and requiring further elucidation is: the nature of the eruptive fevers, referred to as a decomposition of the nervous matter, and as such a form of disease, which attacks the human body at the very root of its existence—at the life-carrying part of our system.

In connection with this should be mentioned the suggestion : that the presence of chloride of sodium protects the various organs and tissues against abnormal changes ; and as a corollary : the absence of that salt in the nervous substance, imparts a pre-disposition for the infectious—the zymotic—diseases.

The author reserves himself the opportunity of developing these various hypotheses in their full bearing on human

health and disease ; and of stating the facts and reasonings, upon which these, as also other views, advanced in these pages, are based.

Is it to be assumed as a tacid admission of the Faculty's impotence, when a disease like cancer (which kills annually 16,000 persons in England and Wales) is treated exclusively with the knife ?—which treatment has been successful in a few cases, and then only, when the nature of the disease was doubtful, or the cure temporary. Should it not be our constant endeavour to strengthen the system in its general vitality ; and so enable it to enter successfully into the contest with the disease—the struggle for existence: for the survival of the strongest?

The greatest intellects, at all periods in the history of mankind, have been more or less subject to error, or been limited in the extent of their views ; and it should never be absent from our mind, that all knowledge and scientific truth has not yet reached infallability or finality—especially so in the Science and Art of Curing Disease; lest we should, through bias and an ignoble *amour propre*, pre-judge questions, upon which human life and the welfare of our race depend.

London,

March, 1888.

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§ 1.

WHEN considering the human body in its morphological development, from the microscopic germ through its embryonic state, up to the perfect human being, which exists and acts as an organic entity—we may assume it to be a highly organized cell.

This cell spreads out innumerable arms—nerves—at the ends of which it assimilates material for the formation of bone, cartilage, muscle, fibre for the vascular system and the various internal organs; the organs of sense, as also the skin by which this cell is in communication with its surroundings and by means of which it, the cell, receives or repels impressions and attacks from its environment.

Literally and Physically the Nervous System is the Human Being.

§ 2.

Owing to a constant activity of the various organs, and to the just named attacks of surrounding elements, the cell is constantly subject to loss of material and of heat; and to

compensate for these losses, the CELL, by means of and through the nerve-ends, appropriates such substances from organic and inorganic nature as it requires for building up and maintaining its organic structure and its temperature. The CELL has the power to assimilate these substances, and the power of assimilation is a measure of the vitality of the cell and of its power to resist disease.

§ 3.

This cell, let it be supposed, is attacked by a disease germ, an organic morbid poison, a bacillus, bacteria, or whatever else the name that may be given to it; which itself is a cell with assimilative powers. It may be either introduced into the system, through the alimentary canal, or it may be developed in the body through some abnormal condition of either the blood or the digestive organs. It is not necessary to inquire into this—suffice it to know: the human body, the CELL, is attacked by another cell, and that, in the contest that ensues, the stronger vitality will prevail and cause the one to fall a prey to the other. Is the foreign intruder always successful in this struggle for existence? It is, in the case of cancer, assumed so, since the disease resulting to the human cell proves it; proves it, however, only when it takes place. But in hundreds of cases, where similar conditions prevail, no evil results follow, because of the greater vitality of the human cell. It is a well known fact that carcinomatous dyscrasia may exist for a long time, and only upon some local irritation, some accidental pressure (by

which, according to the view advanced here, the already general low vitality of the nerve-ends is locally still further lowered) does this consequent development of cancer show itself. The cancer-cell, of greater vitality, absorbs and feeds upon the tissue in consequence of the lower vitality of the human CELL. The mere fact of the existence of a carcinomatous dyscrasia indicates, of course, a diseased state of the system; but, until the poison has shown its greater vitality, such morbid condition is ignored or helplessly tolerated. Yet, as Dr. F. W. Benecke (Balneologische Briefe 1876) says:—

"It is not to be doubted that single cases of spon-
"taneous cures of cancer have occurred. It is confirmed
"by Cooke. This should be a pressing inducement for us,
"not to question the curability of cancer."

§ 4.

What, however, can the faculty do against it, with its general disregard of the curative powers naturally inherent in the human system?

Dr. C. A. W. Richter, (Naturheilkunde, Heidelberg, 1866, page 3) very truly says :—

"The abuse of medicaments has its root in the miscon-
"ception of the natural course of disease towards a cure ;
"and the successful issue of such a natural course of a
"disease is falsely accounted for as the result of the medicine
"that has been administered. Medical Practice, as still

"carried on at the present day, without regard to the "glorious achievements in the domain of the physical "sciences: Natural Philosophy, Chemistry, Anatomy, and "Physiology, is for the thoughtful inquirer not only un-"satisfactory, but must appear to him downright dangerous. "And whereas, at the present day, all positive sciences force "upon us the conviction, that everything in Nature is subject "to immutable laws, it will be impossible to discover the "slightest indication of such order and regularity in Thera-"peutics (The Healing Art); but only arbitrariness, fancy "and caprice, and besides the blackest credulity." (finsterster Aberglauben).

This credulity in the supernatural powers of medicine, which is based on a thorough disregard of the true physiological laws, that underlie the existence of the human being, is represented in an intensified degree by the belief in specifics; which belief looks upon each form of disease as a distinct entity, a kind of *dæmon minor*, against which a special antidote—an *amuletum*—has been specially created. And what idea is formed as to the selective properties by such a remedy, to search out, when administered, the diseased part or particles, without doing harm to the various other tissues and fluids, &c., of the body, with which it must unavoidably come in contact—goes beyond all comprehension.

§ 5.

Can, then, anything be done to raise the vitality of the nervous system, and through it the whole organism—to

strengthen its assimilative power, by means of which the human CELL is enabled, to withstand the attack of a morbid poison? And has any favourable experience been gained, which finds a scientific explanation as a guide for practical application?

It would be out of place here to enter exhaustively into an explanation of the phenomena, which justify the assertion: that it is possible, to so strengthen the system, as to enable it to resist the various organic poisons; it will, however, be found necessary to cursorily analyse the actions and functions of some of the principal organs, to afford the means of explaining the various phenomena, forced under our notice by the cases, to be cited as examples, to illustrate the curative powers possessed by the human body.

§ 6.

The appropriation and assimilation for the growth and the maintenance of our body is of two kinds—

Firstly: the appropriation and assimilation of food to make blood; and

Secondly: the appropriation and assimilation out of the blood of those particular substances, which are respectively required for the nourishment of the brain, spinal marrow and nerves (the main body of the human CELL), and for the growth and maintenance of the various organs of the body. Here it should be especially noticed, that this latter assimilation is dependent upon, and determined by the condition of the nerves and their cell-endings in the various organs and

tissues; and it can safely be assumed that this power of assimilation is a measure of the vitality of the whole system as already stated. How this power of assimilation, this disease-resisting vitality, can be raised or lowered, this important question is the chief object of the following remarks.

§ 7.

The first assimilative process, the digestion of food, devolves chiefly upon two organs, against which great sins are committed. The first of these, the organ of mastication and insalivation, is of greater importance than has, even by physiologists, been admitted; and it should not be surprising that the elaborate preparation of the food in the present day, and the sipping of liquid during the partaking of solid food, has produced idleness in the use of the teeth, and has lowered the secretory activity of the salivary glands to such a degree, that not one person out of five is capable of eating a plain dry biscuit, without the assistance of some kind of drink. And owing to the reprehensible pappy preparation of food, and the pernicious use of liquid with solid food, both mastication and insalivation, so necessary for the ultimate complete digestion of the food, are: the first improperly performed, the latter utterly suppressed.

