PRINCIPLES OF MEDICINE

AND

HOMEOPATHY.

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PRINCIPLES OF MEDICINE
AND
HOMEOPATHY

BY

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TO

MY MATERNAL UNCLE,

the late Dr. Gopal Krishna Gune,

the Pioneer and Veteran Homeopath of Deccan, who deserved, by virtue of his swift, penetrating and encompassing attitude and his versatile genius, to occupy the first rank in every walk of life, but to whom it was given by circumstances only to shine in Homeopathy and deal with the human diseases, and who has now ascended the wings of infinity, but whose appreciative tears, that were shed when the manuscript of this book was being read to him, were but a blessing to me and an angelic link between me and my departed mother, his sister,

this book is in all reverence dedicated.

FOREWORD.

Science is ever progressive. Much of it has been the outcome of sheer accident. Apples have fallen from trees through ages; but it required a Newton to discover the law of gravity lying behind this "Fall". Geniuses philosophically or scientifically minded have alone been able to lift the veil of Nature. Whether it be accident or the result of application and close reasoning, whether scientific discoveries precede or follow experimental investigation, no progress worth the name has ever been found unassociated with the names of geniuses. Hahnemann wrote his books both for the period in which he lived and for the periods that were to follow. No wonder then that his disciples, and among them the author of this book, should make continuous attempts to test the validity of his conclusions with the search-light of recent and still more recent discoveries.

The philosophy and science of Homeopathy

has for its basic principle the recognition of a Life-force with its three-fold manifestation, --mental, emotional and physical. Homeopathy considers Health as the working of the Body in rhythm and harmony with not only the Mind but with the In-dweller as well. It recognises as disease any deviation from the above normal and harmonious working, does not ignore the peculiar idiosyncrasies of each individual and attempts to restore the balance by evoking the dynamic forces latent in the drugs.

The question "What is Cure", like the other eternal question "What is Truth", has always vexed the exponents of every system of Medicine. The reply to it almost portrays the limits and extent of the knowledge the system encompasses. With the recognition of the Mind and the Ego or the In-dweller as factors in health, psychology and philosophy become a necessary part of the education of a medical man. Medicine is already a vast subject; the dice against a perfect medical man would be heavily loaded indeed if psychology and philosophy have to be added to it. True and balanced judgement or opinion would ever vary with the depth of knowledge a man possesses; if variations in judgement and conclusions from the same premises are likely

to occur, what a vast field lies open to charlatans and quacks to practise on the credulity of mankind! It may be that Allopathy, to avoid this disaster, limits itself mostly to the ills of the physical body, and declines to admit the validity of any assertion unless it be backed by experimental data. Allopathy is conscious of its failures and its weak points; if that were not so, research workers would not have been carrying out their investigations and experiments with such an undiminished zeal. Bigotry in a research worker would be unpardonable; it is detrimental in his own interest; he must always keep his mind open to conviction; but he has also to be adamant against loose thinking. The treatment of luetic infections is one of the brightest examples of close reasoning followed by experimentation. Reasoning based on scientific data is always a necessity. Herein perhaps lies the explanation of Allopathy refusing to identify or co-operate with the various Pathies prevalent the world over.

Allopaths are, however, not bigoted. They cannot afford to be bigoted. They admittedly maintain the attitude of sympathetic impartiality towards sister systems of Medicine. They are ever willing to absorb from other systems what-

ever satisfies the standards of scientific accuracy. It is this sympathetic impartiality of the Allopaths that leads me to think that this book might appeal to many others like me because of the scattered new and attractive suggestions and explanations it presents. It seeks to examine Hahnemann's ideas through the prism of recent scientific facts. Controversial statements are likely to be found in it; but a greater part of it, to my mind, deserves consideration. Who knows? Perhaps the gulf between Homeopathy and Allopathy may be bridged over by some such suggestions.

The book presents likewise a concise and lucid summary of the essentials of the Homeopathic system of Medicine and is likely to appeal not only to the followers of other pathies but also to many others who are scientifically minded. I consider an hour with it delightfully and usefully spent. I wish the author good luck, and I hope he will not rest content with this his first attempt.

BOMBAY
4th JAN. 1935.

K. S. MHASKAR, M.A., M.D.,
B.Sc., D.P.H., D.T.M. & H.

PREFACE.

This book is an attempt at a constructive survey of the main principles of Medicine in general and a scientific crystallization of the essentials of the Homeopathic system of Medicine in particular. It is obviously meant for those medical men who are philosophically and scientifically minded or who can be persuaded to be so. The survey and the crystallization are some of the natural accompaniments of the process of thinking. And the book may therefore be found to be a need by every thinking physician.

The book was wholly visualised but only less than a half actually written out within the walls of the Nasik prison during my imprisonment in the Civil Disobedience movement of 1932.

Prisons have been found, by some, to be the places for the birth of new ideas or for the acquisition of some universal truths. There, one can, if one chooses, silently slip into tune with the cosmic consciousness, think of one's

being an integral part of mankind, learn to live the life of humanity and cleanse oneself of the dust of the brain and the heart which in the everyday busy life generally resemble 'the tight-fitting shoes of a Mandarin woman'!

I have thrice experienced this bright side of the prison-life. This is no place to describe the other one. I may humbly state here that my long incarceration of five years (1910-15) at Yerawada, for being a member of the New India Society, disclosed to me the existence of an unseen superhuman power after a prolonged free thinking. Then a very short imprisonment at Ratnagiri (1930), while I was a member of the first C. D. War Council (Maharashtra), made known to me how the Universe is spun out and woven out of one substance. And lastly my partial stay at Nasik prison, during the course of my twelve months' imprisonment in the second C. D. movement (1932), unfolded before me the exact scientific nature of the Law of Cure and of its actual working. I am ever grateful, for these three precious gifts, to the enclosure of the prison-room and to the expanse of the sky before it, as the former helped to concentrate on the soul's infinity inside and the latter to look into the infinity of

the universe outside!

I quite remember the hour which brought the last-named truth to me. It was a dark calm night. The whole prison-population was perhaps fast asleep excepting the guards who at regular intervals broke the dead silence. I was in my little room restlessly pacing to and fro in search of the solution of the fundamental problems of Cure, until at last, long after midnight, after an intensive exploration into the deep recesses of the mind, a solution struck me. The event was followed by an unprecedented pleasure and peace of mind.

That solution was the immediate incitement, though not the only one, to write out the book. The subject of the solution has a history behind it. Hahnemann, the founder of Homeopathy, had given to the medical world the law of similars (Similia Similibus Curantur) as he conceived it. But he did not set it in terms of a law as scientists do, nor did he offer a scientific explanation of its actual working, of course, for no fault of his, as the related sciences were then in a state of infancy. Besides, he relied more on his actual experiences than on any scientific realisation of the law.

However sciences have been coming into

their own age, and Schulz, Huppe, Bier and others have written much about Homeopathy in a scientific manner and attempted to bring about an honourable and rational understanding between the scientific Homeopaths and the followers of the old school. Their labour is mainly confined to proving the potentiality of small or infinitesimal doses to act as a force and to irritate or stimulate the diseased organism towards activity. As far as the infinitesimalism in Homeopathy is concerned, they have done a great service to Homeopathy. But the theory of irritation or stimulation, propounded by some of them, does not take one any nearer to the solution of the problems of Cure in their entirety. For, every system of Medicine can rightly claim to have included, amongst its other therapeutic administrations, the employment of drugs which can irritate or stimulate the diseased organism towards activity; besides, the drugs can act so only in some of the states of the diseased organism, not in all. We generally find the three following states of the diseased organism in relation to its capacity of being stimulated, there being of course many intermediate ones.

(1) The natural combating forces of the organism are equal or more than equal to the

forces of the disease. Here the organism may cure itself without any drug-stimulation. That is a sort of a physiological process of cure.

(2) The forces of the organism, for various reasons, lie dormant. Here the drugs, possessing the power to stimulate, may stimulate the dormant forces to activity. That is a therapeutic process.

(3) The forces of the organism are almost exhausted in combating those of the disease. Here they can not be stimulated to activity. Or, if they are stimulated, the stimulation would only precipitate death---a complete cessation of activity.

Now, if drugs may cure the organism even in the third state, and it is claimed that they do, no theory of irritation or stimulation, it is evident, can convince one of the truth of the claim. It must be something else than stimulation.

I was in search of that something, and I found it. I hope my theory of the solution, as enunciated in the book, or, in short, my application of the phenomenon of the 'Excited Activity' observed in connection with the radio-active substances, and of the physical laws that govern disequilibration and displacement, to

the elimination of the morbific matter or of the disease-cause, may give a perfect satisfaction to the scientific minds, as it has given to me. It may be only remarked here that the phenomenon of the 'Excited Activity' (as the phrase is delusive) is quite a different thing from that of Irritation or Stimulation. The former categorically implies transmission or communication of the activity of one substance to another substance.

But the solution or the theory is not the only thing, as I have already mentioned before, for which the book is written. Its investigation was accompanied by much clarification of old confusions and by an acquisition of many new scientific outlooks. It naturally stimulated considerable original thinking as well. And all these things too required an outlet.

The book necessarily deals with philosophy, psychology, physics and chemistry, as also with bacteriology, pathology and other main branches of Medicine. It is therefore hoped that the compendious presentation of the principles of Medicine, together with my humble contribution, to the medical thought, on various points in different chapters, may benefit a medical man belonging to any school, and that

my setting of Homeopathy on the basis of the modern Science and Philosophy may give a clear insight into the Homeopathic system of Medicine especially to those who have been prejudiced against it on account of its exaggerated representations made by its overzealous votaries.

Principles of Medicine, like many other principles, are about to undergo a rapid universalisation, as the world now stands on the threshold of the new ecumenic age, if not quite in it. Truths are no longer going to remain a property of the few. Yet the universal mind requires an infusion of a thought-provoking impulse, though of course only as much as is not detrimental to the power of the mind to transform its meaning. And one must be close to the time. If under these changing cirumstances, I have, through the instrumentality of this book, set in motion within the reader the process of transformation, transposition and transvaluation of ideas which he still needs, and if I have considerably removed, from his mind, erroneous conceptions of the problems concerned and made space for fresh and more relevant ones, I will feel highly gratified. The book aims at the process of self-discovery and liberation. but not in the least at

imposition and enchainment. I much desire that the truths embodied in this book should be clear to the reader in his own assumptions.

Amongst those to whom I owe thanks are first the authors mentioned in the bibliography for whatever information I have derived from their books in support of my statements, arguments and propositions. Then I am deeply indebted to Dr. K. S. Mhaskar, M.D., M.A., B.Sc., etc., (Pharmacological laboratory, Haffkine Institute, Bombay) and Dr. W. F. Hume, M.D., M.A., (American Mission, Wai) for having kindly read the manuscript. The former moreover graciously consented to write a foreword to the book with a strictly scientific and non-sectarian attitude befitting a real research-worker. I am also grateful to Mr. G. R. Vartak, B. Sc., Satara, Dr. S. R. Phatak, M.B.B.S., the celebrated Homeopath, Bombay and Dr. G. D. Apate B.Sc., M.B.B.S., Poona, for having carefully gone through the manuscript. I wish, besides, to heartily acknowledge the kind offices of Mr. N. M. Khuperkar, M. A., in correcting the manuscript and Mr. S. G. Bhave, B. A., LL. B., in correcting the proofs and seeing the book through the press. To the printer, Mr. V. S. Vaidya, B.A. (T.U.), I am thankful for having so enthusiastically and

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Satara
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V. V. ATHALYE.

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CHAPTER ONE

PHILOSOPHY OF MATTER AND LIFE.

> "In contemplating a world constructed of electrons, protons and the quanta of radiation we are conscious of a great simplification..... Three "things" and a few rules replace the vast diversity of the apparent world." —THOMSON.

Man's conception about the Universe resolves into two fundamental ideas namely Matter and Life. All sciences have evolved from the interpretations man has put upon these two phenomena. The validity and the successful application of the laws of a science depend entirely upon the right view taken of these two eternal manifestations of the cosmos. This is as true in the Medical Science as it is in any other.

Philosophies are so many pursuits of taking the right view of things. Philosophy may be even denominated as the Science of sciences, as it is an approach to ultimate realities. Man in his efforts to dissect out appearances from realities has unrolled on the table of knowledge diverse philosophies as Materialism, Idealism, Realism and many other ancient and modern ones. But no philosophy can be regarded as finally or absolutely true as no science or scientific law can be properly speaking considered anything more than a hypothesis or a postulate. For, the truth embodied in it is continually subject to review. Nevertheless man has to grant validity to a truth for a time as he can not think or act further without doing so in relation with things dependent upon it. He has to take concensus of all related truths or to set an approximate value upon them before he can step forward in a particular direction.

Physical Science and Biology are great assets in the formation of man's philosophy regarding Matter and Life. These two sciences, like many others, have been unfolded from phenomena 'external' to man. But there is a world of phenomena 'internal' to him. And the latter are the fountainheads of many deep sciences which

claim place in the consummation of his philosophy of Matter and Life. Such are Psychology, Metaphysics and their various representations.

To cover the problem in its entirety therefore, the laws governing the internal world as well as the external one must be studied by him. He must be an' internist' as well as an 'externist'. Between Matter and Life, and between the External and the Internal he must find out if there is identity or difference, and lines of approach or signs of divergence.

Let us first as externists briefly consider the different properties and manifestations of Matter and Life.

THE PHENOMENA EXTERNAL TO MAN.

1 Matter.

(A) Its Analysis.

The scientists agree to say that the Atom and the Cell are the two fundamental structures in the Universe. We shall first take the Atom, the unit of the world of Matter. The Atom is of course not the ultimate conception. The constitution of Matter can be traced back to Electrons and Protons which are much smaller and more active than the Atom. The discoveries

of Radioactivity and Rontgen rays have greatly helped to investigate the structural phenomena of the Atom. We now know that the Atom is capable of emitting a definite amount of light. Scientists have proved that the electric currents that are daily utilised for various purposes are nothing but fine flows of free Electrons.

The Atom is a little complex world of its own. And even the study of its immediate structure will throw much light upon the path we are to traverse. The study in this direction is not an actual observation but an inference. What scientists have observed are certain light effects and other sensible phenomena. However their deductions seem to be logical.

The Atom is, according to them, the primary reservoir of energy. 'It is the energy of the atom, the atom of elements in the sun, the stars, the earth, from which Nature draws for all her supply of enegry.' Its diameter is calculated to be about 1/100 millionth of an inch. It consists of a number of Electrons or charges of negative electricity held together by Protons, the charges of positive electricity. It is subject to death, but it possesses the secret of perpetual youth. It has the power of mending or healing itself, for, when it is "cracked", i.e. when it emits

light, it returns to its normal state after it has finished emitting the light.

It possesses a nucleus. The nucleus may be one Proton or several Protons. The nucleus characterises the Element which the Atom represents, and exhibits the properties of Matter. The size of the nucleus is only about 1/100,000 part of the size of the Atom. It is yet a massive thing, though the size is so small, as the weight of the Atom is almost due to Protons. Protons attract the revolving Electrons and form an equilibrium, in the absence of which the Electrons would fly off. The law of Attraction is the same as in the Solar System and it rules even in the little Atomic world. The energy content of the Protons is very large. It is the Protons in which the Atomic energy and the Transmutation of the Elements are to be looked for.

The Electrons are the other constituent of the Atom. In size they bear the same ratio to the size of the Atom as the diameter of the Earth to the orbit of the Earth. They are arranged in successive rings or layers. Their motion round the nucleus is like that of a flea, consisting of crawling and hopping. They travel with enormous velocities, from about

10,000 to 100,000 miles a second. They go round in their tiny orbits about 1400 miles per second, and they have to go about 7000 million times in a millionth of a second, round their little orbits to cover 1400 miles.

It may be observed in common to both the Protons and the Electrons that the scientists have no proof and possibly they can find none to say that these constituents of the Atom do not consist of a number of smaller units. Hence, another unit smaller than the Atom, and for that matter than even the Proton, may one day be looked upon as the fundamental structure of the Universe.

These observations ever and anon go to prove that Matter is indestructible and infinitesimally divisible. The scientists utilise this analysis for reducing Matter to a simple form of Energy or Dynamis as it is termed in the Medical Science. But the very fact that matter is infinitesimally divisible would go to prove that what is called Energy today may be called a further division of Matter tomorrow. Energy or Dynamis is, logically speaking, minutely divided Matter, just as Matter is densely massed Energy. Mass and Energy are

now taken to be practically synonymous, or in other words Mass is absorbed in Energy. To express the same thing yet in another manner, 'density multiplied by volume in space gives us Mass, or what appears to be the same thing, Energy.' It has been never found possible to establish Energy as an entity independent from matter. Besides, it is interesting to note how Energy and Action are coming nearer to each other. The latter is being regarded as the result of the former, while the recent quantum theory amounts to saying that there are atoms of Action.

The structural phenomena of the Atom briefly described above demonstrate also that Matter is active through and through. No perfectly static condition of Matter can be even logically conceived. There is, no doubt, found a difference of degrees in its activity in its different structural planes, and its activity in a particular plane may be so small as to appear as inactivity and may be so regarded for the sake of convenience. But we can not in the scientific investigation of the Atom reach any such phase as is actually an inactivity. Activity like Matter is indestructible and infinitesimally divisible.

(B) Its Synthesis.

Atoms combine in a simple manner and are found as simple elementary matter. They also combine into molecules of the nature of a compound, and are found as compound matter. Matter exhibits many properties such as its additiveness, colligativeness and constitutiveness, its permeability, solubility and divisibility, its susceptibility, adaptability and refractivity, and its conductivity, various states, motions and activities (e. g., Brownian movement, Radio-activity and Electro-magnetic activity). Besides, Matter has among its other properties and tendencies a tendency to attract and to aggregate. Every particle of Matter in the Universe attracts every other. All bodies attract one another. The sun, the moon, the earth, all attract one another.