§ 8.

The second organ, involved in the digestion of food—the stomach—is sinned against in an equal, if not a greater

degree. It requires but little knowledge of the workings of nature to understand, that the mere comminution of food will not suffice to make it assimilable and fit for the production of healthy blood, which, after all, is the primary object of the partaking of food. For this purpose it is necessary, that the food be subjected to a chemical change, to transform it, in more or less greater part, into a substance, which, after absorption into the circulation, can easily be assimilated by the blood, by which process this wonderful fluid regenerates and replenishes itself.

It will stand to reason that this process of digestion can be better performed, the freer and more intimately the food can intermix with the juices secreted by the various organs, which form the alimentary canal; and, furthermore, the less the action of these organs is interfered with, either by additions to the food of substances, intended to gratify an unnatural taste, but acting as a check upon the free action of the gastric juices; or by too great a quantity of food being taken at one time; and above all by a distension of the stomach through too large a quantity of liquid food imbibed (not so quickly absorbed by the mucous membrane of the stomach as desirable) whether in the form of soup or of drink.

§ 9.

Although the food may not contain poisonous organic substances (or germs), and no immediate danger to the organic structure of the system may result from such a mode of maltreating the digestive organ by a surcharge of food—

there is another and most important evil resulting from it, which cannot be too often pointed out, and that is: the absorption into the circulation of undigested food, and a consequent unhealthy constitution of the blood, whereby the system is charged with material, which forms the cause, as also the pabulum of many diseases.

This cannot but have a deteriotating influence on the vitality of the whole system. Referring to that part of the nervous system alone, which determines and regulates the digestive process, it must be observed, that the blood, supplying nourishment to the ganglia of these nerves, must necessarily influence the vitality of these nerves; and as these latter determine the flow and formation of gastric juice—not only whether it take place at all, and in what quantity, but also its constitution and its chemical power of digesting the food—we can easily conceive, how a continuous slight digression in dietetic rules will gradually ruin the powers of the whole digestive apparatus; and how necessary it is, to pay immediate and strict attention to the character of our food and the mode of our partaking of it; especially so in cases where the ultimate object is the cure of some chronic ailment.

It is besides, quite conceivable that upon the introduction of an organic morbid substance, say a poisonous germ cell, into the stomach, the chemical—fermentative—power of the digestive principle in the gastric juice is impotent to destroy (overpower) this germ; in consequence of which, this poisonous cell will, through its greater vitality, reproduce

itself by appropriating and assimilating part of the food, and undigested enter, more or less numerous, into the circulation.

§ 10.

It will be necessary now to direct our attention to the second process: the assimilation out of the blood of those particular substances, which are required to maintain the body in its material structure and its temperature; and, as already stated, this process depends upon the condition and the assimilative power, that is: the vitality of the whole nervous system as it manifests itself in the cells, formed at the ends of the nerves; and the question forced upon us is: how can this vitality and disease-resisting power of the nerve-ends be so strengthened, as to enable the system to overpower any organic poisonous germ which, floating in the blood, may affix itself to any part of the system, there to reproduce itself and feed upon the tissues of the human body.

§ 11.

The principal factor for bringing about such a state of the system is: ACTIVITY, EXERCISE; the signal effect of which is illustrated by the following case. In a small volume, entitled "On the relative influence of Nature "and Art in the cure of malignant constitutional disease" (London 1865), Mr. Thomas Weedon Cooke cites the following from a book, published in Brussels in the year 1662 by one Sieur Emanuel d'Aranda, who had been in captivity at

Algiers. D'Aranda says, "My master, Alli Pegelin, among "his slaves had one named Juan Motoza, who was so miserably "afflicted with the severest form of constitutional disease that "he became unable to work. When the spring came, and the "galleys went to sea, Juan Motoza was ordered to embark "in one of them. This was anything but agreeable to "him, thinking that hot-air baths and the like would be "more proper for his cure than rowing in the galleys; he "therefore went to his master and, addressing him, said, "'Your Highness has ordered me on board a galley, for "'which I am wholly unable; and I have hitherto been "'excused from working, being sick and disabled both in "'my legs and arms.' Pegelin said to him, 'What is the "'matter with you?' Motoza told him the nature of his "complaint. Then Pegelin, laughing, said to him 'Go on "'board the galleys, and that will make thee sooner well, "'than all the stoving in Spain.' So Juan Motoza embarked, "was chained by the leg like the other slaves, and, by the "help of the cowskin, they made him row like the others. "His daily food consisted of an old and dry biscuit, his "drink clear water. At the end of forty days Juan Motoza "was entirely cured. The reason is," says d'Aranda, "that, "by the hardness of the labour he had sweated "excessively, and had, besides, eaten dry food."

This case of Juan Motoza is the most instructive one, not only to show what curative powers can be developed in the human frame, but also for pointing out the conditions required to bring these powers into full play.

Here is a disease which (as Dr. Aitken, in "Science and

Practice of Medicine," 5th edition, vol. I., page 755, says:) "contaminates the system, giving rise by zymosis or "multiplication to one of the most malignant, and "most lasting, and most destructive forms of a poison disease, "that affects the human frame;"—(page 746) "which "eventually terminates in death;"—and which, I may add, like variola and cancer, strikes at the root of our being.

And yet, by the application of apparently simple means, it is conquered. And by what?

Answer:—

DRY FOOD and PHYSICAL EXERCISE.

§ 12.

Before entering on the question of the influence, which physical exercise has upon the disease-resisting and curative powers of the human body, it is, perhaps, not out of place here to revert to the effect of Dry Food in combination with a general abstinence from liquids in the cure of disease, as exemplified in a method of treatment, which is vulgarly designated in Germany as: Semmel-Kur (dry-bread-cure), as applied by Johannes Schroth in Silesia.

This simple "layman," observing and avoiding the dietetic blunders committed at Priessnitz's Hydropathic Establishment at Gräfenberg, was most successful in his treatment of various forms of disease. By changing the food to dry bread, and gradually reducing the quantity of liquid taken by the patient—whilst acting on the skin by

means of wet-sheet packings—he succeeded in restoring and improving the health of all who applied to him for aid, after their cases had been given up as hopeless by "scientific medicine."

Two of these cases deserve special mention. They are related in a book, which gives a most exhaustive exposition of Schroth's treatment, viz.: Dr. Moritz Kypke "Die Diätetische Heilmethode," 22nd edition, Berlin, 1863.

Duke William of Würtemburg received a gun-shot wound in the Italian War, 1849. All ordinary attempts at curing the ankle having failed, the doctors declared amputation of the foot necessary. Unwilling to bear the loss of the limb, the Duke submitted his case to Johannes Schroth, who restored the foot; that is: he strengthened the system to bring the natural reparative powers into activity, and so saved the limb.

The Russian Prince Bariatinsky, who, through treatment by means of medicine, entirely lost the sight of both eyes, had not only the full power of sight restored, but otherwise completely regained his health. (It is reported in another book on Schroth's method, that the Prince in gratitude erected a monument to "Vater Schroth—dem Reformator "der Heilkunde.")

§ 13

I humbly beg to add my experience in the application of Schroth's system, in the treatment of my own child, in 1869, then nine years of age, whom I cured of blindness. It is needless to relate the whole procedure, but I ask permission

to call attention to the principal facts accompanying the cure. After the child had passed through the introductory part of the treatment, she could abstain from drinking for four days, nevertheless eat her dry (one day stale) bread without suffering from thirst. For convenience, the week was divided into two periods, by making Sundays and Wednesdays the "drinking days," on each of which she received two glasses of White Hymet (a mild Greek wine); and had the child deceived me, by secretly partaking of any liquid, I could have immediately detected it, from the fact that by withholding liquid from the system, the secretions of the kidneys (which were preserved for observation) contained day after day a certain amount of deposit (impurities — undigested substances), which gradually diminished as the cure progressed, and at last ceased. Had the child been guilty of taking liquid of any kind, the reduced amount of deposit would have at once indicated it. In less than three months time the eyesight was completely restored, and after another three months, when the eyes had lost their sensitiveness, the child could read the smallest print with greater ease than before the ailment came upon her.

The blood, which, in an impure state, had deposited the film on the eyes, had, when purified, re-absorbed this film.

§ 14

Simple dry food, well masticated and insalivated, so introduced into the stomach undiluted, except by a copious flow

of those juices, which the digestive organs provide,* produces a blood possessed of the natural reparative and assimilative powers required for the cure of disease.

§ 15

There is another aspect of this question of withholding from the human body liquid of every kind, or at least of reducing the quantity generally, which deserves to be noticed here.

The observations, which Schroth made upon his horses, that, namely, too copious a potation of water made them less fit for hard work, and which observation guided him in the treatment of human diseases, was made about ten years ago by Dr. Jäger with regard to human beings, as related in a small volume entitled "Seuchenfestigkeit und Constitutionskraft," Leipzig 1878. It induced Dr. Jäger to undertake extensive experiments on dogs (followed by investigation of the dead muscle) and on soldiers, in which latter case the result was determined by specific weight and by measurements; as also by statistics of various diseases in the German Army. Dr. Jäger states the conclusions he came to, in the following words :—

* The quantity of juice secreted by the various digestive organs within twenty-four hours, is variously stated as one-tenth to one-fifth the weight of the whole human body. Moleschott: "Physiologie der Nahrungsmittel," page 48, gives the amount of gastric juice alone as one-fourth the total weight of the body.

Page 60. "All other normal conditions as to quality "and quantity of the various constituents taken as equal, "then the immunity against infection, possessed by the "human body, must be inversely to the quantity of water in "the organism."

Page 62. "If we bear in mind the one fact only, that "abstraction of water lowers the sensitiveness of the nerves "and raises their power for conducting the normal excitation, "we are justified to conclude, that this improvement in the "nervous system gives to the organism an undeniable advan- "tage for resisting disease germs."

Pages 98-9. "The human constitution is strengthened "by an abstraction of water and fat, and a consequent increase "of albumen and salts" (mineral constitutents generally) "per unit volume of the organism."

§ 16.

It deserves to be mentioned here, that all vital actions and functions in the animal body are more or less dependent upon osmosis, and the energy of this action is determined by the difference in the constitution and the density of the liquids or solutions separated by a membrane. Through the presence of too great a quantity of water in the tissues, this difference in the density is lessened, and so the osmosmic energy lowered to the detriment of the general vitality of the system.

Nothing shows this more strikingly than the secretion of the kidneys, when the body is subjected to Schroth's treatment.

In fact, all the organs have their functional activity raised through the greater density of the various juices of the animal economy. This can, however, be kept under complete control.

§ 17.

It would not be surprising were the superficial, unscientific mind to declare that a considerable daily supply of water is necessary to promote, for example, an easier flow of blood through the arteries and veins; but that such a theory should be upheld by medical men (physiologists, as they ought to be) and openly preached by the Medical Press, is unaccountable (see *The Lancet*, November 1885).

When a drop of healthy blood is shown under a sufficient magnifying power of a microscope, each blood corpuscle can be distinguished; and in a frog's web it can be shown, how the blood corpuscle, when in its normal biconcave form, can alter its shape to pass and squeeze itself through the finest capillary. Upon adding a drop of fresh water to the drop of blood, under observation, it will be noticed, that the corpuscles swell, assume a globular shape, and sometimes actually burst. Such a distended blood globule would certainly not be able to pass easily, if at all, through the fine capillary of the tissues; hence the presence of water in more than just the normal quantity, to form the serum of the blood, is not only not needed, but rather injurious.

To the assertion, that the body must require a certain amount of water to replace the loss through the secretion

of kidneys, lungs and skin, the proper answer is: the food we take, that is, the dry bread, the dry (bloodless) meat, and other similar substances, contain the elements of water in the proportion in which water is contained in the human economy; and the combination of the oxygen and hydrogen in the system, to form water, is the origin of a great part of the animal heat, developed in our body.

This will explain the well-known fact, that people, who imbibe much liquid, are comparatively more liable to "colds," and cannot easily withstand the attacks of a cold, especially a moist cold, climate. On the influence of a moist climate on the mortality, from cancer alone, in England, I find the following statement: "Taking the whole of Eng-"land at the present time, one out of less than every 2,000 "people is doomed to die of this disease. The average "rate is exceeded in the low-lying and "humid counties, while in the counties of more "elevated area and drier atmosphere, it is frequently not "attained to."

I could but wish to have the time and space to cite statistics of other diseases and their mortality, to show the pernicious influence, that a surcharge of liquid has upon the animal economy; and, by parity of reason, the advantage obtained by reducing the amount of fluid to a minimum, both for preventing and for curing disease.

§ 18.

In the attempt at explaining the benefit of physical exercise in the restoration of Juan Motoza (as above cited)

d'Aranda says, that "by the hardness of the labour he had "sweated excessively." It would appear from this, that the curative effect in Motoza's case was ascribed to the abstraction of water from the system by way of the skin, and that the only advantage of physical labour had been, to contribute to this action of the skin. But has hard labour been beneficial only as an agent, to promote diaphoresis? Is it not possible to discover in physical exercise a more direct interference in the animal economy, to give this latter a disease-resisting and a curative power? Motoza's master, whether guided by knowledge or intuition, when told the nature of the ailment, said, laughing, "Go on board the "galleys, and that will make thee sooner well than all the "stoving in Spain."

No doubt, had it been required merely to rid the system of water, hot-air baths would have been equally, if not more, efficient; but in that case there would not have been the nervous activity, to which perspiration was but an accompanying phenomenon.

Van Swieten, in his Commentaries, relates the case of a young gentleman who was reduced to the most deplorable condition. He had undergone four salivations, after each of which the disease broke out afresh. He had nodes on the sternum, clavicles and forehead; his skin was covered with blotches, and he had nocturnal pains in his bones. "As he "was poor and destitute," continued Van Swieten, "I placed "him with a husbandman in the station of a servant, without "any other wages than the victuals, which were homely and "scanty. His drink was thin sour-whey and buttermilk.

"He began this kind of life in the beginning of April, and "resolutely continued it until the beginning of October, "when he returned perfectly recovered."

Mr. T. W. Cooke, who cites this case in the above named work, adds: "A stronger proof of the remedial powers "inherent in the human frame, it would be impossible to "relate."

This latter case is in so far more instructive as the principal agent, employed for inciting the curative powers, was hard work in the open air, which may or may not have been accompanied by excessive perspiration.