Elements and molecules tend to aggregate in an interesting manner. In every kind of Molecular aggregation, the surface molecules are considered to be peculiarly situated. The more energetic sides of the molecules are directed inwards, the weaker sides being turned towards the surface of the aggregation. This peculiar arrangement of the surface molecules

is found to be specially developed in substances or matter which is in a colloid state. The colloid surfaces can easily combine with some particular substances though such combinations are not firm and stable. This property of the colloids to combine exhibits a distinctively selective action. Many substances are known to the Medical Science which possess this peculiar property and they are utilised for adsorbing purposes. In the inexplicable and hence wonderful environment of the colloid surface there is a scope for other activities too.

It would not be merely poetic to say that Matter, as it is found to possess aggregative and selective properties, possesses also a sort of a creative property. We may not be able to understand correctly the creative process which presents us the variety of forms, patterns, orders and arrangements of Matter. Yet we cannot deny Matter its creative value. We actually utilise its creative faculty in synthetically produced substances (e.g. aniline dyes). Its creativeness is, no doubt, a manifestation of its inherent energy.

It would be figurative and a flight of imagination to include the mental faculty among the inherent powers of Matter, though the

acceptance of its creativeness would be in a way suggestive of its existence. Nevertheless its potency to create alterations in man's mental states is undeniable. Matter in the form of several drugs and poisons, when administered to a man, produces definite changes in his mental activities as long as it is acting, just as it does in the spheres of his body. This alterative creativeness of Matter is much more remarkable in the case of the long acting toxins of some diseases. During the period of the action of such a matter, fury, obstinacy, hurry and intolerance would be found to possess the mental field of a person who was formerly peace-loving, obedient, steady and amicable. Matter as it were imparts its own mind or individuality to the person who is acted upon. The romance of this alterative creativeness of Matter is exhaustively depicted in Pharmacological treatises. A person feels himself possessing a dual personality under the influence of Petroleum, being separated from body under that of Nitric acid, being made up of glass under that of Thuja, a demon under anacardium, a millionaire under Phosphorus, and a corpse under Lachesis. Every substance has thus its characteristic alterative creativeness or

mind metaphorically.

2. Life.

(A) Its Analysis.

The Cell can be looked upon as the unit of the world of Life, just as the Atom is taken to be one of that of Matter. The theory of Evolution and the Biological researches carry us deep into the mystery of Life. The Cell-formation and the Cell-life are being exhaustively studied. The Cell may be aptly depicted as the essence of the Universe. Let us briefly travel over this little universe and scan it.

We see that the Cell is formed of protoplasm, an aggregation of complex chemical substances. The Cell possesses a nucleus which is an essential part and the controlling centre of the protoplasmic activities, the protoplasm being the physico-chemical foundation of all forms of Life. The Cell, if it is deprived of its nucleus, can perform certain syntheses, but its higher metabolic activities are incomplete and it is unable to regenerate itself. The structure of the nucleus has been investigated. But it is too much complicated

and a close penetration of it is unnecessary for our purposes. But we clearly perceive that the Cell, from its outermost structure to the known innermost units, is unceasingly active.

We then find the colloid phenomenon in the protoplasm of the Cell. Minute solid substances attracted by the Cell are found diffused throughout the soft substance of the protoplasm, and thus the protoplasm is found to provide a colloid field for the conversion of inorganic substances from Nature into organic ones.

It is common knowledge that the Cell has a power of movement, of attraction, of assimilation, of growth, of reproduction and of excretion. These are its general properties. There are, besides, connecting links between and beyond them to form a complete chain of the Cell-life. The Cell exhibits a perpetuity of constructive and destructive changes throughout its life. The sum total of these activities is termed Metabolism. The process of assimilation involves the process of transformation of the inorganic material into the material required for the vitality or life of the Cell. The intricate metabolic activity of the Cell necessitates co-ordination of the constituents of the Cell. The

Cell is thus a co-ordinative organisation. Its growth evolves reproduction. The nucleus of the Cell plays a prominent part in this function. Not only are the general characteristics imparted from the mother-cell to the daughter-cells, but we find even the inheritance of the particular traits. A ciliary epithelial cell will reproduce a ciliary epithelial cell and not tesselated epithelial one under normal conditions. The cells of the tissues of one embryonic layer will not reproduce those of the tissues of another embryonic layer even under abnormal conditions. This Mendelian law of heredity makes one pause and consider whether the Cell has a mind and a will. It may be remarked here that the property of healing and repairing has been observed in the Cell.

(B) Its Synthesis.

The Cell is in itself a perfect synthesis. We meet unicellular organisms in Nature, for example, the ameba and other protozoa. They belong to the lowest class in the Animal Kingdom. They are capable of leading an independent existence. They have all the properties of the Cell described before. Their methods of reproduction are two, viz., asexual and sexual. The first method comes to an end

after many generations and then some of them are sexually specialised into male and female and they conjugate. Thus they continue the life of the species. This method of sexual reproduction is termed Sporogeny. The unicellular organisms perform locomotion and capture of food. We can infer from their various functions that they have a mind and a will.

Thallophytes are the organisms belonging to a lower group of plants in the Vegetable Kingdom. Some of them also are unicellular. Thus we find unicellular life in both the Kingdoms.

If we exclude the protozoa and the unicellular thallophytes, all the rest are multicellular organisms from the minute living thing to the biggest living one. In every such organism, cells are aggregated and live an aggregate or collective Life. These organisms represent on a larger and a more developed scale the properties and functions of the Cell considered before. The higher we go in the Vegetable and the animal Kingdoms, the more cultivated do we find the various aspects of Life and the more complex the synthesis. For example, the preservation of the race takes the place of that of the species, and the functions of co-operation and association are found more evolved.

3 Identity, Approach and Divergence.

So far we have gone over different analytical and synthetical data concerning Matter and Life. It will promote ease if we compare them and arrive at points of identity, approach and divergence between the two at this stage, that is before we re-embark upon the examination of the phenomena internal to Man.

(A) Identity.

(1) Both Matter and Life are constantly active or dynamic.
(2) The structures of both are infinitesimally divisible.
(3) Both are indestructible.
(4) Both have the property of aggregation.
(5) Both have the power to select.
(6) Both have (in virtue of the last two properties) the power to act upon others.
(7) Both have the power to mend or to heal themselves.
(8) Both are governed by the one Universal law – the law of Attraction.

The constant activity of the Matter and the Life includes all of its varieties and degrees.

The crudest and the finest planes of activity are its lowest and highest degrees respectively. Their divisibility and indestructibility involve the persistence of existence. Their aggregation, selection and action upon others mean their efforts to attract assimilable substances — a process for assimilation, a process for Homœosis. Assimilation presupposes previous stages — especially the stage of adjustment or transformation necessary for ultimate assimilation. This stage we have marked to a certain extent in the consideration of the colloid surfaces both in Matter and Life. Its importance will be evident from an instance or two. A blade of grass, for instance, cannot raise the inert molecule of silica from its inorganic realm to the organic one unless it carries it through necessary transmissions and progressions, nor can a plant have its starch and sugars from the carbon-dioxide of air unless the carbon-dioxide is submitted to the required transformations.

(B) Approach.

The colloid process is an important approach towards identity of Matter and Life. This process in the Cell stands as a link between the organic and the inorganic substances. And in

the molecule, it imitates Life on one hand, while the molecule in the colloid state stands as it were on the threshold of Life on the other. Much of the earth and the air are found to exist in the colloid state. The colloid state is distinctive of all Life-forms. The Cell in division approaches the character of the Atom of Matter. Modern Physics lends a helping hand to imagine some kinship nearer or distant between Matter and Life. That the Atom should be capable of mending itself is a noteworthy approach of Matter towards the phenomenon of Life.

(C) Divergence.

Matter is creative and Life is reproductive. Creativeness may claim some resemblance to reproduction as the presentation of forms and patterns is equally mysterious with the reproductive secret of Life. But the interest of the species or of the race and the consequent abnegation of self are an undeniable transcendence of reproduction over mere creativeness. Reproduction is thus the starting point of differences and divergences.

We have mentioned before the alterative creativeness of Matter. Matter we have shown to create various phases in the human mind, from

unconsciousness to pseudo-consciousness, like illusions, hallucinations and even dual personalities. It can excite, subdue or alter passions and emotions and thus reign over the mental field. But with all allowance for this remarkable phenomenon we can not endow, for the present, Matter with a mind of its own, in the absence of any direct evidence or from the evidence so far gathered, though one may be inclined to find the seeds of mind in the mending power of the Atom.

THE PHENOMENA INTERNAL TO MAN.

We shall now turn our attention to the phenomena internal to man. When we begin to withdraw our attention from the external world, it first finds itself at our body and enters the domain of Anatomy and Physiology. But we are ourselves multicellular organisms, and as we have already described and mentioned the necessary structures, properties and functions of unicellular and multicellular organisms, we need not detain our attention at such considerations. From the standpoint of our consciousness not only the study of gross structures and functions of our body but even that of the minute

(histological) ones is a consideration of the external phenomena. So our attention must recede deep into the psychical area of our brain--the area which contains the seat of our consciousness or mind. This area even is a thing external to our consciousness. In fact, the terms external and internal are relative. What is internal to its external is itself external to its internal. It will be seen that this relativity of space like other relativities, such as of time and motion, can be maintained infinitely. In the case of other organisms we cannot go beyond the manifestations and the areas of their mental processes. But in our own case we can step a little further. For, whenever we think, the process of our thinking is felt to be linked to something beyond the areas of the mental processes. We shall first briefly examine the psychical area.

(A) The Psychical Area.

The psychical area in the brain is the borderland between the Ego with its faculties (consciousness, mind, will, etc.) and the rest of the world. It is like a region in a beautifully coloured sky where one colour passes imperceptibly into another. The mind resides in or is blended into

the physical substance of this area like the colours described above. This coming or flowing together of the two is termed by some as psycho--physical parallelism. But it will be seen that the psychical and the physiological activities are not only parallel but are also reciprocal. For, the borderland provides a sort of mechanism through which the mind acts upon all the world external to it and it is through the same that the external world acts upon the mind. It is the region of the interaction between the internal and external worlds. The mechanism as such deserves our attention for the further elucidation of our subject.

The psychical area is connected with other areas in the brain-substance, such as the motor and sensory ones, and with the centres of other activities of the body and also with those regulating them. It is the highest and the most central office and authority over the functions of the brain. What is it composed of physically? It is composed of nothing but cells, nerve-cells or neuron bodies with their processes. The nerve-cells have all the properties of the general cell described before. They are governed by the same laws which are applicable to the general cell. Every nerve-cell can be equally looked upon as the unit of the world of Life as the

general one, and can be equally compared with the Atom, the unit of the world of Matter, like the general one. But we can speak of one more aspect in the case of the nerve-cells. And it is that the nerve-cells provide, as said before, the mechanism through which our Ego or mind acts or is acted upon. The nerve-cells in respect of this mechanism may be compared to an electrical dynamo which converts mechanical energy into electric one. They not only transform, under the law of Attraction or Affinity, the material carried to it by the circulation of the body into the material required for their own vitality like a general cell, but standing between the physico-dynamical material of the body on one side, and the Ego on the other, they convert it into a fine psychical material fit for being utilised by the Ego. We may term this material as the 'Vital Spirit'.

(B) The Vital Spirit and its Source.

The sensations carried to the nerve-cells of the psychical area, when received from the external world or from the body itself, are transformed into consciousness and presented to the Ego by this Vital Spirit on the one hand.

And the will of the Ego is by the same Vital Spirit presented as impulses to the nerve -- cells on the other, and ultimately converted into actions of the body. The existence of this Vital Spirit is an inference. But it is a highly probable and important link. There may yet be other sub -- links.

The Vital Spirit or Principle flows through and pervades our whole organism by means of the nervous system, of which the brain is the central station, and which has spread even to the minutest and remotest parts of the body. It is thereby in contact with the most internal parts -- the Ego and its faculties -- and with the most external ones, and with the regions between. It is intangible like the Elecrons and Protons at which we had arrived in the last analysis of the Atom. Its existence is inferred from known facts. It is a known fact that the nerve -- cells can alone contain the link, whatever its character may prove to be, between the Ego and the body or the organism. Other cells cannot be stimulated to manifest the particular activities attributed to the link, nor can they be depressed to result in the loss of those activities. These attributes constitute a special or additional function of the nerve -- cells, and an additional

function entails an additional mechanism.

Now, the nerve-cells, as said before, must create this mechanism or the Vital Principle out of the material they organise for their general functions, and their organised material has its source in the material, received through the circulation from the organic matter ingested by the body. And the organic matter is itself organised from the inorganic matter, as we have seen before in the instance of grass. Thus the Vital Principle has its source in Matter. And how can a Life-Principle be built from Matter unless the latter contains the seeds of the former ? Nothing can come out of nothing.

(C) The Process of Internal Assimilation.

In the examination of the general cell we have studied its process of assimilation. And we have seen that it includes sub-processes of transmissions and progressions necessary for a complete transformation of a given material into a required one. The conversion of the given material by the nerve-cells into the Vital Principle is a stage of a still higher progression or potentization. It is something more than mere atomisation or ionisation. Some enquiring minds have been tempted to compare it to the

radio-activity observed in Nature.

(D) The Ego and its Faculties.

In the examination of the internal phenomena hitherto done we have only seen the unique position held by the cells of the psychic area and the mechanism it contains for functioning as a mediator between the Ego and the organism. We are, therefore, still at the door of the Ego. The Life as we apparently find it, an expression of the Ego as manifested by the Vital Principle through the organism. To put it in quite common language, it is a united effect of the Soul and the Body. In order to thoroughly investigate the internal world, we must now try to study the faculties of the Ego and the processes involved in them.

The Ego is that which feels, thinks, and acts. It is something which the words 'I' and 'We' represent. It is again that something, which, while our organism is under the influence of an anesthetic, is conscious enough to perpetuate the life of the organism in the barest or the least necessary degree, and which urges the life on till it is impossible. It continually asserts itself against odds as in case

till its mechanism the Vital Principle, or the organism (as we find it in the outward appearance) is essentially disintegrated. It is impossible to conceive logically any state as a complete loss of consciousness as long as the organism is living. The state of unconsciousness is a state of the least consciousness. It is only death which may establish the state of complete unconsciousness from our standpoint. Even after the somatic death of the organism the individual cells and tissues constituting it retain their vitality for some time.

A cyclist's consciousness may bear a good analogy to what we are driving at. When he begins to learn riding his vehicle he is found strikingly conscious of all movements related to it, from hopping, ascending and balancing, down to descending. But after he becomes an expert in it, he goes on with so much ease that one would think that he is not conscious now of every one of the various movements. Is it then a fact that the cyclist is really unconscious of them? No. His consciousness is the least required, or a very rapidly working one. Consciousness is also infinitely divisible or reducible.

The Ego is ever feeling, thinking and

acting. Or to say the same thing in other words its urge to live and to grow is constant. We endow the Ego with faculties like consciousness, mind and will, and assign to them the functions of feeling, thinking and acting. The faculties and their functions are variously named, classified and sub-classified. But all of them are essentially the aspects of the urge mentioned above. The urge may be termed, as the philosopher Bergson does, as the 'elan vital' — a kind of vital surge, an immanent principle which pervades and which drives. We can easily imagine the finest and the grossest degrees of this urge. The Ego utilises the Vital Spirit provided by the organism for this urge. We have shown before how that highly potentized material has its source in the inorganic matter of the external world. And we can see therefore how the inorganic matter nourishes also the Ego and its faculties.

For more enlightenment on the relation of Matter and the Ego we shall examine one of the faculties of the latter, instead of all, namely the mind.

(E) Examination of the Mind.

Our mind cannot function well if our

organism will not nourish it for want of an adequate food. On the contrary an inadequate food like drugs alters and disturbs the mind. The organisation or disorganisaton of the mind depends upon the character of the ultimate material provided to it. Dr. Elmer V. McCollum of Johns Hopkin's University has observed that a mother's love is due to manganese in her diet! While describing the alterative creativeness of Matter we have said that Matter as it were imparts its own mind to the person who is acted upon by it. What is then the relation of the mind to Matter which sustains it and variously affects it? Do they form a duality or are they essentially one? Some scientists and philosophers call it an apparent duality and try to resolve it into a fundamental unity. Some have even endeavoured to eliminate mind and considered it as a highly attenuated form of Matter; while others have attempted to eliminate Matter stamping it to be a fictitious conception due to an experience which is purely mental. Modern psychologists are prone to regard mind to be less mental, and modern physicists also show a tendency to reckon Matter to be less material. Some boldly come forth to say that the difference between the two is a

difference not of substance but of arrangement.

When we study the pharmacological actions of Matter, we find that when it is administered in a crude form it does not show its action upon the mind as noticeably as it does when it is given in a highly attenuated or potentized dose. This clearly shows that Matter in a finely divided condition reaches the level or plane in which the mind exists. Gold and arsenic, for example, easily and rapidly make the mind peculiarly gloomy and peculiarly suicidal respectively when they pervade the organism in an attenuation similar to that of the mind.

Different persons possess different planes of mind. The fragrance of flowers or vibrations of sound, for instance, cannot affect minds of all persons in every plane. They can affect well only in similar planes.

But how can Matter affect the mind temporarily or permanently to the length of even, as it were, creating a new mind, unless the both are the same in substance or unless the former contains the seeds of the latter? A person under the influence of some drugs, as we have mentioned before, experiences a dual personality and there are cases on the medical record in which the mind is found to

experience altogether a new life or a commencement of a new life as a consequence of a disease. The mind in such cases has no memory of the life previous to the disease, the old mind is in its relation to memory disorganised, and a new one is in the process of being synthesized.