§ 19

A superficial observation and reflection would teach us very soon the great difference between an abstraction of water from the system by means of the Turkish or Roman Bath—in which the bather sits inactive, and in which no other effect is produced directly than the skin secretion—and bodily exercise, resulting or not in perspiration. Where there is life there is motion, and *vice-versâ*, as Professor G. Bunge so well expresses it in his: Lehrbuch der physiologischen and pathologischen Chemie, Leipzig, 1887, page 9, "In Activity we have to look for the ex-"planation of the phenomenon of life."

But more can be said. Wherever the animal economy shows activity, it is accompanied with some molecular change, SOME DESTRUCTION OF OLD, AND A DEPOSITION OF NEW TISSUE. And here

steps in the beneficial result of exercise; IT REGENERATES THE BODY, and if judiciously applied FORTIFIES IT AGAINST DISEASE.

§ 20

Dr. Jäger in his above cited "Seuchenfestigkeit und Constitutionskraft," shows how bodily exercise, as exemplified by the drilling in the German Army, confers upon the soldiers a greater resistance to diseases of every class. On page 154 he gives a table of the death-rate during the years 1867 to 1873 (exclusive of 1870-1) for first, second, and third year of military service; the deaths from the first disease on the list—variola—are respectively thirty-three, nine, and four, and from all diseases, 3,687, 2,409, and 1,218, indicating a marvellous regularity in the reduction, which, there can scarcely be any doubt, is the result of systematic physical exercise.

§ 21

It must generally be conceded that the male human being undergoes throughout life more physical exercise, and should consequently be less fatally affected by malignant constitutional diseases than the female, provided, of course, that physical exercise influences the human frame favourably against that class of diseases, as assumed above.

The report of the Registrar-General for England and Wales for the year 1884 gives an exhaustive analysis of the

cases of death from cancer, which appears to confirm in every way the above surmise. Table G, page XVIII., of that report gives the

Mean Annual Mortality of Males and Females from Cancer per Million living at successive age-periods. (Here only stated for the years 1881-84) :

Age Period	Males	Females
20	29	34
25	70	176
35	270	849
45	894	1935
55	2002	3146
65	3305	4132
75	3449	4135

These figures show very strikingly the greater immunity from cancer in the males up to 50 years of age; after which, owing perhaps to more sedentary habits prevailing among the males, the rate of increase in the number of cases per million persons living, although still considerably less in absolute numbers, is found greater in the males than in the females; probably also due to the fact, that these latter have been sifted by a dying out of the weaker and a survival of the stronger constitutions, during the middle period of life.

The same relative liability to this disease in the males and females is shown when considering the death-rate from cancer as compared to the death-rate from all diseases as indicated in the following table :—

RATIO OF TOTAL DEATHS TO DEATHS FROM CANCER, 1871-80.

Age Period	Total Deaths to one from Cancer		Deaths from Cancer in 10,000 total Deaths	
	Male	Female	Male	Female
20	262	248	38	41
25	131	49	76	204
35	57	15	175	667
45	28	9	357	1111
55	22	10	454	1000
65	27	17	370	588
75 and upwards	56	44	178	227

" In this table it will be seen that the liability to death " from cancer increases much more rapidly than the liability " to death generally up to 45-55 period, &c., &c." But what it is desired here to show is plainly observable, viz., the greater mortality from cancer in females.

Taking into consideration all the facts surrounding this question, it would be impossible to find the cause of this

great difference in the respective organic structures and their physiological functions. In both sexes the liability to this disease increases with age—as the general vitality is lowered—and it is hence highly probable, that a greater amount of physical exercise generally, gives to the males the greater immunity from the fatal attacks of cancer.

On the whole it is an undeniable fact that physical exercise forms one of the factors for combatting and preventing diseases of the human body.*

§ 22

I now beg to call attention to the last part of my discourse, treating of another factor that can assist in the prevention and cure of disease. It is the administration of Common Salt—Sodium Chloride—to the system; a small quantity, dissolved in water, taken fasting every morning. The experience gained by me during the last seventeen years in the use of this salt for the maintenance of health and the prevention of disease, and the materials collected on the importance of it for the general well-being of mankind, is of great interest and would fill a considerable volume; but time

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* It is well to mention here that this last remark cannot apply with equal force to the so-called movement-cure, as applied by Swedish Gymnastics; in which the limbs of the patient are passively moved, and the effect of the nervous action lost sight of. The good, that may be achieved by this "PASSIVE exercise," would scarcely equal the results obtained by Massage.

and space will permit here to refer only to the principal points of this subject.

§ 23.

Guided by the knowledge, that it is harmful to surcharge the system with water, it is very natural to avoid every substance in our food which can excite our thirst. Hence the abstinence from common salt, especially when even amongst medical men the opinion is expressed, that there is no need for us, to add salt to our food; that what is naturally contained in the food is sufficient for our wants. (See Dr. Howard: "Salt the Forbidden Fruit," and many other publications in the Medical Press, and even in books on physiology, in which this doctrine of abstinence is taught.)

Not having myself inquired into the truth and wisdom of this advice, I thought that I was doing right by prohibiting my little patient (referred to above), after the restoration of her eyesight, to partake of any salt with her food; with the chief object of not inciting thirst. Strict attention to diet, exercise in the open-air, &c., &c., brought (and kept) her state of health to a highly satisfactory condition, indicated by the usual signs and symptons. Yet, illness came upon her, and struck her down suddenly. A zymotic poison entered her system and in a fortnight she was a corpse.

The loss of an only child stimulated me to apply my spare energies to the study of these phenomena (viz., the infection, development and course of a zymotic disease), so cruel in their result; and the following reasoning brought me to the conclusion, confirmed by practical experience, that it is

want of sodium chloride (common salt) in the human body which enables the zymotic germ to enter the system and to successfully overpower it.

§ 24.

Nothing appears so mysterious to the earnest inquirer as the way, in which a poisonous germ enters the human organism and strikes down a life, young or old, with a rapidity and a cruelty that stuns the anxious observer. To-day buoyant and joyous in the sensations of a happy healthy existence, and in a fortnight a disfigured loathsome corpse. A thorough dissolution and disintegration of the carrier of life.

Dr. Henle says so true in his "Pathologische Untersuchungen," Berlin, 1840, page 20:—

"Experience teaches us, that all miasmatic and contagious "diseases attack by preference the healthiest," (Blühendsten, Gesundesten) "and develop themselves with greatest virulence."

And why? Because these diseases consist in a disintegration, or a decomposition, of the nervous matter which forms the life-carrying substance of this highly organised human cell; which decomposition means death! and because in the case of those sufferers, in whose body the nervous matter so readily yields to the attack of the intruded poison, that ingredient, which should be present to protect the body from abnormal changes, viz., sodium chloride, is deficient (if not entirely wanting in the nervous substance).

An attack of a zymotic poison does not always kill, nor does it always produce serious or even inconvenient symptoms.

The infectious germ from a severe case of, for example, variola, affects one patient but slightly, another severely, and kills a third, according to the individual susceptibility.

And what is it that gives to the human system such a susceptibility for the infectious disease? In children, in whose system salt is required for every process (cell-formation) of growth and development of their body (see Lehmann, Liebig, Moleschott, &c., &c.), and to whom it is generally so sparingly given (in proportion to the amount required), these zymotic diseases cause the greatest havoc, and act the quickest.

§ 25.

When all the phenomena and bodily symtoms accompanying the entry of an organic poison into, and its first effect on the system, are fully considered, it will become evident that the alimentary canal is the only part,where it can effectually take place. Even a poisonous germ floating in the atmosphere, if inhaled by the mouth, may be swallowed with the saliva, and so find its way into the stomach. But Liebig tells us in his "Chemistry, in its Application to Agriculture and Physiology" (Engl. Transl., 3rd Ed., 1843, page 375):—"The "poisonous matter of small-pox loses its whole power of "contagion in the stomach . . . . the free acid present in "the stomach destroys the action of the poison . . . ."

This free acid is hydrochloric acid—"obviously derived from common salt" (Liebig's "Animal Chemistry," 2nd Ed., page 12); and gives the gastric juice especially its fermentative (that is, its digestive) principle, pepsine, the chemical stability, by means of which it, the pepsine, can withstand the effects of the small-pox virus.

"Yet it was for many years considered doubtful, whether "lactic acid was not the normal ingredient of the gastric "juice, instead of hydrochloric acid, so frequently and con- "tinuously is the former met with in the stomach of even "the apparently healthy. Lehmann, for a long time, con- "sidered lactic acid as normal to the gastric juice; so that "its exclusive presence in the stomach is, perhaps, as much "met with as that of hydrochloric acid . . . . Experiments "have shown that lactic- can replace hydrochloric acid for "the purpose of dissolving food . . . . ; whether, however, "the mineral acid can be replaced by an organic acid for the "protection of pepsine against so powerful a poison as, for "example, the small-pox virus, is highly doubtful, since the "circumstances under which lactic acid will easily undergo "chemical change are not rare." (Extract from a pamphlet on "Salt in Relation to Zymotic Diseases," written by me in July, 1871.)

§ 26.

One of the principal substances from which lactic acid is formed is sugar. In the face of the evil, that is wrought by an excessive admixture of sugar with the food of infants, it is surprising to find, that in a small volume on Infant-Feed-

ing,* issued under the auspices of medical men during the Health Exhibition in London, it is advised, to season all food with sugar, while no mention is made of salt. Surely the writer, or the medical men who gave countenance to the treatise, have never tried to eat nothing but sweetened food, or they would have shown a little pity and sympathy for infants, who cannot express their choice for food, or help themselves from the salt-cellar.

A case bearing upon this question (out of a great number of other similar cases) came to my notice a short time ago. Upon my advice the mother of a baby (which was, as she expressed it, mere skin and bone, in spite of the advice of a number of doctors) gave the child no other food but what was seasoned with salt, and for drink, diluted milk with a pinch of salt dissolved in it. The result has been, that the child " had picked up astonishingly, was now a plump healthy " child, and the wonder of Swindon."

§ 27

In relation to the connection which salt (of course, always meant for common salt, or sodium chloride, and not in its chemical meaning) has with the digestive process, I beg to cite from the Physiological Chemistry of Professor C. G. Lehmann, English Translation, London, 1851, page 432.

" We claim no high importance for it in the saliva, but if

* "Food and Cookery for Infants and Invalids." By Miss Wood, with a Preface by W. B. Cheadle, M.D., F.R.C.P., one of the Handbooks published for the Executive Council of the International Health Exhibition, 1884.

" that fluid exercises a function the chloride of sodium " certainly takes part therein, since its quantity exceeds that " of all the other constituents of the saliva. In the gastric " juice we find, in addition to a little organic matter, scarcely " anything but metallic chlorides, and chiefly chloride of " sodium. From the abundance in which it exists, both in " the saliva and the gastric juice, we might be led to infer, that " it essentially promotes the solution of the food, and its " future changes, or at all events, that it contributes " to impede ABNORMAL decomposition and meta- " morphosis of the food.

§ 28

To prove that, if taken in small repeated doses, the system cannot be overcharged with salt, Lehmann has made experiments with the administration of salt and analysis of his own blood at intervals—from which "it seems to follow that " the animal organism not only removes foreign substances " with extraordinary rapidity, but that even useful sub- " stances, if THEY ARE IN EXCESS, are as rapidly " as possible eliminated" (page 431).

§ 29

On the importance of salt for the morphological development of the human body, Moleschott (Kreislauf des Lebens, 4th edition, Mayence, 1863, page 301) says :

" Most of us, even the oldest, have learnt at school

"already how necessary common salt is for the "maintenance of life; that all people, impelled by "an unconscious necessity, either add common salt to "their food, or eat substances rich in salt—before it was "ascertained that the formation of cartilage without the "presence of common salt, was impossible.

"And even now, since it has become known, that for "the reason just stated, common salt must be considered "as 'cartilage salt,' very few have any idea of the "important changes in the constitution of our "body, which can be effected by the simple "supply of salt to our system.

And page 302: "A liberal supply of common salt "increases the amount of nitrogen, which is abstracted from "our body by breathing through the lungs and the skin."

In other words: A liberal supply of salt raises the activity of the body, directly and indirectly, in most of its organs by the oxidation of the higher organic—the nitrogenous compounds; a most important factor in the preservation of health.

§ 30

It is interesting to note the remarks on the great importance of, and the functions performed by common salt in the animal economy, made by Liebig in his "Familiar Letters on Chemistry," 3rd edition, London, 1851, page 407.*

* In fact the whole chapter (Letter xxviii.) is most instructive reading, which an ungrateful public, through its ignorance, has allowed to remain a wholesome sermon, preached to the winds.

"The relation now pointed out between the elements "of common salt and the organic processes, are certainly "not the only ones which belong to this compound, so "remarkable on account of its universal diffusion in nature, "and its presence in all organised beings. It "is more than probable that it promotes, nay, even "determines, certain changes and operations, by "virtue of its peculiar properties as a salt."

Liebig illustrates and supports the necessity of a liberal supply of common salt to the animal economy by referring to Boussingault's experiments on six oxen, three of which had their food given them with salt, and the other three without salt (page 409).

"These experiments are most instructive. In the oxen "which only had as much salt as was contained in their "fodder, the quantity of salt was insufficient for the secretory "process. There was wanting the means of transport for a "number of substances which, out of the body, excite "disgust—their whole frame, the blood, flesh, and all the "juices were loaded with these; for the external surface "of the skin is a mirror of the state of the interior. The "other oxen, which daily had salt added to their fodder, "remained healthy, even in the modes of life to which "they were confined, which corresponded but little to their "nature, and with excess of food and deficient exercise. "Their blood remained pure, and well fitted for all the "purposes of nutrition. In the salt they had a powerful "means of resistance to external causes of disturbance to "health, which, in the actual circumstances, was indispensable

" to them. The body of the others was, in regard to disease, " like a fire-place, heaped with the most inflammable fuel, " which only requires a spark in order to burst into flame " and to be consumed."

In a footnote to this chapter Liebig adds the following citation:—

" There are countries where salt must be given to animals " to keep them alive. According to Warden, for example, " in the northern district of Brazil, domestic animals died " when they did not receive a fixed portion of salt or saline " sand; and according to Roulin, when the cattle did not " find salt in the plant, in the water, or in the earth, the " females became less prolific, and the herd rapidly diminished " in number."—(Möglinsche Annalen II. 1847, p 29).