The mind is essentially an aspect of the Egoic urge. It feeds upon the impressions and sensations received through the organs of our body, as it does upon the Vital Principle or the highly potentized material provided by the body. The impressions and sensations are realities as the Vital Principle is one. The mind requires for its synthesis a combination with substances just as a photographic plate needs the contact of a reality or a substance. Even the sensations in dreams are realities, though they are a different type of realities from what we experience when we are awake. The realities, the cause of impressions and sensations, may be a vibration or another form of energy. All sorts of energy are in their turn Matter. Thus in the examination of the mind, mind and Matter seem to approach or identify with each other. What is true in the case of one faculty of the Ego is evidently

true in that of the others also.

(F) The Egoic Assimilation.

The Ego itself may be compared to a flower. A flower depends upon Matter for its budding, blooming, colouring, fragrance and all its glory and grandeur. The minerals, water and sunshine required by the flower are all nothing but Matter. The Ego similarly depends upon Matter for its life or the play of its urge. The urge or the 'elan vital' is ever moving and changing while it persists. The consciousness, the mind and the will, all these aspects of the urge are consequently ever moving and changing. The urge acts upon Matter and Matter acts upon the urge. And consequently we see the various displays and disturbances of Life, and a series of different planes of the urge and Matter is manifested.

The Ego itself must be ever dissatisfied. And in its dissatisfaction perhaps lies the root of the constant movement and change of its urge. The history of humanity has never recorded an individual who has attained a perfect satisfaction. There is in fact nothing which can be termed perfect. Perfection would

entail stagnation or inactivity. But we do not find anything in an inactive condition. What we commonly call perfection is in fact a lesser degree of imperfection. Similarly, what we term inert or stagnant is only relatively motionless or inactive. Otherwise the Universe and its time-honoured process of Evolution would have long before come to an end in the absence of dissatisfaction.

Within its own organism the Ego rules the Egoes of the numberless cells which constitute the commonwealth. But it is not satisfied with that much expansion. While it organises the continuance of its own impress through the impartation of all of its faculties and properties to the germinating cells, it strives to combine with and to assimilate the Egoes of other organisms. The meeting of the eyes, the shaking of the hands and the ardent embraces of the bodies are the outward manifestations of the internal Egoic efforts for combination and assimilation. The attitudes of sympathy, amenity, friendliness and kindness are inner signs of the same. Willingness to suffer and to sacrifice are the innermost indications of the same. And yet there remains the urge for absolute oneness

which tops all of them and which defies all attempts at its description.

But these are, after all, processes of the Ego to attract, assimilate and appropriate other Egoes. The combinations may be forced or willing. And this qualification would influence their cessation or persistence. The Ego as it were spreads its web around, and weaves into it the fine filaments of other Egoes. The notion of the halo, the conception of the aura and the idea of the mesmeric transmission of the will, all these express the phenomenon of Egoic affinity and influence. We feel ourselves being attracted towards others, and we attract others in our everyday life. The Egoes must have however different planes and must be capable of attracting better in similar planes. And that is why we actually find our affinity towards particular persons, and not towards all. Mere material and mental planes are many times not sufficient to explain the process of attraction though in fact the Ego is fed by them. The Ego must sometimes transform the planes of other Egoes, and raise them up to the height of its own for final assimilation. We can conceive the Ego in terms of its urge, faculties and tendencies only.

Thus there is the tendency of the Ego to grow larger, and for that sake to select and to aggregate. And we see that its combination only in similar and corresponding planes endures, while that in others ceases. Any further extension of this point leads us to Universal Assimilation and a synthesis of a possible Cosmic Life. But such a consideration becomes an obscurity and a failure. Such an analysis and a synthesis are very difficult problems, for, there is no end to them as there is none to relativity. It is a fallacious satisfaction to consider Self as subject and at the same time an object to itself, or to call the Ego as a knower of and at the same time known to itself, and thus to complete the investigation any how.

COMPARISON OF THE EXTERNAL AND INTERNAL PHENOMENA.

We shall now review the data gathered in the introspection, in order to compare them with the points of identity and difference we arrived at in the examination of the phenomena external to man.

We have examined the special property and function of the neuron bodies. investigated the source of the Vital Principle. analysed

Mind as one of the faculties of the Ego or the aspects of the Egoic urge, studied the urge and tried to discover the Egoic tendencies to a certain extent.

We have found that the whole internal world is a construction of one simple substance with difference of degrees and planes, and that it has its seeds, like the external world, in Matter. The result of the inquiry is in brief as follows. We find that,

(1) The substance is moving and changing and is thus ever active.
(2) It is infinitely divisible as its analysis is unending.
(3) It persists and is thus indestructible.
(4) It has a property to aggregate.
(5) It has a power to select.
(6) It acts upon others.
(7) It is governed by the one Universal Law -- the law of Attraction.

If we now bring before our eyes the points of identification between Life and Matter as investigated in the external phenomena, we shall find that there is a general identification between the externals and the internals. Whatever difference we have found is one between a few aspects of Matter and Life, but

not one between the externals and the internals as such. And even these points of difference are few.

In general, the difference is of forms and planes. In particular, it is one of plan. We have found that Matter is creative and Life is reproductive. Here lies the difference of plan. Matter and Life are not only realities but they extremely resemble each other if the difference of plan is excepted. The old concept of Matter as dead, passive and inert is not corroborated by modern developments in the physical science. On the contrary Matter is proved to be a mass of energies and activities, nay to be the Life itself.

And the internal world, as far as we could study it, goes to convince us that it is Matter through and through, till we find ourselves quite unable to think further. What we call the Ego or its urge is found to depend upon Matter for its feeling, thinking, acting and all its expressions and manifestations. All our Biological efforts to investigate, classify and generalise the various phenomena presented by Life or the so called living world, amount ultimately to nothing but to the application (to those phenomena) of the laws of physics and

of chemistry which govern the material world, and to recording the multiform and multifarious play of the urge which pervades Life as well as Matter. And they arrive at an essential unity between Matter and Life.

Matter and Life are considered by some to be mere different phases in the Evolution of the Universe. That Matter is an entity, a reality and that it is essentially identical with the Life, is a conception which is the starting point in the Realistic philosophy, and which is the basis of the Homeopathic philosophy--a philosophy of Medicine.

But the question remains to be answered as to why and whence is the difference of plan. Why is one manifestation of the same entity creative and the other reproductive? Whence do the diversities crop up? Is there an initial duality? Or, are there specific directions which cause two manifestations of the same entity? These questions are very difficult to answer. Some are inclined to answer them by presuming that the difference of plan and phase must have developed out of the Ego in virtue of some initial potentiality for diversity. Others may accept the existence of something which is beyond the Ego and which gives specific directions

to it. And they would quote in evidence the phenomena of mutation and metamorphosis observed in both the animal and vegetable life. They would attribute the power of such a sudden transformation to that ultra-Egoic something. Both the initial Egoic potentiality for diversity and the ultra-Egoic supreme power are presumptions insinuated by one's inability to solve the difficulty in any other way. And as such they neither provide us a key to unlock the ultimate problem of the Universe, nor simplify the scheme of the Universe if there be any definite one.

However, none can deny the existence of diversity or difference, though its aspect may be much limited and though one is not able to locate its origin. Nor do the phenomena of mutation and metamorphosis fail to suggest that what we call laws today may not remain the same tomorrow. We can record our experiences and act on their basis, because experiences are the only things of whose reality we can be assured. But that the occurrence of a thing was repeatedly experienced in the past is no security for its occurrence in the future. Repetition of experience gives us a probable law and not an eternal one. All our sciences

stand on probabilities and we work on them.

SEED OF ERROR IN THE COSMIC LAW.

Some philosophers have been wrongly led to suppose that the Universe is an absolute uniformity and that there is no scope for difference, deviation or error in it. Having started on such a wrong premise they can not consequently avoid meeting chaos and confusion in their deductions and actual experiences. They have been rightly confronted with the question as to how variation and heterogeneity can spring from an absolute uniformity and homogeneity. Similarly, how can one account for the deviations and errors in one's thinking, if nothing but pure uniformity is the rule of the Universe? If immortality would be the only phenomenon, what are we to attribute the phenomenon of death to? If we grant that assimilation is the only order of the Universe, where are we to locate the process of disassimilation? Or, if attraction is the only Cosmic canon, whence does repulsion arise?

We observe in our every day experience the dualities of right and wrong, love and hate piety and sin, ease and disease, likes and dislikes, and a myriad of differences and deviations

accompanying uniformity and homogeneity. We are led, therefore, to think inductively that there must be seed of error or of freedom for these differences and deviations in the Cosmic law.

SUMMARY. AND THE BASIS OF HOMEOPATHY.

We shall now summarise our conclusions regarding the Universe which we have arrived at through this cursory study of Matter and Life.

(1) The Universe consists of one substance, Matter and Life being the manifestations of its urge.

(2) Its urge is towards perfection as manifested by its efforts to grow and to heal.

(3) It is ever dissatisfied as it is constantly moving and changing.

(4) It is governed by one general law of Attraction or Assimilation, deviation from it being due to imperfection or seed of error or of freedom in it.

The Homeopathic Science stands, as will be seen hereafter, on the Realistic view taken of Matter and Life of which the Universe consists, and on the Law of the Universal Attraction.

CHAPTER TWO.

HEALTH.

'Health', says Prof. Hewlett, 'may be defined as that state of the organism in which both structure and function are in the condition which experience has taught to regard as normal.' But he does not seem to have been satisfied with his own definition, 'since', to quote his own words, 'no two individuals exactly resemble each other and consequently he finds it difficult to say what should be regarded as the normal. He is right in leaving the meaning of his definition to the reader's broad conception of normality.

In physics, when we make statements about our observation of certain quantities, we are used to say that such and such is the mean of the observed quantities. And the mean is the normal quantity.

Our physiological condition depends upon several influences acting upon our organism, namely the intrinsic influences which we bring

into the world with us, and the extrinsic ones which act upon us after our birth. The extrinsic circumstances are perpetually changing, food, drink, dress, atmosphere, exertion, occupation, in short the whole environment being inconstant; and consequently the physiological state is not an exact and constant quantity. It varies with the circumstances. Yet we can find out the mean of the changing quantities, and that is the health or the normal state of the body.

ITS FEATURES.

In health the structure, that is, the tissues and the organs of the organism are built and developed systematically; the metabolic processes and the regulating mechanisms work on properly; the chemical and the biological elements of the blood are regularly organised; the reserve forces are evolved; in short all the vital processes and functions go on in an orderly manner and create a physiological equilibrium which we call health.

'Health', as Prof. Close very succinctly defines, 'is that balanced condition of the living organism, in which the integral harmonious performance of the vital functions tends to the

preservation of the organism and the normal development of the individual.' The potentiality to preserve the organism by accomodation and adjustment to the changing environment is one of the essentials of health. It is a reaction of the Vital Principle or the Ego of the organism to external stimuli. And the reaction presents various vital phenomena in health as well as in disease.

The reactionary phenomena in health and in disease shade so imperceptibly into each other that it is many times a very difficult task to draw the line of demarcation between those of health and those of disease. For instance, the cardiac rate is accelerated by drink and by emotion; the blood pressure is low and the conduction of sound in chest is quite easy, in childhood; the Babinski reflex is common throughout infancy; and the temperature curve tends to invert in those who work at night and rest by day. But none of these states can be put in the category of disease. We, however, find out the mean which is characteristic of the body's reactions to all circumstances and which is at the same time compatible with the sense of well-being and normal development of the organism, and that mean

we include in health, and every definite deviation from it we term disorder or disease according to the intensity of the effect of the deviation upon the normal condition of the individual.

The organism continues normal in accordance with the laws under which it has reached its normal form--the health. Health is our normal life. It exhibits the spirit of buoyancy in its perfect condition. An ideally healthy individual feels, thinks, acts and reacts in an exceedingly lively manner. To him thoughts are no burden, but as it were wings on which to fly into infinity. To him the feeling of life is a feeling of delight, and the idea of death is an idea of well-earned rest. To him earth is heaven, and any age the golden age. Work to him is 'keeping pace with the earth' and a participation in 'life's procession towards perfection.' To work is 'to be intimate with life's inmost secret.' 'Work is love made visible' to him. Sorrow is to him a shadow of pleasure, and darkness the bedtime of light.

ITS ORIGINATING CENTRE.

All this spirit of health is evidently the manifestation of the will or urge of the organism behind it. It receives its

direction from an originating centre. Every physical action is primarily a psychical or Egoic action. We have observed in the previous chapter that the fine processes going on in the cells of the psychical area include a stage beyond mere atomisation of Matter and that the physicists have nowadays succeeded in reducing Matter to two different kinds of units, viz., the Proton and the Electron, instead of to one (the Atom) as was formerly done. And it is asserted that it is the nature of the nucleus formed by Protons which characterizes an element. Recent studies in this direction go to confirm that enormous forces are concentrated in the Protons. And it is clear from the constructional and other resemblances we have instituted between Matter and Life, that the spirit or force of health must lie essentially in the interior of the Atoms of the nerve-cells --the originating centre. The health of an individual is thus primarily the health of the interior of the originating centre.

The Protons which are the source of all energy of the Atoms occupy however a negligibly small part of the whole volume. In and individual the combined volume of all Protons would, as it is calculated, amount

almost to an invisible speck. Yet the individual owes his whole existence to that speck. The relation between the mass of the Proton and Energy is such that a little mass corresponds to a great deal of Energy. Prof. Thomson says that 'a pound of Uranium (one of the Elements) would give enough Energy to take a liner across the Atalantic.' It will be quite evident from the extract we give below that we are not exaggerating the correspondence of the health of the originating centre to that of the whole organism.

Prof. Thomson observes,—

> **'A person's free will might control the events in a few key atoms which would in turn control the future history of the brain and body. Undoubtedly living matter, and perhaps the brain most of all, is in a very delicately balanced state of equilibrium, so that it is quite conceivable that the behaviour of a critical electron in a critical atom might control the course of events in the brain and so the behaviour of the body.**

Electrons occupy a secondary position in the Atomic constitution. So what is true of them is thousand times true of Protons which form the very Atomic nucleus. The

conception of the soundness of health must, therefore, now include not only the soundness of the tissues and organs described in the present day histology and physiology, but also the soundness of the minutest Atomic constituents which are at the originating centre. In the light of the new physics the human psychology is being remoulded and the physiology will also have to be rewritten.

FULFILMENT OF OUR WILL.

The fulfilment of our will or urge rests upon the soundness of the health of our mind and body. 'In the healthy condition of man,' Hahnemann, the founder of Homeopathy, has rightly said, 'the spiritual vital force, the dynamis that animates the material body, rules with unbounded sway, and retains all the parts of the organism in admirable, harmonious, vital operation, as regards both sensations and functions, so that our indwelling, reason-gifted mind can freely employ this living healthy instrument for the higher purpose of our existence.'

CHAPTER THREE.

REACTION AND NATURAL IMMUNITY.

> 'All forces are of the nature of a stress between portions of matter, since Newton's third law states that every force must necessarily be accompanied by an equal and oppositely directed reaction.' – WATSON.

By 'stress' is meant the whole phenomenon of the mutual action of two portions of Matter when one portion acts on another so as to influence its state.

Physiological, pharmacological and all kinds of response manifested by the organism are of the nature of stress or mutual action. For example, the digestive, assimilative and metabolic processes going on in the organism are nothing but phenomena of mutual action of the material of the body and that of the food. Pharmacological and therapeutic provings of drugs record a similar occurrence. These various responses given by the organism are reactions to specific stimuli.

Every force or stress as stated above implies an influence of one portion of Matter over the state of another portion of Matter concerned. But as long as the stimuli do not so much influence the organism as to affect its health, the organism reacts without any apparent knowledge of the reaction.

THE SOURCE OF IMMUNITY.

This power to react or to resist possessed by the organism is the source of immunity, natural or acquired, manifested by it towards diseases or drugs. Natural immunity is thus the inherent power of the organism. It is either possessed at birth or developed during growth. It is possessed by virtue of species, race or individual peculiarities. We thus find hens immune to tetanus, Algerian sheep to anthrax, and dogs, goats and rats to tubercle. Racial immunity is confined to certain races. For instance, the Ethiopian race is immune to yellow fever. Some other races are immune to enteric fever. Death-rate of measles is not very high among the Mongolian and Caucasian races, and measles is now milder in Europeans after many generations. Certain races and animals show also natural tolerance towards

some drugs.

FEATURES OF IMMUNITY.

Immunity is found in varying degrees in different individuals and at their different ages. For example, scarlatina and diphtheria do not equally affect all persons and are found to occur more and more rarely as the age of the individuals advances. Individual immunity is transmitted to the individual after it is acquired by his ancestors as a result of prolonged and repeated exposure to the same risk. However it is rather relative than absolute.

Immunity is otherwise called insusceptibility. Natural immunity or insusceptibility of the organism hinders pathogenic micro-organisms from invading the organism. If they invade it, it obstructs their further growth and does not allow their toxins to develop. Generally an adult human being having normal health appears to be practically immune to many natural infections.

FACTORS IN IMMUNITY.

The human body is in the first instance protected from the pathogenic bacteria by unbroken surfaces of the body, viz., the skin

and the mucous membrane. The mucous membrane contains, besides its lining epithelium, substances which can act bactericidally. If the bacteria, notwithstanding these defensive lines, get admission into the body, the gastric juice in the alimentary canal, the lymphatic glands in the course of the lymphatic vessels, the phagocytes in the blood, and the fluids in the tissues may destroy, obstruct, devour or limit them. The bacteria are besides driven out by a flushing action of the circulation which is increased after an infection. Even the normal body temperature is to a certain degree protective. Bacteria grow and live best in a particular temperature. So temperatures below or above the one required by them are detrimental to their growth and life. For instance, chickens and frogs are found naturally immune to anthrax on this ground. If, on the contrary, the temperature of an animal is raised or lowered in experiments, to suit particular bacteria, the animal is infected.