§ 31

That the withholding of salt from the system can even be the cause of death, is evidenced by the result of the treatment to which formerly prisoners in Holland were subjected. Dr. Aitken, in his "Elements of Physiology," London, 1838, page 159, informs us:—

" An ancient punishment existed in Holland which con- " sisted in feeding the convicts upon unsalted bread and " water alone. The consequences are said to have been so " horrible, that it was abandoned, the wretched criminals " being devoured by worms generated in their own bodies."

A similar experience was made in Ireland (Dr. Aitken).

" When the heavy excise duty was imposed on salt, the

" poor in Ireland, not being able to procure it as a condi-
" ment " (? food!) " for their miserable fare, an epidemic
" fever appeared among them, for which common salt was
" accidentally discovered to act as a certain specific; it was
" therefore inferred that the disease arose from deficiency of
" it in their provisions."

§ 32

When referring above to the effect of water, when added to blood, as seen under the microscope, it was stated that, by the absorption of water the blood corpuscles swell, assume a globular shape, and (as assured to me by Dr. Klein, according to his own observation), they sometimes burst. By adding, however, a little common salt to the mixture of blood and water, the salt extracts the water out of the blood corpuscles and reduces them to their normal biconcave disc form. This effect of common salt on the blood is of far-reaching importance in the case of many diseases. If we take for example cholera and typhoid: how often do we not find that the attack of the disease is brought on by an excessive quantity of fluid being taken into the system.

In a pamphlet on Cholera, published in 1884, I stated in a footnote: The dangers of surcharging the system with fluid, without a compensating supply of chloride of sodium, during a cholera epidemic is signally illustrated by two cases reported from Toulon and Paris in *The Times'* Telegraphic News. The first case (July 25) reads thus: " Two youths, who made a bet as to how much seltzer-

" water they could swallow, have both died of cholera. One " had drunk nine syphons, and the other eight." (The ordinary seltzer-water is but a carbonated water, or holding carbonate of soda and citric acid in solution). The second case (July 28th) is reported from Paris: " A man, having " indulged in a bout of eight days' drinking, was attacked " with cholerine." (The existence of cholera had not yet been officially recognized).

I have already in one of my pamphlets, published in 1871, raised the question, whether or not such distended condition and such destruction of blood corpuscles, would not in itself account for most of the phenomena, accompanying or even constituting the disease of cholera or typhoid, and be considered as giving the sufferer a predisposition for an attack.*

It is not improbable that the permanent existence of cholera in India has some connection with the salt-tax, and with a consequent deficient consumption among the natives.

§ 33

The following communication, the veracity of which I have no reason to doubt, was made to me by a gentleman, a Mr. Wren, who, with his father and brother owned two sheep stations in New South Wales.

One of these stations, so he informed me, was situate near

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* This condition of the blood might be designated as the " Y " of Professor Von Pettenkofer in his theory of Cholera.

the coast, where the river Bega enters the sea. Among the labourers and shepherds employed on this station were a number of aboriginal natives, who were in the habit of gorging themselves with food to such a degree, that their blood became surcharged and in so diseased a condition, that even a scratch from a thorn would cause a festering wound. (Their bodies were like a fire-place, heaped up with the most inflammable fuel, which only required a spark in order to burst into flame and to be consumed—Liebig).

When in this condition they disappeared, but sooner or later returned fully restored to their normal state of health, which excited curiosity, and induced Mr. Wren to have them followed and watched. It was then discovered, that they went down to the sea shore, looked out for a cave in the rocks for shelter, and provided themselves with sundry roots as food for their sustenance during the time they were absent.

But what excited the greatest interest, and what concerns this treatise, is the following procedure. On the beach, where the river and the sea joined, the natives selected a spot and dug a hole in the sand, into which the admixture of river and sea water could filter through the sand into this hole or basin. If the water proved either too salt or not salt enough, the ground was shifted either towards the sea or up the river, until they obtained the water to their taste. This filtered admixture of sea and fresh water the natives drank at certain intervals during the day, and by this means, as also no doubt by a meagre food, they were cured of the diseased condition of their blood.

§ 34

Generally considering then, the use of chloride of sodium in the animal economy, the conviction is forced upon us that, whether in health or disease, it plays directly and indirectly some of the most important functions in our system.

Beginning with the digestive process, for which it supplies the ingredient to form hydro-chloric acid, so necessary for a strong healthy gastric juice ;

— and in which process it "essentially promotes the solu-" tion of the food, and impedes abnormal decomposition ;"

— in the functions of the various organs, the whole alimentary canal, the liver, the kidneys, &c. ;

— in the formation and normal condition of the red blood corpuscles ;

— in the morphological cell formation, either for growth or maintenance of the body ;

— in the formation of cartilage, and the maintenance of its elasticity (preventing spinal curvature) ;

— in the maintenance of the tensile strength of the connective tissue throughout the body ;

— in the protection of the various substances and juices against abnormal changes ;

— ending with the ultimate secretion of the effete used-up matter by way of the kidneys, acting as "the means of "transport for a number of substances which, out of the "body, excite disgust" (Liebig, Familiar Letters on Chemistry, p. 409) ; everywhere do we find salt active, and "to serve in the organism to assist and promote (and de-"termine) the most universal changes" (Liebig, p. 405).

§ 35

Salt is found in all parts of the human body, except the enamel of the teeth; Von Bibra found ·2 per cent. in the nerves; the blood never contains less than ·25 per cent. (even when death results through abstinence from its use), the normal quantity being ·45 to ·6 per cent.

Enough has been said to prove how advantageous it is for our well-being, nay, how necessary for our existence, to supply to our system daily a small quantity of common salt, dissolved in water (strength about ·5 to 1 per cent., according to the individual taste), taken fasting every morning, independent of food; besides taking a liberal supply with our meals.*

To do justice to this subject requires a separate extensive treatise, of which attempts have been made by Schleiden, Hehn, Schmidt, Manley, Meyn, Lefebre, and many others; without exhausting the manifold questions, connected with common salt in relation to the animal organism and to mankind in general.

§ 36

In conclusion, I beg to recapitulate in a condensed form the various points referred to in the above discourse, with the object of making suggestions for the treatment of constitutional disease, such, for example, as cancer, which—even

* See Dr. F. W. Benecke, Balneologische Briefe; pages 127, 128, 131, to 133.

existing as a local affection—can only be conquered by developing or strengthening the curative powers naturally inherent in the human system.

It is necessary to preface these suggestions by the statement that : whatever change is required in the mode of life of a patient, such change cannot be made suddenly, but will have to be accomplished gradually. An abrupt alteration in habits of diet or general hygeine would, if not dangerous, be at least felt cruelly ; whereas a gradual change admits of the system adapting itself to the imposed conditions, without any hardship.

§ 37

Although not acknowledged by " scientific medicine," the system of Schroth is well understood, and no difficulty should be experienced (so far as Germany is concerned) in finding a PHYSIOLOGIST, who could direct the treatment ; modifying it in accordance with his scientific insight into the principles involved, to suit the treatment to the individuality of the patient.

In face of the elaborate instructions given in the various books, which describe Schroth's system of treatment, and by the side of the advice just given, to seek assistance for applying that system, it might seem superfluous, to refer to it here in a description of the specific procedure. There are, however, several points in the application of Schroth's treatment which deserve to be specially mentioned, as of some importance in their practical application.

§ 38

The immediate object of enforcing a strict diet is: to produce healthy blood. This can only be achieved by partaking of simple, nutritious dry food, which, well masticated and well insalivated, admits of a proper admixture with the gastric juice. Such an easy process of digestion demands first and foremost a free and copious flow of saliva. But when the salivary glands are inert, when saliva is only secreted in insignificant quantity, such a free and copious flow is difficult to obtain by simple natural means. The easiest way to gradually develope this secretory power of the glands is to suck small pieces of hard plain biscuits ("Captain's," "Abernethy," or any similar kind; but on no account sweet biscuit, as this would produce thirst). In a comparatively short time, by repeated trials, the saliva will flow freely upon the introduction of dry food into the mouth; and the piece of biscuit (not to be quickly masticated) will dissolve, and become sweet to the taste (being first changed into dextrine and then into grape-sugar).

To further incite to a secretion of saliva it is advisable, to discontinue eating, whenever the saliva ceases to flow. The ordinary way of assisting dry food by sipping and drinking, is the cause of more food being taken than can be properly digested. If, however, the amount of food at each meal is determined by the flow of saliva (when no more dry food is taken than can be masticated and swallowed without the aid of drinking), we shall sooner or later experience a true feeling of hunger. With this feeling of hunger it will

be found, that the saliva flows freer and in greater quantity upon the introduction of food, and so makes digestion easier. ("The mouth waters," as the common saying is, at the mere sight of food). By such means will it be possible, to gradually develope the secretory power of the salivary glands to such a degree, that food can be taken quite dry without the least hardship, and no thirst is experienced, unless produced by undesirable ingredients in the food.

§ 39

The fluid part of our daily meals, to which, under ordinary circumstances, we have been accustomed, cannot so easily be discarded. Manœuvring is necessary. All exciting drink, such as alcohol, strong wines, strong coffee and tea, must gradually be withdrawn and be at first replaced by a milder beverage—such, for example, as advised by Schroth: coarse oatmeal, well boiled, then strained and seasoned with a pinch of salt and a few drops of lemon juice. But very soon this, used only as a morning beverage, is also withheld, and according to the strength of the patient (and the severity of the case and the treatment), the daily allowance of liquid is gradually reduced to a glass, or perhaps two, of a very light wine (of a low degree of alcoholic strength), until a day can be passed over, without any liquid being taken, which interval is to be increased, according to the condition of the patient and the symptoms of the ailment. It might be suggested here as an agreeable deviation from Schroth's method, to quench the thirst by grapes or other similar

succulent fruit, as most refreshing to the mouth, inciting by the fruit-acid to a flow of saliva, without producing afterthirst.

§ 40

In the practical application of this dietetic treatment it is of the greatest assistance, to prevent the patient from being tempted by the example of others, when at table, perhaps by members of his or her own family, visitors or friends, who are not undergoing the same treatment. Yet for a patient to sit down alone, has again a distressing mental effect, and that wonderful assistance to the enjoyment of a meal, agreeable society and pleasing conversation, is completely lost. Whenever possible, the patient should have a companion to share the treatment, which morally and mentally facilitates submission to the strict dietetic rules.

The effect of this treatment on the system is a wonderful feeling of buoyancy in mind and body, which, however, in the beginning of the treatment, is now and then interrupted by a feeling of depression and languor. These interruptions, never of long duration, appear at greater intervals as the treatment progresses, and cease altogether, when the system is cleared from the accumulated undigested and effete substances (Liebig's inflammable material).

§ 41

Should the circumstances of the case require it, the abstraction of water from the system can be accomplished by the aid of hot-air (Roman- or Turkish-) baths, which have

besides the beneficial effect of promoting a vigorous circulation of the blood, in cases where physical weakness prevents this to be achieved through exercise.

And if, after such a hot-air bath, a tepid sea or salt water bath could be taken, a double purpose would be served. Fresh from the hot-air bath, the skin would, by endosmosis, absorb not only water to quench thirst (as has been practised by shipwrecked sailors deprived of fresh water), but also take into the system chloride of sodium.

Oken (in Physio-philosophy) believes man to be originally a marine animal; and Bunge hints at it (in his Lehrbuch der physiologischen und pathologischen Chemie, page 119.) Considering how dependent our body, in all its functions, is upon the presence of chloride of sodium, it would not appear strange, should it be taught by physiologists that the absorption of sea-water through the skin, is a process, quite in character with the plan and principles, upon which our animal nature is based; or by sanitarians, that a sea-water bath, after a hot-air bath, is one of the principal factors for preventing disease.

§ 42

In relation to physical exercise little need be said so far as its execution is concerned. It can be obtained in horse—or tricycle riding, in rowing, dumb-bells or similar gymnastic exercises, and besides in swimming, which latter can be indulged in when taking the above-named seawater bath (provided, of course, that circumstances and conveniences are offered for carrying out this combined treatment).

Considered, however, in its beneficial effect in developing the curative powers in the human system, no language of mine can do justice to it. In so simple an ailment as an influenza cold it is utterly disregarded, although the most potent remedy. I have danced away many a cold; or by walking home (with a sharp, brisk step), three-and-a-half miles from a country railway station, well wrapt up against a freezing north-easterly wind, have I rid myself of an attack of influenza, which in a cosy armchair in a warm room with hot gruel and the like (and in spite of all the medicine, which the faculty can prescribe for it) would have hung upon me for several days.

Judiciously applied, it is returned with compound interest. The Greek philosopher who carried every day the calf, could at last carry the oxen.

EXERCISE RENOVATES THE BODY BY THE REMOVAL OF OLD AND THE FORMATION OF NEW TISSUES. IT BRINGS INTO ACTIVE PLAY THE ASSIMILATIVE POWER OF THE NERVE-ENDS, AND SO HARDENS US AGAINST ABNORMAL INFLUENCES, AND GIVES US THE POWER TO THROW OFF DISEASE.

§ 43

In relation to the daily supply of common salt to the system, and the manner of administering it, it might be well to mention here, what I ventured to state years ago, and find confirmed by the utterances of Dr. Benecke (Balneologische Briefe) that, namely, the natural mineral waters, which are taken for the beneficial effect of common salt, contain certain

other mineral ingredients, that make these waters no substitute for the simple solution, prepared by the direct admixture of salt and water. Dr. Benecke says (page 127):

"It is certainly a noticeable fact that in the famous "Carlsbad water, common salt, which promotes "the secretion of bile, is combined with "carbonate of soda, which has quite the "contrary effect."

"In Kissingen the water contains in combination with "common salt, a noticeable quantity of gypsum, and in "Nauheim a considerable amount of chloride of "calcium."

Page 137. "The experience, often made, justifies me "in declaring that many patients, who hitherto have paid "their annual visit to Carlsbad, will do much better by "taking their simple prepared salt mixture in their trunk "and wend their way, either to the sea shore or up the "mountain, so as to combine with the 'drinking of the "'waters' the enjoyment of the purer mountain- or sea "air for the undoubted greater benefit to their health. And "to make sure of a good result it is necessary to guard "against too powerful a dose. A highly diluted "solution of salt, and an extensive period "of continued use, will, in most cases, have "the desired effect.

No better confirmation could possibly be found of the theory as to the utility and the method of supplying salt to the human body (as maintained by me since 1871) than these and many similar statements, coming from a physio-

logical authority of Dr. Benecke's acknowledged standing and impartiality.

§ 44

The degree of dilution may vary, according to the taste and the habits of the individual. The solution should taste pleasant, and the amount of salt to be added to a whole or half a glass of water can, after a little practice, be easily determined; but the above cited proportion of five grammes of salt in 100 cubic centimeter of water is most suitable for all tastes. The salt should be of the best quality, be quite dry, and finely powdered.