Thus there are many factors in the body which exert germicidal, obstructive and eliminating actions upon the bacteria and offer a natural protection to it. When the number of bacteria or the amount of the toxin given out

by them is small, non-specific reactions, like the acceleration of circulation, the dilatation of blood-vessels, and the processes of oxidation, hydration and dehydration normally going on in the body, are called for and are competent to protect the body from infection and intoxication. But when the number of bacteria or the amount of their toxin is large, specific reactions are needed and they take place.

THE MAIN FACTOR.

Out of the various factors which offer natural immunity to body as described above, some or all may be found working in different cases. No hard and fast line can be drawn regarding their operation. But undoubtedly phagocytosis is the main factor in the majority of cases; the inhibitory, disintegrating or destructive aid given by the body-fluids plays a secondary role. The efficient phagocytosis available in natural immunity depends upon the presence of the normal amount of opsonins in the serum. But the very opsonic index or all the factors in the blood constituting natural immunity, as well as the potentiality of lymph and other fluids and of tissue-juices towards its maintainance, depend upon a supply of

proper food and vitamins, light and air, and upon regular life and favourable environment.

IMMUNITY AND ADAPTABILITY.

Immunity is one of the many kinds of adaptability seen in the life of an organism. It is manifested even by unicellular organisms. The property to adapt is one of the inborn properties of the protoplasm itself.

Life (exhibited through various protoplasmic properties) is, as we have seen in the first chapter, a manifestation of the one substance of which the Universe is composed. Its urge is towards perfection as is evident from its efforts to grow, to heal, to adapt and to preserve. Reaction and immunity are thus aspects of its urge. In their absence, disease would have been a matter of daily occurrence. For, as Hahnemann rightly observes, 'various pathogenic causes act upon us daily and hourly, but they are unable to upset our equilibrium and to make the healthy ill; the activity of the life-preserving power within us tends to resist the most of them; and as a rule the individual remains sound. It is only when these external noxae are increased to a violent intensity and attack us when we expose ourselves too much

to them that we are made ill.'

That Hahnemann should frequently lay great stress in his writings, before more than a hundred years, upon natural immuunity -- the innate protoplasmic property -- and its dependence on maintaining a wholesome regimen, is significant of the clear insight, deep thinking, and mastermind he possessed. Even in his latest writings (1838) he reiterates the recognition he gave to this property in the following words: "Incredibly great are the resources of the spirit-like vital principle imparted to man by the infinitely benevolent Creator, if we physicians did but know how to keep it right in days of health by a properly regulated wholesome regimen, and in diseases to summon it forth and stimulate it up to the proper mark."

The acknowledgement of this natural property -- the law of reaction -- concerns much, as will be seen later on, the principles of Medicine fundamentally.

CHAPTER FOUR.

SUSCEPTIBILITY AND IDIOSYNCRASY.

Some books have been found to state that susceptibility is the passive state of the animal body when the body is acted upon by bacteria, toxins, drugs or any substance. It is a half truth to say so.

DEFINITION OF SUSCEPTIBILITY.

Passivity means inertness, want of action, want of resistance, submissiveness. But there is nothing in the Universe which is absolutely inactive. There is no action which is ever onesided. A susceptible organism is again inactive in a relative sense so far as the prevention of an influence is concerned. But it is so sensitive to the active influence that its reaction towards the influence is excessive or more than the normal one. In short, its resistance is subnormal while its reaction is abnormal. A rare form of susceptibility may be conceived where it may be synonymous with

subnormal reaction resulting in collapse.

In the light of what we have said above, it is also difficult to agree completely with the following definition of susceptibility offered by Dr. Cushny. He says, 'by susceptibility we mean the general quality or capability of the living organism to receive impressions; the power to react to stimuli. Susceptibility is one of the fundamental attributes of life.' This definition is rather a border-land confusion. Firstly, a susceptible body is over-impressed. And to be over-impressed can not be called a quality. Then, a susceptible organism reacts more than what it must normally do. And to be over-reactive cannot be exactly described as a power. To be over-impressed or to be exaggeratedly reactive cannot also be called an attribute. It is, on the contrary, a defect in the fundamental attribute. Susceptibility is aptly defined as morphological or constitutional unbalance by some authors.

However, to be fair, it must be admitted that it is very difficult many times to distinguish abnormality and subnormality from normality, as also reaction from resistance.

DIFFERENCE BETWEEN REACTION AND RESISTANCE.

The distinction between reaction and resistance must be however as thoroughly understood as it is possible. Reaction and resistance are parallel at a particular stage. For instance, normal reaction is normal resistance. But abnormal or exaggerated reaction is subnormal resistance. Otherwise susceptibility would mean abnormal resistance which is in fact tolerance. For illustration, hedgehogs resist large doses of many very active poisons. That is, they show abnormal resistance, not abnormal reaction. The word resistance is used, to some extent, in its colloquial sense by some authors in connection with tolerance, to which we are going to refer more later on.

CAUSES OF SUSCEPTIBILITY.

Some races and animals are found peculiarly susceptible to disease-conditions. We in everyday practice come across individuals who acquire and suffer from almost all ailments trivial or serious. It means they are highly susceptible to them. Their resisting

power is deficient. They lack in the factors conducive to natural immunity described in the previous chapter.

Heredity, disease and faulty regimen and environment are generally responsible for the the causation of susceptibility. Not less important however is the fact that continuous use of some drugs like caffeine, quinine, strychnine, alcohol, tobacco, morphine and others creates a kind of general sensitiveness or susceptibility in a person, though the medical profession is prone to ignore the possibility of susceptibility being caused by such an action of drugs.

Among all these factors, disease, as Dr. Boericke observes, is the 'universal sensitizer.' Disease certainly breaks down the natural barriers of the body and renders it susceptible to the action of disease and drugs – a condition which might not have been possible in health. But that the disease--conditions make the organism more susceptible to the action of drugs is not, as he complains, recognised even by the U.S. Pharmacopeia Council. Hahnemann, however, before more than a century had brought to the notice of the medical world, in his 'Medicine of experience', the fact that in diseases

the sensitiveness of the organism to medicines is immensely increased. He was quite conscious that in his days an ordinary observer had no conception of this fact. But it was indeed, as he says, true at any rate when a disease had attained a great height. We find, for instance, a tenderness of mouth in sprue, of stomach in gastritis, of bowels in diarrhoea, dysentery and enteritis; and also a sensitiveness of nerves in cases of neurasthenia caused by diseases like influenza, typhoid, syphilis, or by those leading to various malnutritions and toxemic conditions. Under all these conditions the organism is more susceptible to action of drugs as well as diseases and other influences than what it was before. Diseases influencing glands which provide internal secretions so as to disturb or destroy their functions create a deficiency of those secretions and render the organism more susceptible to various influences. And that is why we temporarily provide the organism with deficient salts or active principles, or with drugs which restore the functions of glands, and thereby we remove its susceptibility. These deficiencies may be congenital in an individual. We shall refer to their congenitality later on.

It is obvious how want of a nourishing food and absence of necessary vitamins make a person susceptible. For example, the absence of 'A' vitamin leads to susceptibility of the eyes as in xerophthalmia and keratomalacia. It is also evident how irregular habits and life and unsuitable environment would give rise to susceptibility.

The problem of susceptibility leads to that of idiosyncrasy. Idiosyncrasy is an individual peculiarity either in the form of susceptibility or of tolerance, for both forms of which no explanation is supposed to be found.

IDIOSYNCRASY AS SUSCEPTIBILITY.

As instances of inexplicable susceptibility, cases having congenital oversensitiveness towards particular drugs, articles of food like milk, pollen-grains, smell of some or all flowers, tunes of songs in a particular pitch, and particular environments can be cited. And such idiosyncratic cases do not develop tolerance towards these substances and conditions after a short or long period, nor are they known to have developed any demonstrable antibodies against those substances.

We have frequently encountered persons

having idiosyncrasy for the best sugar and excellent butter. The person having idiosyncrasy for sugar complained of irritation and disturbance of his alimentary canal after ingestion of even a grain or two of it. We remember individuals whose particular sentiments are found to be extremely affected under the influence of particular musical notes when the orchestra strikes them up, irrespective of the accepted sense and sentiment associated with the music. Can these susceptibilities not be explained in any way ? We understand the congenital or herditory susceptibility of an individual or a race towards a disease. We can also conceive how super--numerary digits, a cataract and other abnormalities can be congenital or inherited under the Mendelian law. Then, we meet, in our daily practice, various constitutional predispositions to some diseases. Some persons, for instance, have a constitutional tendency to gout, some to hemorrhages, others to rheumatism and yet others to aneurysm. And we recognise these uratic, hemorrhagic, rheumatic and aneurysmal tendencies as diatheses. We may add a number more, like the lithic diathesis, tne furuncular diathesis, and so on. And if it is possible for persons

to inherit constitutional dispositions towards diseases, it must be equally possible to do the same towards particular drugs, foods, smells, sights, sounds and environments. That would mean that parents must have acquired such susceptibilities after being unduly exposed to, or overinfluenced by those particular drugs, articles or conditions, and thereby transmitted them as such idiosyncrasies into their children. That 'the sins of parents are visited upon children' is realised in daily practice more by physicians than any one else ! Thus deficiencies, excesses, abuses and various exposures in parents can descend down in children as diatheses, predispositions, susceptibilities or idiosyncrasies. It may be borne in mind here, that "the organism", as Hewlett says, "is influenced by the sum of the forces primarily derived from the parents, and is subject to the phenomena comprised under the term 'heredity' which are active, not only in utero but also after birth."

The idiosyncrasies as susceptibilities have a wide range and are capable of being explained after a diligent search if we can shake off our deep-rooted medical orthodoxies and conventionalities.

We are generally cognizant of an idiosyncrasy

for a drug, and thereby we understand generally an unexplainable oversensitiveness to it. But even in this restricted field of drugs we seldom trouble ourselves to find out an explanation, and never perhaps do we try to understand why and how different individuals, as it is observed sometimes, should be oversensitive in different doses of the same drug but not in all its strengths. Idiosyncrasy towards iodine, for example, is manifested in different persons in different strengths of the drug. Some are affected with its few drops when administered internally, some with its little external paint, and others with its mere smell. As far as such an idiosyncrasy is congenitally observed, it can be, as some investigators maintain, attributed to various degrees of abuse of the drug in the parents. An idiosyncrasy, when it is explained, is no longer an idiosyncrasy but a susceptibility or a predisposition.

IDIOSYNCRASY AS TOLERANCE.

As we have stated before idiosyncrasy is found also as tolerance, just as it is found in the form of susceptibility. The tolerance is met not only in the field of drug-influence but in that of other influences also. It is

also seen congenital and acquired. Some species of animals, as we know, put up with large quantities of drugs which other animals of the same size may find quite lethal. Persons belonging to some races in India can tolerate tamarinds and peppers in their food in excessive quantities, while a few persons are found to possess so sensitive a mucous membrane as to be irritated with even a grain of pepper or with the slightest acidity of any kind. Some individuals can naturally tolerate carbohydrates, fats or salts in excess. Some show congenital tolerance towards extreme cold or heat. And there are some who can easily put up with abnormal physical or mental strains, sudden variations in atmospheric pressure (as in aviation), heart-rending scenes and shrillest possible sounds.

Tolerance is seen acquired in some cases through a prolonged use or association of a thing or condition. Such a tolerance towards drugs like quinine, morphine, cocaine, mercury, arsenic, etc., is a wellknown fact. That a tolerance can be developed similarly towards influences other than the medicinal ones need not be dwelt upon.

Recently there is found an increased ten-

dency in pharmacological Books to account for idiosyncrasies either of the type of susceptibility or of that of tolerance. Abnormally rapid or abnormally retarded absorption or excretion of a drug is held responsible, in some persons, for their idiosyncrasy towards it, while in other instances the fact, that a drug like nicotine becomes a normal constituent of the tissues and hence creates its tolerance, is brought to our notice. But there arises a question as to why it should be so created in some and not in all cases. And this leads to the problem of the individualisation of a case under investigation. The question has its answer in a thorough study of the history of an individual or his parents according as an idiosyncrasy is acquired or congenital.

TOLERANCE, RESISTANCE AND REACTION.

A few words may be said here regarding Dr. Cushny's definition of one form of idiosyncrasy. He says, 'one form of idiosyncrasy consists in the failure of the individual to react to the ordinary dose of a drug. This is known as tolerance.' As instances of this form of idiosyncrasy he mentions how a hedgehog resists large doses of active poisons, and how a rabbit resists large

quantities of atropine. We do not believe that tolerance can mean a failure to react. The very instances would go to contradict the statement which they are meant to support. Tolerance is, in fact, the capacity of enduring a drug. It means an accomodation of a drug with or without neutralisation of its action. As an instance of the first case, tolerance of morphine means the power of the tissues to oxidize the alkaloid and to endure it in its chemically changed condition. The exhibition of this power by the tissues is a sort of resistance to morphine in its original form, and resistance implies a reaction of a certain degree. As we have said before, a normal resistance is a normal reaction. As an instance of the second case tolerance of nicotine is its accomodation without its neutralisation. The organism endures it as a normal constituent of the tissues after a habit is formed for it. When nicotine is so endured the organism is not required to exert any resistance, and consequently no reaction is called for. But an absence of reaction is not necessarily a failure of reaction. For, a failure of reaction conveys the impression that a reaction is called for but it is not forthcoming. Such a condition would then amount to anaphylaxis, shock, or collapse where

there is a lowering, a depression and a failure of vital activities. Thus two things are clear: one that tolerance is not in every case a sort of resistance as there are two types of it, and the second that an absence of reaction is not necessarily a failure of reaction.

The matter can be now summed up in a few general considerations. It is evident that there is fundamentally no difference between susceptibility and idiosyncrasy as far as the factor of sensitiveness is concerned. Idiosyncrasy found as tolerance is different from that found as susceptibility. Drugs are not the only factor that causes sensitiveness. Sensitiveness is found in some cases only to the causal factor, but in others it has a general character, that is, it is found towards other influences also besides the causal one. Lastly, individualisation is absolutely necessary for a thorough understanding of the constitution of a given case. A crystallized conception of the principle of individualisation is one of the immortalising contributions of Hahnemann and Homeopathy to the Medical Science. The sick humanity will be half cured of the ill-understood ailments under which it is groaning, if the medical profession will seriously take to mere individual-

isation of the sick." Individualisation has been already found to be a key, by the Homeopathic physicians, to many difficult cases, and it will be found to be so by those of other schools also. This point will be dealt with in details in connection with the clinical investigation.

CHAPTER FIVE

DISEASE AND PATHOLOGY.

(SECTION I)

DEFINITION.

Disease may be defined as the altered state of life, tending to or resulting in organic changes or dissolution. It is a disturbance of the life--organisation or the life--economy, giving rise to deviation of function or structure from the normal as manifested by symptoms.

It is evidently a departure from health and it is a condition detrimental to the existence and the perfect development of the organism. The science which deals with its cause, character, and termination is called pathology.

WHAT IS DISEASED ?

The standard treatises on pathology study with this view--point, the anatomical, histological, physical, and chemical changes that occur in the organism in disease. Or, in other words, the alterations in the organism that

are manifested by symptoms are interpreted in terms of anatomy, histology, physics and chemistry. For instance, the symptom of thumping in the chest or of a praecordial distress may lead to the investigation of the hypertrophy of heart which is an anatomical change. The symptom that much albumen is passed through urine may prove chronic parenchymatous nephritis which is a histological change in the tubules of the affected kidney. A defective sight may reveal errors of refraction due to mere physical alteration in the refracting media. And the symptoms of acidosis may bring to light an alteration in the chemical composition of the blood and urine.

The studies and researches in the pathological field are no doubt a great monument of their authors' immense sacrifice in the cause of humanity. But the problem of disease, it must be admitted, is yet left half uninvestigated. For, the life-organisation does not comprise mere anatomical and physiological aspects of the organism.

DYNAMIS AND EGOIC CONSTITUTION OF THE ORGANISM.

Life-organisation is made up also of an intangible Vital force or Dynamis which pervades

the whole organism, and which, as we have shown in the first chapter, is a link between the Ego or the inner man and the body or the outer man. The outer man or the body is tangible, and its various aspects mentioned above have been deeply studied for pathological purposes. But the Dynamis and the inner man are intangible and consequently incapable of being subjected to macroscopic, microscopic, or any laboratory examination. They have been, therefore, not studied or very little studied by the medical science either in health or in disease. The existence of the Ego and of the Vital force cannot however be denied. It may be recalled here from the first chapter that the Ego is expressed and manifested through the Vital force, and that the latter is nothing but highly attenuated Matter. The Ego, the Vital force, and the body of which the organism is composed, are all, as we have seen before, nothing but one substance in its different forms and planes.

AFFECTIONS OF THE DYNAMIS AND THE EGO.

Now, if this all-pervading substance is capable of being diseased in the form and plane of the body, it must be also, it naturally follows,

capable of being diseased in the form and plane of the Dynamis and the Ego. And there is evidence to show that alterations in disease do not pertain to merely the anatomy and physiology of the organism but also to its Dynamic and Egoic constitutions.