In cases in which the digestive powers are not only ruined, but where the tone of the stomach is completely changed, it may happen, that upon the first dose being taken, sickness and a tendency to vomit ensues; this latter should be rather promoted, as it has an ultimate beneficial effect. But it should be followed by another dose of salt-solution—perhaps less strong—and be repeated, until the stomach can retain the draught.

The great advantage that accrues to the system from so small and so highly diluted a dose (which is insignificant as compared with the quantity taken with meals in the twenty-four hours), is not only due to its daily repetition, but chiefly to the fact that it is taken independent of food, and so highly diluted that it does not produce thirst. It is absorbed into the circulation directly, through the lining membrane of the stomach, and so is free to act in the system in the manifold ways, referred to above.

§ 45

Whenever the human body is cured of an ailment or a disease of any kind, such cure can only be the effect of the powers naturally inherent in the system. If any medicine (that is, any organic or inorganic substance —either retrogressive or abnormal in relation to the healthy organism) has apparently contributed, to accomplish the cure, it can have done so only by its influence, direct or indirect, on the natural curative powers of the body. It is, however, contrary to all our knowledge of the cause and effect in the phenomena of organic nature, to expect: that we can raise the vital activity of an organism, by interfering with its action by means of abnormal or poisonous ingredients. This interference can have no other effect than weakening the organism, by exciting the system to a reaction against the intruded poison; it certainly can never impart power or strength to the system to overcome the already existing disease. The cure takes place in spite of such interference.

§ 46

And what *a priori* knowledge do we possess of the action of drugs? Surely neither physiology nor pathology, nor reasoning have been the guides for the disease-curer in the selection of his vaunted medicaments. It has been, and is: a wild guessing, a groping about after ever new therapeutic

agents; and the clearest heads and most honest members of the medical profession have admitted, that as a science, medicine cannot find a basis in logic; all is dark, uncertain and dubious.

"Truly, one is tempted to adopt the opinion that, among "the sciences which have for their object a knowledge of "nature and of her forces, medicine, as an inductive science, "occupies the lowest place . . . . . and when nature "helps herself, he wishes us to believe, the whip is a power "and has been the means of restoring health." ("Familiar "Letters on Chemistry," page 77, by Justus von Liebig, M.D.)

"That Therapeutics from remotest time up to the present "day, is based upon illusions and imaginations, is easily "proved by a reference to all the various classes of "medicaments." (Wunderlich, as cited by Dr. Steudel in "Die Medicinische Praxis Stuttgart," 1853, page 65).

"There is no disease, of whatever kind, which it is not "possible to cure without medicaments, and in the treatment "of which these latter cannot be replaced by the "thousand other aids, which a rational physician has "at his command." So wrote Wunderlich in 1846. (Dr. Steudel, as above.)

§ 47

Why not then apply our energies to the development of the curative powers, by simple natural means, for which so much encouragement is given by such cases as cited above.

The experience of the past, judiciously sifted and systematised on physiological principles, will give glorious work to the true "Natur-Arzt"—Nature's Physician—who knows but one disease: a deviation from the normal constitution and function of the organism; who needs not wait for the development of decided symptoms to diagnose—that is, determine the name of a special disease and then apply to his "Ready Reckoner" for the special remedy; . . . . when often the symptoms have already assumed a dangerous character—or been misleading him, and so caused him to look for a remedy under the wrong heading.

§ 48

And against this one disease, when it takes the constitutional chronic form, he endeavours to strengthen the natural curative powers by the application of natural means, such as:—

Dry food, to produce easy digestion, and a consequent healthy blood.

Abstinence from liquids, to promote a vigorous function of the various secretory organs.

Hot-air, followed by salt-water baths, to excite the action of the skin, and cause absorption of chloride of sodium into the system, besides quenching and avoiding thirst.

Administration of Common Salt (if not achieved through salt-water bath), in a highly diluted form,

to furnish the blood and tissues with the necessary protection against abnormal changes, promote the secretion of effete, used-up, poisonous substances from the system, and otherwise assist in the various ways, that chloride of sodium has proved to be beneficial.

Physical exercise, to regenerate the body, by the destruction of old and the formation of new tissue.

And when the ailment takes an acute character :—

Wet-bandages and wet-sheet packings, employed according to their form and degree of moisture, either for the purpose of exciting a reaction of the nervous system towards the skin, or for the soothing action on the nerves, or for the abstraction of heat, &c., &c.

Ablutions followed by dry towel friction, and

Friction and massage to excite circulation of the blood in the various parts, and to excite nervous action away from the local seat of a painful affliction ;

—combining and modifying these, and many similar means, to suit the patient and the ailment.

APPENDIX.

AN EXAMPLE OF THE EFFECT OF HARD WORK AND SIMPLE FOOD ON THE MENTAL AND PHYSICAL DEVELOPMENT OF THE HUMAN BODY.

EXTRACT FROM "THE ISLAND OF CAPRI," BY GREGOROVIUS.

A general ornament of the women of Capri, and certainly far preferable to gold, is their teeth. I believe that the people of Capri have such splendid teeth, because they have nothing to bite.* . . . . The maid of Capri is the "beast of burden" of the island; and these pretty children of from 14 to 20 years of age (the Gabriele, Costanziella, Mare, Antonia, Concetta, Theresa and many others, whose heads are so often admired in paintings, exhibited in England, France, and Germany) may be seen ascending from the beach to the top of the island, while carrying on their pretty heads burdens, more suitable for the strength of men.

A fortnight ago, a vessel arrived from Naples with stones, intended for repairing an old convent. These stones were

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* Their food is so poor and scanty. The author is evidently unaware, that it is hard, dry, and simple food, that preserves sound healthy teeth.

carried on the heads of these girls to the top of the island within five days. The road is so steep, that every day when I had to ascend it, I arrived at the top quite exhausted; although I started refreshed after my bath, and unencumbered by any load. For five days these girls, about thirty in number, carried these stones up this steep road. Each carried two, the weaker and younger ones among them only one stone. To convince myself of the weight of these stones, I lifted one of them, and with both arms it required my strongest effort, to place the stone on one of these pretty heads.

The children commenced this Sisyphus work before the rising of the sun, and did not end, until after the purple sky indicated the sun's disappearance behind the island of Ponza. Sixteen times did they ascend with their load under the heat of an August sun; and neither their burden, nor the heat, could check their natural cheerfulness. They were always charming, and I must confess, I have never seen a more inviting picture of human grace and beauty.

I often saw these charming maids sitting in a circle in the shadow of a tree, whilst enjoying their midday meal, which consisted of half-ripe plums and dry bread; and when this scanty meal was finished, they rose from their rural banquetting place, jesting and laughing, and quick and nimble like antelopes, they skipped down the steps to fetch a fresh load.

If I were asked to represent poverty in its most cheerful and most peaceful aspect, I should represent it in the form of the beautiful Costanziella. Costanziella never ate meat;

she carried stones, and in the evening she amused herself with playing the Jews-harp. Her food was dry bread and patatas (a sweet root, similar in shape to potatoes) with salt and oil. But fresher, and more charming, and possessed of a finer head of curls was neither Hebe in Olymp, nor Circe, nor Diana, and no one was so cheerful and more sensible.

"It is Nature—that cures Disease."

Hippocrates.