The Ego, as we have described before, rules within its organism the Egoes of the numberless cells which constitute the commonwealth. It strives to assimilate and to expand and it depends upon the Dynamis or the Vital force for its government. The Vital force in its turn depends upon the cellular or material constitution of the organism for its maintenance. Every cell out of the innumerable ones which make up the organism is again itself a miniature organism consisting of its own Ego, Dynamis and body. Every such cell has its autonomous government, all these cellular autonomies being guided and regulated by the central government in the interest of the commonwealth. If the central or the local Ego or Dynamis is disordered, the central or local government must be necessarily disordered respectively, nay the local government may suffer for the central disorder in proportion of its dependence upon the latter for guidance and regulation; and

vice versa the central may suffer for the local disorder as far as it depends upon the local government for its growth and expansion. It must be constantly borne in mind that the Egoic, Dynamic and the bodily planes are fundamentally made up of one and the same substance. Names differ only to suit our comprehension. A nomenclatural difference in the physical plane may by analogy impress the truth of what we say. For example, if an iron vessel containing a lump of ice may be strongly heated, we shall soon find the hydrogen monoxide (H_2O) in three different forms, namely the solid, the fluid and the vaporous ones, in the same vessel. And yet it is nothing but hydrogen monoxide notwithstanding the fact that it is differently seen and named.

Books on pathology state exhaustively how the organism is diseased in its material or bodily plane, but very little how it is affected in its mental one. The ideas that the organism has its Dynamical and Egoic constitutions, and that consequently their disorders or alterations will also form a distinct and independent pathology, have not received due attention at their hands. No one however disputes about the existence of the Ego or the

inner being. Nor is the fact disputed about that the inner being is expressed and understood through the Vital force of the organism. And hence there should really be no difficulty in accepting that the disorders of the inner being must also be capable of being understood through the diseased condition of the Vital expression of the organism, or that if a disorder is of a very serious type it may ultimate in a disordered bodily expression also.

The Ego has these two natural channels of expression, viz., the Dynamical or Vital primarily, and the bodily or material secondarily. If the inner man is affected the affection may be manifested by purely Dynamical or Dynamico-material symptoms.

The pathological condition of the material constitution of the organism must have in its turn its reflections on the Dynamical or Egoic constitution of the organism. The standard pathological treatises take due cognizance of the reflections thus flowing from the material plane to the Dynamical one, as they are found to speak of disorders of mind, will, consciousness, subconsciousness and personality, emanating from material diseases of the organism, of the type of irritation, depression, degeneration, destruction,

intoxication, etc., of the cerebral matter. But they have only glimpses of reflections or effects running reversely from the Egoic and Dynamical planes, when they are primarily affected, towards the material one as in the case of some material disorders which they can trace back only, for instance, to the hysterical diathesis of a patient. They can not, however, in such cases attribute the vaso-motor disturbances like an actual congestion or pallor in a part of the body and many other strange disturbances to any affection in the material plane, either of a physical, chemical, or microbic nature.

And what is this hysterical diathesis? Hysteria is vaguely termed as a psychosis by some. It is plainly admitted that in such cases morbid states like paralysis, contractures, etc., can be induced by a suggestion and they may afterwards ultimate in a muscular atrophy even. But it is not explained how the mind in such cases has originally grown so suggestible. In the opinion of White, who has tried to explain such phenomena, the hysterical symptoms constitute a defence of the Ego against the revival of the repressed traumatic (sexual trauma) experiences of childhood. A sexual trauma is a psychical affection. And the defence

by the Ego is an Egoic action. So it remains open to question as to why some persons should alone be liable to the effects of a sexual trauma, and not all. Again, what is the Egoic defence or action imagined by White? The Ego is something beyond the mind. Defence is a reaction, and a reaction is preceded by an action. The Ego must be acted upon before it reacts or defends. The Egoic defence conceived by White thus gives a glimpse of an Egoic affection. Osler calls hysteria 'a disturbance in the sphere of personality.' But what is this sphere of personality? All such statements are no doubt made vaguely. But they are rather unintentionally provided evidences of the affections of the spheres or planes which do not belong to the body or even to the mind as far as the material side of the mind is concerned; in short they are admissions of the disorders of the immaterial or Dynamical spheres.

We need not however depend upon mere glimpses and faint admissions. We have clearer and more convincing evidence bearing on the point. A healthy woman, for instance, whose body can reveal no antemortem or post-mortem pathological lesions, is sometimes found to die suddenly after the death of her husband

or child. Is this not a purely immaterial disorder pertaining to and emanating from the sphere of personality or of the Ego ? Again, a wave of a tremendous thought sweeps over a country, and consequently people, who are known to have possessed a selfish, timid and a diffident mind for generations together, suddenly come forth to show to the world a sacrifice, a courage and a confidence which none could have ever expected of them even in the course of a century of strenuous efforts. Do we not know the illiterate people of Russia and India who left their lands and houses rich with centuries--old dear memories for a principle, for a wave of thought ? What does the wave affect in such cases ? Is it the physical, chemical or material stratum of the organism that is affected here ? No. It is the immaterial aspect of the mind, the Dynamis, the Ego, the inner man, the personality, which is occassionally and vaguely referred to by the accepted books on Medicine, but which is frequently and definitely laid stress on by Hahnemann in his ORGANON and other writings, that is affected here.

We may come down to the medically recognised mesmeric or hypnotic phenomena and the psycho--therapy. The hypnotic suggestions

and the mesmeric passes have been claimed by eminent physicians like Osler and Savill to be powerful instruments in altering the consciousness, and in bringing under the control of the operator the mental states and the organic functions of the subject. Now, what are the spheres where the hypnotic suggestions and the mesmeric passes operate? Surely the suggestions and the passes are not carriers of any tangible material instrument or agent. They work primarily in the spheres of their own kind, viz., the immaterial or Dynamical ones belonging to personality, the inner man, and then and thence secondarily and indirectly in the material one. The psycho-therapy is admitted to be working miracles in all suggestible subjects who are not necessarily hysterical, epileptic, or anemic, as even strong and healthy men are found suggestible without possessing any lesion as yet known to pathology. The Dynamical or immaterial character of the psycho-therapeutic methods is more vividly brought to our notice in cases where the mesmeric passes are administered to rouse the subjects from their sleep on account of which they are not capable of receiving any hypnotic suggestions. The passes themselves are in no

way physical or material as everybody knows that the hand of the operator works keeping a distance of an inch or more between itself and the body of the subject. The passes cause an influx of Vital or Dynamical force into the subject. This 'fine vital spirit', as Hahnemann calls it, which is communicated from the operator to the subject, is purely Dynamical or immaterial.

It is perhaps clear to the readers that if we make a diligent search in the books on pathology and medicine with this insight, we shall meet an ample evidence even there, of course unwittingly provided, about the immaterial and Egoic spheres of the organism and about their disorders. Such is one in the form of the terms 'neuroses', 'psychoses', 'idiopathies', 'neurotic diatheses', 'self-existing diseases', etc., used in connection with the phenomena of trance, hysteria, some forms of epilepsy, catalepsy, somnambulism and such other conditions of which no material lesions are known. Similar evidence can be gathered from the actions of drugs which are administered in high attenuations and which consequently give rise to peculiar sensations or other mental conditions without causing any material lesions.

THE DYNAMICAL OR THE EGOIC SYMPTOMATOLOGY.

Now, though the Dynamical and the Egoic diseases or disorders are not always manifested through any material changes, they have no doubt their peculiar symptomatology through which alone they are then made known to us. But, when after having primarily affected those spheres, they spread afterwards secondarily to the material sphere, they are made known to us through the material signs and symptoms also.

The peculiar symptomatology of diseases confined to purely immaterial spheres comprises symptoms indicative of altered character, mood, or disposition, or indicative of perverted thoughts, perceptions and sensations, or of peculiar likings, aversions, aggravations and ameliorations.

And this Dynamical or Egoic symptomatology is logically a result of the Dynamical or Egoic pathology, as every symptomatology must be preceded by a certain pathology, and as this particular symptomatology has no known material pathology to account for its occurrence. Once the conception of the Dynamical and the Egoic constitutions of the organism

is accepted, there should really be no difficulty in accepting also their liability to take on diseased or pathological states, as every thing that exists is ever changing in a right or a wrong direction. As the Dynamis and the Ego cannot be seen under any microscope or felt with any instrument, it is evident that their pathological states also can not be seen or felt with any instrument. But this circumstance can not become a hindrance to our knowledge of them as Hahnemann says in his ORGANON that 'there is, in the interior of man, nothing morbid that is curable and no invisible morbid alteration that is curable which does not make itself known to the accurately observing physicians by means of morbid signs and symptoms.' These morbid manifestations constitute the Dynamical or the Egoic symptomatology and reveal the 'invisible morbid alteration' or the Dynamical or the Egoic pathology on which Hahnemann has based his new medicine and therapeutics.

In every disease the immaterial spheres of the organism are affected. The disease-cause may affect them primarily in some cases and secondarily in others. But in every case they must be affected to a smaller or greater

extent, because there is no part of the organism which is not animated by them. The organism is, in fact, inmaterio--material, the immaterial substance being materialised, in the material constitution of the organism, as cells and protoplasmic substance for the very display and the needs of its urge. Consequently, alterations and affections in one aspect of the organism are but naturally reverberated and repercussed in the other.

We are generally more attracted towards the material morbid signs and symptoms, either because they are more easily observed or because they are relatively more predominant in a case. It is also possible, though in rare cases, that one of the two aspects of the organism may be found relatively insusceptible to the action of the disease--cause. For, susceptibilities and insusceptibilities must have their place in the immaterial field also, as they have it in the material one. Besides, the disease--cause may have comparatively less affinity for one of the two aspects. In all such rare cases we may get onesided symptomatology, i. e. either immaterial or material. But as a rule the symptomatology must be, as explained above, always doublesided though we may not notice the double aspect for

want of a careful observation or on account of a traditional incomprehension of its double-sidedness.

Hahnemann was fully aware of this doublesided nature though he was ill--understood by some of his materially minded followers. For, he clearly says, in his ORGANON, that 'the organism is indeed the material instrument of the life, but it is not conceivable without the animation imparted to it by the instinctively perceiving and regulating vital force (just as the vital force is not conceivable without the organism), consequently the two together constitute a unity, although in thought our mind separates this unity into two distinct conceptions for the sake of facilitating the comprehension of it.' Besides, in the portion just preceding this extract, he says, 'the affection of the morbidly deranged, spirit--like dynamis (vital force) that animates our body in the invisible interior, and the totality of the outwardly cognizable symptoms produced by it in the organism and representing the existing malady, constitute a whole; they are one and the same.' In one portion he clearly impresses the reader with the idea that the Dynamis and the material organism constitute a unity; and in

the other he tells that the constituents of the whole disease which attacks this unity are the invisible Dynamic affection plus the cognizable material affection.

We have so far striven to show how the organism possesses an immaterial constitution just as it possesses a material one, how the former is expressed in health, how it is liable to be disordered, and how its invisible pathology is revealed to us through the peculiar symptomatology as well as through material signs and symptoms. This is exactly the half part of the problem of disease left uninvestigated by the pathologists and which we referred to in the beginning of this chapter. Hahnemann started the investigation, and philosophy, logic and medical experiences have substantiated the truth embodied in the results of his investigation.

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(SECTION II)

NATURE AND CLASSIFICATION OF THE CAUSES OF DISEASE.

We shall now turn our attention to the causes of disease. It is really a difficult matter to say that such and such is the only or the

definite cause in a given case, as individuals differ and causes are also diverse. Hahnemann has most lucidly pointed out this difficulty, as it will be seen from the following extract in which he writes, "all things that are in any degree operative (their number is inconceivable) can influence and cause changes in our organism, which stands in connection and conflict with all parts of the universe, and everything causes a different change, because it differs from every other thing. What diversity, I may say what infinite diversity, must there not be among diseases, which are indeed the effects of the action of these innumerable, often highly inimical forces, when several of the latter, together or in varied succession, quality and strength, exert their influence on our bodies, seeing that the latter differ so much from one another in many external and internal properties and peculiarities, and the conditions of life are so diversified that no human individual exactly resembles another in any imaginable respect."

As instances of these countless influences and diverse individual peculiarities he mentions hurtful emanations, irritating gases, noxious vapors and dusts from mines and factories, deficient, adulterated or ill-fermented or ill-

prepared foods, harms done by light, electricity, climate, atmospheric pressures or meteorological circumstances, unclean habits of clothing and dwelling, polluted or infected drinks and foods, physical and mental overexertions, sexual abuses, violent emotions, psychical peculiarities and many other things grasping the whole known and imaginable field of the causes of disease.

But notwithstanding this inherent difficulty about giving an exact etiology of disease, we can classify the causes for practical purposes.

CAUSES: EXTERNAL AND INTERNAL.

The first division would be one into the external and the internal causes. As far as a perfectly healthy organism is concerned, every cause that can alter or disturb its health must undoubtedly be of an external nature. But, in the case of the individuals who are apparently healthy but do not in fact possess a perfect health on account of racial or parental affections, the cause may be termed internal, though in the case of the ancestors or the parents themselves, who originally contracted the affections, it must be admitted to be an external one. If our conception of the first human beings may be that of healthy ones, we must accept that

every cause of disease is external. This proposition may however be found disputable. So we may put it aside and begin the classification of the causes by first general division into the predisposing and the determining ones.

PREDISPOSING CAUSES.

These causes can be subdivided into antenatal, congenital, and postnatal ones.

The antenatal consist of immaterial and material heredities which establish intrinsic disabilities as we find in individuals who have inherited peculiar psychical and neurotic impresses, or syphilitic, rheumatic and other diatheses, and who are on that account more capable of receiving diseases. The reproductive cells contain these causes before conjugation.

The congenital, on the other hand, work in the intrauterine development and they are also of both the immaterial and material types. Those of the first type are noted in children possessing peculiarities of personality and mind which neither of the parents possessed before conjugation but which can be traced only to influences working on the personality and mind of the mother in the period of pregnancy. Those of the second type are exemplified by causes that

lead to congenital syphilis, anemia, cholaemia, heart-disease, etc.

The postnatal operate evidently after birth. They also exhibit the two sub-types. Every preceding illness, after birth, of either of the sub-types, that results in a lowered vitality of the organism and makes it susceptible to attacks of a fresh disease, is of the nature of a postnatal predisposing cause. Conditions of age, meteorological circumstances, rises and falls in temperatures, and such other influences are examples of the material type. Thus, every postnatal material or immaterial disease, which leaves its effects behind, becomes through them a predisposing, antecedent, or contributive cause for the successful establishment and operation of the next disease that may invade the organism and require a predisposition.

DETERMINING CAUSES.

The determining are termed also as exciting or immediate. Though it is a fact, as pointed out before, that it is difficult to claim one influence to be the only one cause in a given case, we will have none the less to admit that, out of the several influences which may be acting in a given case, only one must be the determining

cause of the disease. This is easily seen in infectious diseases. For example, the Bacillus tuberculosis and the Bacillus pestis are the only determining causes of tuberculosis and plague respectively. There may be found a number of predisposing causes which render the organism susceptible to the attack of the bacilli. But no tuberculosis or plague would occur without the presence of B. tuberculosis or B. pestis.

It may be experienced in some cases that the bacilli do not attack or their attack does not result in those diseases, if any predisposing causes are not present in a given case, or are present but not causing a sufficient devitalisation. But wherever the peculiar and the characteristic phenomena of these diseases are present, there the bacilli must also be present. Hahnemann had no doubt about this though there is a great wrangling over this amongst his followers. He has clearly stated that, ' some diseases which are caused by a peculiar contagium (a peculiar miasm of tolerably fixed character), e. g. the plague of the Levant, small pox, measles, true smooth scarlet fever, the venereal disease, the itch of workers in wool, also canine rabies, whooping cough, plica polonica, etc., seem to

be so fixed in their character and course, that whenever they are met with they can always be recognised as old acquaintances by their persistent features.'

The same can be observed in the toxemic diseases. A particular phenomenon of toxemia or intoxication can occur only in the presence of a particular toxin though the phenomenon depends for its occurrence on the dose of the toxin as well as on the strength of the predisposing diseases or their effects. But mere predisposing or coexisting influences will never give rise to the characteristic phenomenon of a toxin unless the toxin itself is acting in a given case. One can see this clearly in any toxemia or poisoning. Arsenic-poisoning, as an illustration, can be had only if arsenic is acting, howsoever it may be modified or intensified by predisposing or contributive circumstances. The same holds good in the case of all determining causes to be soon enumerated. A particular cause alone can excite a particular condition or phenomenon in the organism, a condition or phenomenon which was not existing before the action of the particular cause, though the predisposing causes may be existing and acting in the organism. Hence it is called exciting or immediate also.

The determining, exciting, or immediate causes can be subclassified as below:

(1) The infectious;
(2) The chemical;
(3) The mechanical;
(4) The physical; and
(5) The Dynamical and Egoical.

(1) *THE INFECTIOUS.*

The infectious causes comprise micro-organisms belonging to both the biological kingdoms, namely vegetable and animal. No micro-organism, it is obvious, can be the absolute cause of a disease, though it is the only exciting or proximate or determining cause of a given infectious disease, which can occur, as Koch postulates, only in the presence of the micro-organism; the contributing, antecedent or predisposing causes may vary in a given case, but the micro-organism must be the same to which the particular phenomenon of the disease owes its existence. This does not minimise the significance of the predisposing causes, though it emphasizes the fact that they can vary and they do vary. They generally exist though they vary, before a micro-organism can become operative; otherwise every individual, coming

in contact with micro--orgnaisms--and we are in frequent contact with them, nay a host of them may be actually present in our respiratory and digestive passages--would get their infections. The predisposing causes have, besides, their therapeutic and prognostic significance.

In connection with the infectious diseases a suspicion had been raised in the beginning of this century by some anti-bacteriologists as to whether bacteria were the cause or the result of an infectious disease, and they were joined in their clamours by a few followers of Hahnemann, unfortunately the wellknown late Dr. Kent also sharing the suspicion.. Dr. Kent went even to the length of asserting in his famous lectures on Homeopathic philosophy that, 'as a matter of fact, the tubercles come first and the bacillus is secondary. It has never been found prior to the tubercle, but it follows that, and comes then as a scavenger. .....Bacilli are not the cause of disease, they never come until after the disease.' This view is very difficult to reconcile with. It is one thing to say that a microbe cannot be pathogenetic, though it may be present, unless it operates in favourable circumstances created by predisposing causes. But it is another thing to say that a

microbe is the result of a disease or a scavenger appearing on the scene afterwards. According to this view the very pathogenesity of microbes, which is now an established fact, is denied. In secondary tuberculosis, as that complicating or following pneumonia, bronchitis, pertussis, malaria or other diseases, a previous pathological condition is obviously present, and the tubercle bacillus comes on the scene afterwards and exploits the situation created by the pathological condition already present.. And no one can there attribute the previous pathology to the newly come bacillus. But no one can, on the other hand, call the bacillus a result of the previous disease for mere sequence of events.

The tubercle bacillus, like other microbes, has its own pathogenesis, creates its own disease, and the peculiar pathema consisting of the formation of translucent, grayish cellular nodules, giant cells, etc., which can be attributed to it alone, cannot be proved to have existed before its appearance on the field of operation. Besides, the tubercle bacillus can be easily inoculated, and its experimental inoculation in guinea-pigs and rabbits is a sound proof of its characteristic pathogenesity as a primary infection.

The phenomenon observed after the infection

caused by saprophytes is however dilemmatic to some who are inclined to be anti--bacteriologists. But the dilemma is apparent and the fallacy is evident. It is a fact that the saprophytes live upon decaying matter and are of a great utility in the processes of Nature, as they break up dead organic matter into simpler compounds and thereby the purpose of putrefaction required by Nature is served. It is also a fact that they infect an individual when they find a decaying pabulum as in the sapremic infection of uterus. And here no doubt they can serve the purpose of Nature but not of the living individual, as the intoxication that is caused in the benevolent 'scavenging' process may even cost the individual her life if it is of the severest type! Again, though it is a fact that the decaying matter is first present there and that the saprophytes come afterwards, no one calls the presence of the decaying matter as sapremia, but it is the peculiar constitutional phenomenon which can be caused only by the intoxication of the saprophytic infection that is called sapremia. Hence the saprophytes are the cause of sapremia, but not sapremia the cause of saprophytes. Similarly the tubercle bacilli are the cause of tubercles, not tubercles the cause of attraction

for the tubercle bacilli.

The pathogeneses which are attributed by bacteriologists to different microbes after careful observations and experiments cannot be, as anti-bacteriologists imagine, conceived in a reverse manner to be the causes or precursors of those particular microbes, though it can be easily proved that the pathogeneses of some kinds of microbes are contributory, inviting, or obligatory causes of a successful infection or operation of some other kinds of microbes as is observed in the phenomenon termed symbiosis.

Hahnemann deals at great length, in his Organon, with the etiology of diseases in his peculiar encompassing manner. The exciting causes he has enumerated therein include infectious as well as mechanical, chemical and physical ones. As far as the infectious nature of diseases is concerned he lays down that the chronic diseases are caused by infection with a chronic miasm and that the acute ones are caused by infection with an acute miasm. As regards epidemic diseases he says that, ' these diseases generally become infectious (contagious) when they prevail among thickly congregated masses of human beings. Thence arise fevers, in each instance of a peculiar nature, and,

because the causes of disease have an identical origin, they set up in all those they affect an identical morbid process, which when left to itself terminates in a moderate period of time in death or recovery.' His followers have raised great controversies over the interpretation of the terms used by him frequently and positively in reference to such diseases, viz., 'miasm', 'contagium' and 'infection'. He speaks of the 'peculiar' and 'fixed' nature of miasm, contagium and infection, and attributes a number of acute and chronic diseases to them. And it is quite clear from the extracts given here and his other writings that he means one and the same thing by these terms, and that that one thing stands for nothing else than what the term 'infection' conveys to our modern understanding.

One more extract will be found sufficient to expel the controversial clouds. Against the atmospheric telluric theory of the nature of cholera of his time, Hahnemann was found to assert his infectious, miasmatic one in the following words. 'The most striking examples of infection and rapid spread of cholera take place in this way: On board ships in those confined spaces, filled with mouldy, watery vapors, the cholera miasm finds a favourable

element for its multiplication, and grows into an enormously increased brood of those excessively minute, invisible, living creatures, so inimical to human life, of which contagious matter of the cholera most probably exists.' Hahnemann was quite aware of susceptibilities or immunities of different individuals towards the infection and its spread. He is found to speak of pestiferous, infectious matter spreading through clothes, hair, hands, instruments, etc., of physicians, nurses and others, and about its ultimately resulting in epidemics. Controversialists sometimes neglect the moral responsibility requiring that a progressive thinker must be judged from all his writings and sayings taken together. Hahnemann is not found in the 5th and 6th editions of his ORGANON to be exactly what he was in its previous ones, though he has throughout staunchly and rationally upheld his central conception of the dynamical medical philosophy. What is true of the different editions of his ORGANON is also true of his several writings.

Hahnemann had shaken all medical orthodoxy from its very foundation and revolutionised the central philosophy of Medicine. This is quite noticeable from his writings. And the

outcome of his whirl-wind agitation was a number of progressive medical thoughts which are still fresh to the modern mind. In the absence of any microscope and the present well-devised laboratory implements, there naturally prevailed in Hahnemann's times a doubt about the exact nature of the minute infecting agents. So he is found to speak guardedly of 'the minute living creatures' as a probability. Even in the present century we find Prof. Hewlett to say, '..... the infecting agent is often termed the virus or contagion. ..... It is generally assumed that such a multiplicative virus must of necessity be a living organism, and so it undoubtedly is in a majority of instances; it is conceivable, however, that a substance of the nature of an enzyme might possess similar properties.'

(2) *THE CHEMICAL.*

The other category of the determining causes is that of the chemical ones. Under this head come the poisons like aconite, arsenic, belladona, mercury, morphine and strychnine, chemicals like acids and alkalies, endogenous toxins like those arising from morbid tissue-changes, faulty metabolism and disordered functions, and various intoxications, products

of faulty quality and quantity of food, and the toxins formed, in tinned foods and several preserved eatables, by micro--organisms invading them. The enzymes referred to in the consideration of the infectious causes belong to this chemical category and they may be either endogenous or exogenous in character.

(3) *THE MECHANICAL.*

The mechanical division of the determining causes consists of all wounds, injuries or trauma giving rise to medical and surgical disorders pertaining to structure or function of the organism.

(4) *THE PHYSICAL.*

This class includes light, heat, cold, electricity, x-rays and other radiations, atmospheric pressures and sounds.

(5) *THE DYNAMICAL AND EGOICAL.*

The Dynamical or Egoical division of the determining causes consists of horrible sights of death as those of cold murder, bewildering accidents as of fire, ship-wrecking and earthquakes, violent provocations as of great insults, ill-tidings and unbearable reprimands, disappointments and depressions as in love-makings, ambitious undertakings, and gigantic business-

floatings, excitations of over-joying as in a sudden possession of immense wealth and high office, maddening waves of fanaticism, religious, political or otherwise, sexual trauma and heightened lasciviousness, and lastly over-exerted hypnotic and mesmeric influences and an exaggerated Egoic urge.

These causes give rise to diseases of the various types of neuroses, psychoses, idiopathies, and disturbances of personality, character and mood, spoken of before. These are causes of a purely Dynamic or Egoic nature, and as such they act on the immaterial field or constitution of the organism. But they do act also on the material constitution, though secondarily and perceptibly or imperceptibly according to their own intensity. For, the immaterial and the material constitutions of the organism form one whole, or are like two sides of one coin.

These causes are in themselves purely immaterial, just as the infectious, chemical, mechanical and physical are purely material in themselves. But the difference is philosophically quite apparent. For, all the causes, either immaterial or material, are so many aspects of the one substance of which the

Universe consists. Kent calls the substance as the 'simple substance.' He has well said that, 'all disease causes are in simple substance; there is no disease cause in concrete substance considered apart from simple substance.' He clearly conceives the essential unity between the immaterial and the material, as the simple and the concrete substances are inseparably blended into one whole.

Poisons, toxins, microbes and all morbific agents, which are apparently divided into inanimate and animate things, have each of them material and immaterial constitutions, as we have seen in the analysis of Matter and Life that the substance becomes Matter or Life in accordance with the tendency of its urge, and that Matter and Life both are tangible or material in their outward concrete form, and intangible or immaterial in their inward minute ultra-histological one.

The morbific agent is thus capable of acting both materially and immaterially on the organism, though in a given case it may be found to influence mainly one of the two planes of the organism, according as the material or immaterial aspect of the morbific agent is predominantly active, inactive or latent, or

according as the material or immaterial plane of the organism is susceptible or insusceptible to the influence of the agent. Besides, a disease cause may manifest a selective affinity towards a particular plane of the organism.

That the organism, the morbific agent and the resulting disease have an immaterial aspect, as they have a material one, has been first unambiguously preached to the medical world (if not quite first discovered) by Hahnemann. He has undoubtedly elaborated a new immaterial or Dynamical pathology and therapeutics out of his Substantialistic or Realistic philosophy and out of his long and careful medical observations and experiments, as it is evident from his ORGANON and MATERIA MEDICA PURA -- the two gems that crown the whole medical literature he created and gave to the world.

* * *

(SECTION III)

CHARACTER AND TERMINATION OF DISEASES.

The diseases themselves are variously named and classified according to their causes,

course, prevalence and extent. As far as the factor of causes is concerned, only the determining causes deserve to be theoretically denominated; but practically, either out of a want of the knowledge of the definite determining causes or for the first general grasp of the diseases before forming any final judgement, many of them are named after their leading physical signs, or after prominent subjective symptoms, or according to their salient anatomical, histological, organic or functional alterations, or after a fixed group of symptoms, or if the fixed phenomenon can not be expressed in one name, even after the person or persons who might have found out the particular phenomenon!

Hahnemann was painfully conscious that names were ill-coined, deceptive and even misused. He gives instances of the names like diabetes, diarrhoea, jaundice, dropsy, ague, consumption, whites, spasm and many others, and proves that such 'empirical generalising is nearly allied to presumptuous speculation and arbitrary substitution.' But at the same time he acknowledges that some diseases are so fixed in their character and course that we can give to each of them a peculiar name. He means

infectious diseases especially.

ACUTE AND CHRONIC DISEASES.

Diseases are divided, in accordance with their course or duration, into acute and chronic ones. Those, that have a sharp or severe course, short duration or quick termination, come, as, we know, under the first category. Some diseases having these characters but lacking in severity, that is, having a moderate severity are termed sub-acute. The chronic are the reverse of the acute. Sometimes the acute, as we are aware, develop into the chronic.

The chronic are those which arise from long continued exposure to chemicals, minerals and other slowly acting agents, those which arise from prolonged use of medicines that gradually devitalise the organism or result in harmful cumulative effects, and those which emanate from long acting infections. The sources of the chronic are thus principally occupational, medicinal and infectious.

That the medicines work chronic evils is frequently neglected or accepted as a necessary evil. It must be admitted that the scale and frequency of medicinal doses have been much reduced in the present century. However, the

consciousness of their baneful chronic consequences is growing upon us very slowly. Hahnemann's strictures in their respect are therefore still worth heeding. He aptly described in his days, how Mercury, Quinine, Iodine, Opium, Valerian, Digitalis, Sulphur and other medicines create, in their large and continued doses, their own chronic diseases which are to some extent now familiar to us as so many isms (if not as diseases), namely, Hydrargyrism, Quininism, Iodism, etc. About the sufferings and inroads they effect in the organism, he says,' whereby the vital force is sometimes weakened to an unmerciful extent, sometimes, if it do not succumb, gradually abnormally deranged (by each substance in a peculiar manner) in such a way that, in order to maintain life against these inimical and destructive attacks, it must produce a revolution in the organism, and either deprive some part of its irritability and sensibility, or exalt these to an excessive degree, cause dilatation or contraction, relaxation or induration or even total destruction of certain parts, and develop faulty organic alterations here and there in the interior or the exterior (cripple the body internally or externally), in order to preserve the organism from complete destruction

of life by the ever-renewed, hostile assaults of such destructive forces.'

Our present-day medical literature treats the subject of chronic infections exhaustively. And they are the 'natural chronic diseases' as Hahnemann calls them. He has given them also their right place in the following lines: 'The true natural chronic diseases are those that arise from a chronic miasm (by miasm he means infection), which when left to themselves, and unchecked by the employment of those remedies that are specific for them, always go on increasing and growing worse, notwithstanding the best mental and corporeal regimen, and torment the patient to the end of his life with ever aggravated sufferings. These are the most numerous and greatest scourges of the human race; for, the most robust constitution, the best regulated mode of living and the most vigorous energy of the vital force are insufficient for their eradication.' The infectious diseases are not artificial chronic diseases as those caused by medicines. Hence they can be appropriately termed natural chronic ones.

For therapeutic purposes, it may be observed here, we generally make inquiries, in a case, of the history of tuberculosis, syphilis, gonorrhoea,

rheumatism and a few other previous infections, if there be any, and we treat them also along with the immediate urgent disease for which the case has come under our treatment. The history of the previous infectious and non-infectious maladies, and of their sequelae or their chronic persistent effects, gives us a clear idea of the field of our operation, simplifies the case and renders it more amenable to our therapeutic efforts. Hahnemann was perhaps the foremost of all who drew the attention of medical men to the persisting and scourging nature of these chronic ailments, notably of syphilis, gonorrhoea and pre-eminently scabies (psora). He is the sole discoverer of the chronic and constitutional effects of psora, and the medical world will ever have to be grateful to him for that discovery.

Scabies is long known to all. But the facts that if it is not really eradicated it makes room for other diseases in the organism, and that it prevents every new disease from being normally and quickly cured or, in other words, renders it chronic in a way, are made known to us first by Hahnemann. About the scabies or psora he observes, 'the fact, that this extremely ancient infecting agent has gradually

passed, in some hundreds of generations, through many millions of human organisms and has thus attained an incredible development, renders it in some measure conceivable how it can now display such innumerable morbid forms in the great family of mankind, particularly when we consider what a number of circumstances contribute to the production of these great varieties of chronic diseases (secondary symptoms of psora), besides the indescribable diversity of men in respect of their congenital corporeal constitutions, so that it is no wonder if such a variety of injurious agencies, acting from within and from without and sometimes continually, on such a variety of organisms permeated with the psoric miasm, should produce an innumerable variety of defects, injuries, derangements and sufferings, which have hitherto been treated of in the old pathological works, under a number of special names, as diseases of an independent character.' This may show how it is necessary that the history of scabies should also be considered in a case as we do that of syphilis, gonorrhoea, tuberculosis, etc. Hahnemann had devoted twelve years to his study of the chronic diseases. The readers will fare better to once read the book which

he has written independently on the subject, namely, 'THE CHRONIC DISEASES', as we cannot do any thing here more than the passing reference already made to it.

VARIOUS MINOR DIVISIONS.

Diseases are also termed according to their relative prevalence as endemic, epidemic or sporadic; in their incubation period as latent; if they change their seat, as metastatic; and according to their occurrence, as intermittent, remittent or recurrent.

LOCAL DISEASES.

In accordance with the extent of their operation diseases are classified as local and constitutional. And this classification deserves a special attention. In fact there are a few local diseases. And they are generally of a mechanical or a surgical nature as dislocations, fractures, various kinds of trauma, entrance of foreign bodies, scalds, burns, etc. But even in these, when they are not trivial, the whole organism sympathises, because, 'all parts of the organism are intimately connected together to form an indivisible whole.' Even the degree of resistance, which is offered by the part at

the very first time when it is acted upon by the morbific agent, is backed by the resisting energy available from the whole. The following extract from General Smuts' 'HOLISM and EVOLUTION' is highly illustrative of the intimate relation of the whole organism to its parts.

> '.....Look how organisms behave when some cells or organs, necessary for their maintenance are removed or injured. Many plants and animals have the power of restitution in case of damage or mutilation. The newt forms a new leg in the place of the severed limb. The plant supplies the place of a severed branch with another. The regeneration may be effected from different organs and by different organs. Thus if the crystalline lens is removed from the eye of a Triton, the iris will regenerate a new lens, although the lens and the iris in this case have been evolved from quite different parts... The interaction between the organism and its cells is indeed most subtle and intimate; both seem to be active powers in the maintenance of the whole and in the restoration of any parts that may be missing and necessary for the whole.'

If the local diseases of a purely mechanical or surgical source mentioned above are excluded the remaining so-called local maladies are erroneously termed local, only for the reason that

they are found localised, though apparently. Hahnemann has removed the delusion in a clear-cut manner by pointing out that, 'those affections, alterations and ailments appearing on the external parts, that do not arise from any external injury or that have only some slight external wound for their immediate exciting cause, are produced in quite another manner, their source lies in some internal malady. To consider them as mere local affections, and at the same time to treat them only, or almost only, as it were surgically, with topical applications--as the old school have done from the remotest ages, is as absurd as it is pernicious in its results.' The conception of 'Holism' which Smuts and others have been putting before the world in these days was already dreamt and enunciated, though for a different purpose, before more than a century, by Hahnemann for his medical fraternity. He delivers it as follows: 'And yet very little reflection will suffice to convince us that no external malady (not occasioned by some important injury from without) can arise, persist or even grow worse without some internal cause, without the cooperation of the whole organism, which must consequently be in a diseased state. It could not make its

appearance at all without the consent of the whole of the rest of the health, and without the participation of the rest of the living whole (of the vital force that pervades all the other sensitive and irritable parts of the organism); indeed, it is impossible to conceive its production without the instrumentality of the whole (deranged) life; so intimately are all parts of the organism connected together to form an indivisible whole in sensations and functions. No eruption on the lips, no whitlow can occur without previous and simultaneous internal ill-health.'

A local disease is thus a part of the whole disease, making its appearance more in a part (external or internal) which is less resisting, or which can throw open a passage for the dischargeable morbid matter, or the alteration or mutilation of which is less damaging to the whole economy of the organism.

CONSTITUTIONAL DISEASES.

These require a very little comment as their systemic or general nature is recognised by all schools of medicine. Formerly, a few diseases like rickets, gout and diabetes were included in this class. But now it is acknowledged that every disease, that causes a general

disturbance or the manifestations of which have a general distribution, must be so classified. Thus the infectious diseases like typhoid, pyemia, diphtheria, etc., which cause constitutional effects, either on account of the spread of their infection or the circulation of their toxins, are now rightly termed constitutional diseases.

ORGANIC AND FUNCTIONAL DISEASES.

Diseases are also called organic or functional in accordance with the involvement or non-involvement of the structure of an organ in its deranged condition.

Some diseases are called alternating, if groups of symptoms alternate in the long continued course of a derangement, and metastatic, when their seat is changed.

THE TERMINATION.

This is the last aspect of pathology. In the struggle with the disease the organism either succumbs or comes out victorious. When it succumbs, it does so either after a quick short struggle or after a protracted fight. The end or the death of the organism is in neither case complete at once. It is in every case

somatic first, that is, the organism first dies as a whole, individual cells retaining their vitality for some time. On this principle or fact depend the recent attempts to revive a dead body in accidental or sudden deaths.

When the organism comes out victorious it does so also after a short or prolonged period (a period of lysis, crisis or chronicity). The victory, if it is not temporary, that is, if the disease is not suppressed or compromised, means an annihilation of the disease in its whole extent and a restoration of the organism to its normal state from all subnormalities and abnormalities caused by the disease. A perfect victory or a perfect recovery thus entails no loss of any part or function of the organism, nor exaggeration of the either.

Generally the recovery is not quite perfect though the disease itself may be thoroughly eradicated. The organism in many cases is freed from the cause of the disease at a certain sacrifice of a function, part or organ. The structure or the function may, in disease, be found altered or even destroyed. Thus we find the various degenerations and destructions, atrophies and hypertrophies, hyperplasias and metaplasias, and hypofunctions, hyper-functions

and defunctionalisations. These changes again, in their turn, are found to needlessly depress or excite other functions and structures influenced by them. Nature's healing efforts are not always appropriate and adequate. Nature is sometimes overzealous like an overzealous physician, and sometimes inefficient like an inefficient one. The healing quality and quantity are not always and everywhere of a precise nature.

Then, in some cases the organism is liberated from the cause of a disease and rendered immune towards a fresh attack of the same disease or rendered susceptible to it or other diseases.

CHAPTER SIX.

THE LAW OF CURE.

"According to the theory of relativity, the laws of nature must be of such a kind that they are the same for all observers, no one observer being privileged above the others."

— THOMSON.

(SECTION 1)

To understand the law of cure we must once turn to the conclusions we arrived at, in the investigation of the relations of Matter and Life and of the scheme of the Universe, in the first chapter. We may, with advantage to the readers, give those conclusions here as epitomised at the end of that chapter.

(1) The Universe consists of one substance, Matter and Life being the manifestations of its urge.

(2) Its urge is towards perfection, as manifested by its efforts to grow and to heal.

(3) It is governed by one general law of Attraction or Assimilation, deviation from it being due to imperfection or seed of error or of freedom in it.

(4) It is ever dissatisfied as it is constantly moving and changing.

UNIVERSAL URGE TO HEAL.

It is evident to our readers from these conclusions that it is in the very nature of the substance, of which the Universe consists, to grow and to heal. We meet this nature in all manifestations of the urge of the Universe. In the Atom and in the Cell, in the Matter and in the Life, in the external world as well as in the internal one, everywhere we meet this nature or the effort to grow and to heal.

NATURE AND ART.

In the so-called 'nature' and in the so-called 'art', we observe the same tendency. The terms 'nature' and 'art' are, like many other terms, terms for convenience. But in reality there is no difference between nature and art. For, the art is the urge of the heart of man. But man himself is the product of the same Universe or substance of which nature or the material

world is also one. Art and nature emanate from the same one substance and both have the same urge towards perfection.

So also, the idea that the art is not only different from nature but is superior to it is a creation of a superficial thinking. Man, the custodian of the art, asserts his superiority over and his separateness from the nature by attributing the role of a conqueror to himself. But does man not conquer man ? And does nature also not conquer man ? Man boasts of utilising the forces of the nature for his ends. But does nature not utilise the forces of Life for the constructive and destructive processes going on in the interior and over the exterior of the earth ? In the teeth of the old and the new scientific researches and experiences, are we so blind to suppose that the conflagrations, the inundations, the earth-quakes, the volcanic outbreaks and such other manifestations of the urge of the nature, which take a heavy toll of human life from time to time, are inferior to the art of man--the art which is as yet individually and collectively rocking in the cradle of understanding ? The human bodies--the possessors of the proud art--are found, in a condition of utter submissiveness, as ash, as

chips, as cement and as manure in the multifarious mass that goes to form the everchanging constitution of the earth. So, it is correct to say only that the forces of art or of nature that may be stronger at a particular moment are superior to the other weaker ones. In the scientific investigation of any kind it is futile to be guided by ideas of differences which are drawn to suit easy-going thinking. Fundamentally, nature and art are one and the same urge. The urge may differ in its different planes and degrees and hence may be differently termed. There is, besides, no question of one imitating the other as some are inclined to think. If there is any imitating, it is just imitating itself.

ILLUSTRATIONS OF THE UNIVERSAL URGE TO HEAL.

We know from the process of 'radiation' that the Atom, which we accept for the present as the unit of the world of Matter, has the power of mending itself, as it returns to its normal state when it has finished emitting light. We are similarly aware of how the Cell -- the unit of the world of Life both vegetable and animal -- has reparative or regenerative power, particularly the cells of the epithelial and connective

tissues in the latter. If an ameba, which is a unicellular life, is divided, the injured region in the division containing the nucleus rapidly becomes regenerated by a process of closure and growth. Then, many plants and animals are known to possess the restitutive power in damage as well as in mutilation, newt and triton being good examples of the latter as mentioned in the previous chapter. Again, we see in human beings how wounds heal by first intention, by granulation, by blood-clot, under a scab and by union of granulations. We know also how the organism, when diseased, resorts to processes of expulsion, annihilation, agglutination, palliation, etc., in order that it may be more or less freed from the cause of the disease or impairment and it may clear the field for the process of repair.

Thus the urge to heal or to repair is met in the whole world, physical, vegetable or animal, be it a tiny little atom or a cell or a big massive object. And the urge works on without the outside intervention of the so-called art. The urge itself is the source of art. And the brain — the operator of the art — is itself made up of cells and atoms which are all vibrating with their own urge or art and

without which the brain would amount to nothing.

The urge to heal is equally well manifested in the psychical, Dynamical or Egoic constitution of the organism as in its material or physical one. In the end and in the beginning of the 18th and 19th centuries respectively, Hahnemann was a great psycho-analyser though his analysis was then rather ridiculed than welcomed. But now through the investigations of Prof. Freud and others, we have progressed much in the realm of psycho-analysis and we have a better vision of the diseases of the psyche, of the disorders of the sphere of personality, or of the affections of the Dynamis or the Ego. We know now how the psyche, the personality, the Dynamis and the Ego are hurt and affected in the childhood and throughout the life, and how the urge of these finer and finest spheres is ever found working towards repair, as is obvious from the analysis of dreams, utterances of the insane, defences launched by the Ego against the revival of the repressed traumatic experiences of childhood, the automatic intermittent periods of health or sanity, and the partial satisfaction of the repressed tendencies attempted to be derived

through dreams, through hallucinations and through other similar phenomena.

This tendency to heal is behind the whole Universe material or immaterial, psychical or spiritual. And this aspect of the urge of the Universe must also be governed by the same one law that governs all other aspects of the urge.

THE PHENOMENON OF DRUG ACTION.

Now, before formulating any one law of Cure, we must critically examine the phenomenon of drug action with which we are conversant in pharmacology, for, it may directly help us to understand the law.

It is a fact that the pharmacologists have not so far brought the drug action under any one law either chemical or physical. But if we proceed with the examination in the light of the new conceptions of physics we have every hope of succeeding in doing that.

The drug action is an interaction between drug and organism, that is, in fact between Matter and Life which are only different phases in the evolution of an essential unity.

It is almost convincing from the study of the Periodic Table and the new physics that

the gap between Matter and Life 'may not have been so wide nor the leap so great as would appear to us today.' 'It may even be that life (life phase) began with much more primitive forms and structures than any of which we have knowledge today.'

The principle that phylogeny is repeated by ontogeny holds equally good in the case of the history of the development of Matter into Life. The development may look mysterious at the first glance as in the case of the human brain. The development of the human brain from the early embryonic stage to the stage of the full grown fetus is illustrative of the historical development of the brain from its stage in the lowest vertebrates to its stage in the higher animal scale as that of the higher apes and the man. But in the superficial investigation an adult human brain presents a puzzle, as does Life that has been organised out of Matter. The brain puzzle is reduced however to order when we deeply study the human brain and compare it with that of the lower animals. Similarly, the apparent riddle, as to how Life has evolved out of Matter and how thus it is essentially the same with the latter, vanishes when we

study the phenomenon of the development of inorganic Matter into an organic one in the case of the Vegetable Kingdom.

Green plants, for example, take in their food-material in the form of simple inorganic substance, and assimilate it or build it up into their own substance. They build up, with light and chlorophyl, the simple compounds of the food-material into living protoplasm which is an extremely complex unstable substance containing carbon, oxygen hydrogen, nitrogen, sulphur, phosphorus, etc. The plant, as it were, starts its chemical processes at a lower level than the animal. The animals generally derive these compounds already manufactured by feeding on plants or other animals, though it may be noted that the animal protoplasm is also found at its colloidal surface to exhibit the power of converting, to some extent, the inorganic material into a complex organic one. Thus the history of the various phases of the development of Matter into Life, spreading over the long period of the earth's age, is reflected in the subtle processes that have been perpetually going on in the Vegetable and Animal Metabolisms.

Matter and Life, which are in this manner

only two different phases in the play of the fundamental urge of the Universe, are represented by the drug and the organism respectively in every pharmacological action, which is, in fact, an interaction between the two.

PROPERTIES OF THE DRUG.

We shall first examine the properties of drug — one of the interacting parties. Some drugs act through their physical properties. Some act through a simple chemical reaction which they give rise to. Others act through entering into a definite chemical combination with the constituent protoplasm of the cells. Some owe their action to a connection they form of a loose nature known as 'adsorption compounds', while others act through their electrical properties (a variety of physical ones). Again, some drugs owe part of their action to the changes in their own composition which they undergo in the body, for, when the composition of a drug is altered, its physical characters change, viz., its volatility, solubility, osmotic properties, ionisation, etc. Then there is the elective affinity which is manifested preeminently in the action of certain drugs. Such drugs have affinity for certain definite

tissues, organs and processes. For example, some attack the muscular tissue of the heart, others the nervous one. Some like the protoplasm--poisons act upon the protoplasm which is a wide range of action. But even in the field of protoplasm, some drugs show affinity for its dead particles, while others for its ferments. Some again affect the movement of the protoplasm but may not affect its process of karyokinesis. Thus they do not influence all processes alike in a cell even. No poison is in fact known which affects equally all tissues, organs and processes. The ions (of acids, bases and salts) exert a definite selective action on certain tissues, though all living tissues are in general extremely sensitive to the nature and concentration of ions of their environment.

Drugs having affinity for organs only show consequently no local action, while we know many drugs having only a local action, either because they are not absorbed or only absorbed in inactive forms, or because they are excreted or deposited as rapidly as they pass into the circulation.

Besides, in general, the action of a drug depends upon its quantity (as well as its distribution and concentration), for, divided

doses do not cause the same symptoms as the undivided dose in the same amount (e. g., chloroform and ether in big doses differ in their action from the action of their small doses, as in small doses the absorption is equally rapidly followed by excretion). And, in particular, in some cases, for the action of a drug, it is not the mass but the fine division of substance that is decisive. This statement is perfectly corroborated by the results of the modern colloidal teachings.

But above all, a desired drug action depends upon the host-cooperation. The importance of the cooperation of the host or the organism (the other interacting party) is evident from observations in the chemo-therapeutic experiments. in chemotherapy (the specific treatment of infections by artificial remedies) the original conception of the value of a specific remedy was based upon a ratio between its toxicity for a pathogenic organism and its toxicity for the tissues of the host. The conception is recently modified. It is now acknowledged that the cooperation of the tissues of the host plays an important part in the curative action of most, if not all, specific remedies (e. g., emetin only destroys amebae in the animal

body, not so successfully outside it).

Thus, the activity of drugs depends, as pharmacologists would legitimately conclude, on a great variety of factors (including the host--cooperation) though the recent tendency is to attribute the action of drugs rather to their physical properties than to any other, or to grant at most that it is determined only indirectly by chemical combination but directly by delicate physical processes alone. Many however hold that the physical properties, as understood in the old terms of physics, do not explain the whole pharmacological action, though they conclude that among all the factors the physical one is the most important.

Then, the effects of the drug action, due to the various factors enumerated before, are both quantitative and qualitative though there is a tendency to give predominance to the former kind. The drug action is found to cause irritation, stimulation, or depression of the cells, and also to affect their structure and nutrition.

The effects of the drug action, it may be seen, ultimately result in modification of the functions of the cells, in selective absorption, in change of the surface tension, in change of the

equilibrium of the cells, in decrease or increase of the rate of chemical reactions (catalytic or enzyme--like actions), or in alteration of the nutrition, intracellular membranes and electrical charges of the cells.

PROPERTIES OF THE ORGANISM.

We shall now take up the properties of the other interacting party. The physical, chemical, and colloidal properties of drugs, which, as shown before, variously affect the organism or its cells quantitatively and qualitatively, electively and otherwise, are faced by equally various properties of the organism or its cells. The resulting interaction of the drug and the host is utilised to combat the morbific agents (bacteria, toxins or any other form of the agents) and the disease-condition they create, that is, to act therapeutically.

Now, the organism is known not only to cooperate as is experienced in chemotherapy but to possess the property of elaborating its own drugs also (as iodine, adrenalin, etc.). It exhibits a selective activity as do the drugs their elective affinity. The selective activity of the living cells is concei ved to be a vital action,

the existence of which can not be denied as it sometimes so behaves as to negative the known forces of osmosis and filtration.

The organism is composed of cells, molecules and atoms (and possibly of protons, if the atomic structure is taken into consideration) as its units. It is found made up of bio-chemical streams. It contains aqueous solutions of various substances separated from one another by membranes which present different degrees of tension and permeability. The liquids of the body contain electrolytes in solution, owing to which they are able to conduct electrical currents. Not only does the body contain liquids, but the animal cells are themselves mainly liquid. Thus throughout the whole body, room is made for the processes of dialysis, diffusion, osmosis, filtration, etc., which are found actually working in it, just as its selective activity or vital action is found working in it.

Though the cells are mainly liquid their protoplasm is not however a simple liquid; it contains substances of varying chemical composition. Protoplasm is a collection of matter which is, crudely speaking or in common-sense terms, dead matter. But this matter, if ferments are added to it, does not constitute

what is commonly called life, for, the factor which coordinates these ferments is lacking. That factor -- the vital action -- vivifies, so to say, that apparently dead matter and adapts it to itself or to the spirit within. The spirit within or the Dynamis is the formative force of the organism.

Then, the organism has the property to change drugs into harmless bodies or to excrete them. It can, besides, on account of the minute changes that occur in it independently of the drug action, induce different actions of drugs than what are generally expected.

TWO SETS OF FORCES IN THE INTERACTION.

So far we have examined the properties of both the interacting parties in the drug action, viz., the drug and the organism. The interaction between the two sets of forces that underlie the properties of the drug and the organism gives rise to the phenomenon of the curative or therapeutic action. We find one set of forces working behind the physical, chemical and colloidal properties of the drug; and another is found behind the processes of filtration, osmosis, diffusion, dialysis, etc., and behind the vital action working in the organism,

which ultimately result in adsorption, absorption, and assimilation, or in conductive absorption and excretion, of the substances which are admitted into the organism.

Both these sets of forces are essentially aspects of the intrinsic energy which drug and organism or Matter and Life possess. The intrinsic energy is most specifically manifested, in the first case, in the form of elective affinity, and in the second, in the form of selective activity. The energy in the second case is termed, on account of its more developed or organised character, to be the vital action, though it is also conceived to be some physical or chemical property of animate Matter like that of the inanimate one. Though the last conception is not as yet set in the four corners of the accepted physical and chemical laws of inorganic Matter, the selective activity or the vital action is on one hand comparable to the behaviour of chemical agents in a laboratory, as it is, on the other hand, comparable to the 'elan vital' of Bergson, referred to in the first chapter.

PROCESSES OF CURATIVE ACTION AND THEIR ANALYSIS.

The energy of the organism, which is thus

essentially similar to that of the drug with a difference of degree and not of kind, exerts, either alone or with the cooperation of the latter (when it is administered), its curative action in the diseased condition of the organism. And all of the natural curative processes are, one can easily see, essentially of the kinds of

1. Extermination,
2. Elimination,
3. Neutralisation, and
4. Limitation.

We shall now analyse these processes in order to understand the exact manner of the application of the energy of the organism and of the drug in their interaction.

1. EXTERMINATION.— The process of extermination is well illustrated in the phagocytic absorption as also in the bacteriolysis. The phagocytes absorb, ingest or assimilate the bacteria. Certain of the tissue--cells and endothelial cells also possess phagocytic properties like the leucocytes. The phagocytes serve the purpose of inflammation, viz., the extermination of bacteria, as ' they possess a kind of sense of taste or chemotaxis, which enables them to distinguish the chemical composition of the substances with which they

come in contact' (Metchnikoff). It may be observed that the nature of energy exhibited here includes a selective activity also. Here the drugs cooperate by increasing the opsonins which render the bacteria phagocytosable.

The bacteriolysins, which are protein substances formed in the blood and lymph, possess the power of dissolving or disintegrating bacteria. The bacteria after undergoing the disintegration are either eliminated or are ingested by the phagocytes, the destruction of bacteria being an action complementary to phagocytosis.

2. ELIMINATION.—This process is one of excretion. But, in order that a substance is finally excreted, it must be first absorbed (as it is or in a changed state) and carried to the excretory organs. All substances are not however absorbed. So here again an elective affinity or a selective activity prevails. Drugs facilitate elimination in a number of ways.

3. NEUTRALISATION.— This process is to be sought for in the actions like those of precipitins and antitoxins elaborated by the organism. The precipitins cause a precipitation of bacteria and some foreign substances. They are allied to agglutinins (not identical with them) as both are produced by cell-receptors of

the second order. The antitoxins combine with the toxins to form inert chemical compounds and consequently neutralise them. The combination is supposed by some to be not strictly a chemical one, but rather to be of the nature of a physical agglomeration or adsorption process. Combinations simple or chemical however imply affinity between the combining parties.

It is remarkable to observe here that the bacterial toxins are allied to proteins and that the antitoxins neutralising them are also of the nature of proteins. According to Ehrlich's side-chain hypothesis, protoplasm possesses, for carrying its process of assimilation, protein-receptors for proteins, carbohydrate-receptors for carbohydrates, fat-receptors for fats, and so on. Then, under the stimulus of toxins elaborated by the bacteria, the cells in the course of time are found capable of producing an abundance of receptors. It is these surplus receptors that constitute the circulating antitoxin. As the toxins are allied to proteins and as ' likes appropriate likes ', the protein-receptors can easily unite with them and thereby neutralise them. This is again a selective activity, and the consequent

neutralisation of toxins prolongs life, as it gives time to the organism to destroy the bacteria themselves which pour out the toxins. Drugs can offer here also their cooperation in the process of neutralisation, either through their own precipitant and anti-toxic properties or through their inhibiting and weakening action on bacteria. But drugs also do not equally act on all toxins and bacteria. They are guided by their elective affinity.

4. LIMITATION.— This process is met in the form of agglutination, thrombosis and calcification. The agglutinins in the blood, which are probably protein like in nature, render immobile and clump together certain bacteria (as the typhoid bacilli). Then, thrombosis, in the production of which, according to Flexner, agglutination also plays a role, is a formation of blood coagulum with the help of fibrins, blood-platelets, leucocytes and red corpuscles. Among various factors, occasioning the formation of thrombi, are parasites, particles of tumour, also pins and fish-bones. The thrombi hold them up and limit their free growth and movement, as do the lymphatic glands – the filters of many sources of disease. Many substances like peptone, proteoses, snake-venom

and extracts of cells give rise to thrombosis. But it should be observed that every foreign substance has certainly not the property of inducing the clotting. The fibrins, the blood-platelets, the white corpuscles and the red ones, that go to form the thrombus, must probably, on account of their chemical, physical, or other properties, have affinity for the substance to be held up. For, the principle of selective activity or elective affinity seems to rule everywhere. Then, calcification or petrification is frequently observed as one of the methods of the organism to limit the pathogenic and pathological processes. It consists of deposits, in the tissues, of salts, mainly calcium phosphate and small quantities of calcium carbonate and of magnesium salts. We find such deposits in necrotic tissues, as in caseous tuberculous glands, dead parasites, dead fetuses, or as in tissues which are ill-nourished (e. g., those of the uterine fibroid and arterial walls) and which would, in the absence of such deposits, be exposed to serious pathological conditions. Chalky concretions, calculi, or stones are also found formed on some nucleus consisting of crystals, desquamation cells, fibrinous coagula, flakes of mucus, colloid

granules, bacteria, or foreign bodies. Chronic inflammation may also induce such incrustations in the tissues subject to it. Drugs are known having properties to coagulate blood as in hemorrhages, and to form deposits of calcium salts as in a certain stage of pulmonary tuberculosis and elsewhere. They are obviously utilised to assist the process of limitation when resorted to by the organism.

SUMMARY OF THE ANALYSIS AND APPROACH TO THE LAW.

We are, now after this critical examination of the phenomenon of the interaction between drug and organism, which takes place in a drug action, better equipped, as it was hoped, to understand and to formulate the law of cure.

The energy or sets of forces behind the interacting parties in a pharmacological action, we have found, to be specifically manifested in the form of elective affinity or selective activity, and to be fundamentally working for extermination, elimination, neutralisation and limitation of the causes and effects of disease. We are, therefore, to search for the law of cure in these four processes.

The processes of neutralisation and

limitation are evidently not of the nature of a complete cure, though of course they have their place in the curative action. They are, at the best, of the kind of a truce, a compromise or a palliation. So by way of exclusion we are to seek the law in the remaining two processes only.

The process of extermination is not directly a process of assimilation as the notion of the phagocytic extermination would imply. As far as the bacteriolytic extermination is concerned, the bacteria undergo disintegration or dissolution, and their disintegrated constituents are eliminated. So bacteriolysis in this respect is a step towards elimination and not towards assimilation. When, however, bacteriolysis is an action auxiliary or complementary to phagocytosis, it may be admitted to be a process for assimilation, but only partly, as the contents of the disintegrated bacteria are not totally ingested or assimilated by the phagocytes. It is thus partly a process for elimination and partly for assimilation, of course indirectly in both the cases.

Phagocytosis itself cannot be conceived to be a pure assimilation. The terms phagocytic 'devouring', 'ingestion' and 'digestion' do

not mean exactly the assimilation which a food material is destined to. Even food is not completely absorbed or assimilated. A residue is always left and eliminated. But looking to the fact that unicellular protozoa, like the amebae, ingest digest and assimilate, as food, the bacteria found in water, if it be conceded that the phagocytes also digest bacteria as thoroughly, as food is digestd by the organism, the bacteria are, then, materials of food and not causes of disease as far as the phagocytes are concerned! But it is a half truth. The phagocytes no doubt feed on the bacteria, but only on those bacterial contents which are food to them, while the rest of the contents are eliminated. Thus even in the process of extermination, if the factor of partial assimilation is set aside, as it is in itself of a nutritive character and not of a curative one, the process is to be looked upon as essentially one for elimination of the non-nutritive and purely pathogenic bacterial contents.

So the problem of cure mainly centres round elimination, as the process of elimination alone (howsoever it may be brought about) deserves to be considered as one capable of effecting a complete cure. It alone will reveal

to us the Law of cure.

* * *

(SECTION II)

We are now evidently to interpret the process of elimination in terms of a law. We shall therefore see only under what law or laws a substance (poison, toxin, bacterium, etc.,) is, after admission into the organism, absorbed and carried through the circulation to the excretory organs (as it is, or after it is neutralised, disintegrated or partially assimilated), and finally eliminated by the organism in its own natural way.

MEMBRANES AND FLUIDS OF THE ORGANISM.

All substances, as it is said before, are not absorbed or admitted into the organism. Some are immediately rejected or permitted only a local action, either because they are incapable of diffusion through the membranes of the organism or because they possess no elective affinity beyond the local one. The substances that are absorbed and conducted through the circulation are found to be in the form of either molecules, or atoms or ions. After absorption

the first problem is one of molecular, atomic or ionic conduction in the fluids or liquids of the organism under the laws of osmosis, filtration and friction, and under the thermic and elective forces.

The organism is made up more of liquids than of solids like the earth. So the first laws that mainly guide the absorption and the conduction of substances in the organism are those that concern liquids. The conduction or passage of molecules, atoms or ions, as the case may be, depends upon their number (division or concentration), the rate at which they themselves move, and upon the resistance their movement meets in the organism.

A substance entering into the liquids of the organism is split up into molecules or atoms, or into ions (as in the case of the inorganic acids, salts and bases) under the influence of water. The splitting or dissociation increases with an increasing dilution (of course up to a certain fixed limit). It need not be explained how dilution or division, instead of concentration of a given quantity of a substance, quickens absorption and conduction, as it is well known that a substance has freer movements in a state of dilution and dispersion. It has been observed by the ultra-

microscope how metallic particles in a colloid solution are in a state of brisk agitation, called the Brownian movement, and how their movement becomes livelier as the particles are smaller, that is in a state of division, dilution or dispersion.

INHERENT VELOCITY OF PARTICLES.

The particles of a substance must obviously have their inherent rate of movement at which they would move if unrestricted. The speed of air-particles, for instance, in their free path is of the order of the magnitude of 20 miles per minute under ordinary circumstances. The original rate of movement of particles must influence the rate of their conduction through the organism.

The movement of a particle when unrestricted is guided by its inherent tendency to be uniform and in a straight line, maintaining the greatest degree of its freedom, and by its elective affinity, that is, guided by the laws of Inertia and Attraction. It sometimes exhibits a peculiar movement which is neither phasic nor periodic, but one that transcends the laws of Inertia and Attraction. We shall have later on to refer to it again.

But the rate or freedom of the movement of particles is necessarily altered in their passage through the membranes and liquids of the organism, as they are to move there under the laws of osmosis and filtration, and to encounter the fluid friction, the temperature and the electrical condition of the organism, and above all to meet the vital action at every point throughout the passage. The vital action is an important problem in this connection as will be seen later on.

PHYSICAL FORCES OF THE ORGANISM AND THE EARTH'S GRAVITATION.

Now, the forces behind the processes of osmosis, filtration and fluid friction are those of the earth's gravitation. For, in a solution, the movement is from regions of higher osmotic pressure to regions of lower osmotic pressure. Osmotic pressure is the driving force in solutions. And the driving force means the gravitational attraction of the earth for a given substance. That the earth's gravitation is the sole or main factor in the process of filtration requires no comment. As regards friction, it can be seen that there would have been found no phenomenon of friction, had there been no such

thing as earth's gravitation. For, before a fluid-friction occurs, a tangential force must be exerted by a fluid in motion, and such a force can not be exerted unless a portion or some contents of the fluid are more influenced by the earth's gravitation than the other. A fluid at rest does not exert any tangential force because all the portions of the fluid are equally acted upon by the earth's gravitation; in other words, its pressure is entirely normal at every point. The fluid friction tends to check the conduction of the particles which is in view.

If, however, there is a rise in the temperature of the fluid, the friction of the solution is greatly diminished and consequently the particles in the solution move much faster. The effect of the thermic condition of the organism on the conduction of a substance through it is thus evident.

Then, the electrical state of the organism has also much to do with the conductive phenomenon. The liquids of the organism not only contain electrolytes in solution, which enable them to conduct electrical currents through their ions or the ions of a substance introduced and dissolved in them, but the living organism is ever an electrical phenomenon, as electrical

changes are observed in muscles, retina, cortex cerebri, etc., indicating the existence of animal electricity. That the life should be electrical is inevitable. For, Matter, which is apparently unelectrified under ordinary circumstances, becomes definitely electrified with friction, friction being one of the many causes of electrification; and the functions of the life are the great sources of the constant friction going on in the organism. From the new point of view of Matter however, Matter is nothing but a manifestation of electricity. The electrical condition of the organism implies electrical forces in the organism, and it is a great determining factor in the conduction of the ions of a substance, especially through the cells and their plasmatic membranes.

The resistance and support, that are at various stages offered to the passage of molecules and atoms by the organism under the forces of osmosis, filtration and friction, and to the passage of ions under the electrical one, are, as it is supported by the remarks of James Walker in connection with such phenomena, of the same kind. It amounts to saying that the gravitational attraction of the earth and the electrical influence are identical. There is not

a perfect agreement over such an identification. But the objections will be found to lose much of their force if the interdependence of friction, electrification and earth's gravitation which we observe to a considerable extent is taken into consideration.

It is to be admitted, in conclusion, that a substance permitted into an organism is carried through its circulation to all of its parts under various influences (like osmosis, filtration, friction, heat and electricity) as guided in general by the earth's gravitation, and sooner or later given out of the organism through its excretory organs, that is, ultimately exposed to the earth's gravitation again. So, throughout, the law of earth's gravitation or attraction is a great factor as is the vital action to be referred to soon hereafter.

GENERALISATION OF THE PHENOMENA OF ABSORPTION, CONDUCTION AND EXCRETION.

We know from physics that every portion of Matter attracts every other portion of Matter. That is the general law. That is the first impulse of Matter. That is what we see in the inborn tendency of an innocent inexperienced child (a living Matter) that grasps and ingests

everything and anything that it can lay its hand on. With this first impluse, the Matter, of which the organism is made up, and that, of which a substance is made up, catch hold of each other, that is, they behave under the law of attraction. The attraction may be followed by assimilation or combination, or by disassimilation or repulsion. That is another thing. We may meet a saint and a thief in our house, and we may catch hold of the both. But the former may be subsequently retained in, and the latter expelled from our house.

All substances are therefore absorbed and carried through the blood--circulation under the general law of attraction. They ultimately meet the excretory organs. The cells of the excretory organs, for example, those of the kidneys, attract, from the circulation, substances that are to be excreted, just as they do those that are to be utilised for their nutrition. While they assimilate the latter, they expose the former to the earth's gravitation, that is, excrete them. Thus from end to end the whole phenomenon of absorption, conduction and excretion is in general a manifestation of the law of attraction.

The excretory organs do not however equally

attract all substances from the circulation. They too show a selective activity. The selection before and the expulsion after the attraction are actions different from mere attraction. There is something more, something additional. And that is the Vital action, which, as we have said before, the substances meet in the organism at every point, and which is an important problem in their absorption and conduction. We have seen before how the Vital action is the intrinsic energy of the organism, being most specifically manifested in the form of selective activity and possessing an organised character. We have also found it akin to the elective affinity, that is, the intrinsic energy exhibited by Matter—an energy less developed or less organised. So, the meeting between the Vital action and a substance in the organism is one between energy and energy which are essentially of the same kind. The energy of the organism assimilates the energy of the substances admitted into it, if the latter is assimilable, or with the help of the excretory organs rejects it, if it is otherwise. The law of attraction or assimilation is the Universal law, and the selection and the expulsion are, as we found before, seeds of error, or of imperfection, or of freedom in that

law or in the organisation of the Universe.

This scope of freedom for election or selection and rejection or repulsion is variously utilised, though to a limited extent, by Matter both organised and unorganised. In its absence, Matter could not have worked against the earth's gravitation, that is, it could not have exhibited its peculiar movements which we meet and which, as we have mentioned before, transcend the laws of inertia and attraction. We can take a few illustrations of such movements having a thoroughly representative character. Such are the hopping of electrons, jumping of fleas, uphill flow of blood against hydrostatic effect of gravitation, and ascent of water in tall trees. The movement of an electron consists of two parts. It crawls for a while, that is one part. Then it hops, that is another part. The crawls can be accurately explained under the old laws of dynamics; but the hops are a new thing 'concerning which', as Bertrand Russell says, 'certain totally new laws have been discovered empirically, without any possibility of connecting them with the old laws.' If hopping of an electron is an illustration of the peculiar movement of unorganised or inorganic Matter, jumping of a flea is one of organised or organic

Matter. A flea's jumping, the uphill flow of blood, the ascent of water in trees and the like are phenomena which biology is not successful in explaining completely under any old laws of dynamics. All things said in the human physiology, like constriction of blood--vessels, pumping action of respiratory organs, contraction of heart muscles and the like, and all causes enumerated in botanical physiology, like root-pressure, transpiration, capillarity in the wood-vessels, varying gaseous pressure contained in the wood elements, etc., do not give us a purely physical law which will explain the ascent of blood and that of water respectively. Consequently, the existence and working of the Vital action alone can be found to account for such movements against, or freedom from, or the transcendence over the general law of attraction or assimilation.

To sum up:

(1) The process of Elimination alone brings about a complete cure.

(2) Elimination occurs under the general law of Attraction (the Universal law of Assimilation) as directed by the Vital action of the organism naturally, or by the action of the therapeutic agent artificially.

A natural corrolary follows these conclusions that that therapeutic agent is alone most perfect or rational which is capable of attracting and eliminating the morbific agent.

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CHAPTER SEVEN.

APPLICATION AND WORKING OF THE LAW.

Therapeutics and pharmacology treat of a large number of curative processes and curative agents. If, however, all of those processes are categorised, we find, as we have shown before, that they are essentially those of Extermination, Elimination, Neutralisation and Limitation. We have discussed at great length in the last chapter what process brings about a complete cure and formulated the law under which it occurs.

In the light of that discussion we are now to investigate what therapeutic agent will better conform to that law. It may be pointed out, before we proceed, that we are not concerned here with the consideration of any hygienic, non--medicinal or passive systems or agents of treatment. Our investigation is now legitimately limited to the consideration of the Elimination of a morbific agent by an active therapeutic agent under the law of Attraction.

In fact, in accordance with the general law

of physics that every particle of matter attracts every other particle of matter, every therapeutic agent, whatever system or pathy it may belong to, must be able to attract every morbific agent that it meets in the organism. In every action, attraction is the first stage, and combination or repulsion is the second. If we analyse every action which we describe as an immediate repulsion or rejection, we shall come to know that it is necessarily preceded by attraction which may be of an extremely short duration (because attraction is an undeniable law of Nature), in which case the attraction may not be apparent. Of course, for the desired effect, such an extreme shortness of duration is of very little avail. The duration to be effective must be long enough, that is, the combination following the attraction must continue till at least the act of elimination which is to result is over.

ATTRACTION: WHERE PREDOMINANT AND PERSISTENT ?

1. Elemental Affinity and Replacement Phenomenon.—

We are evidently thinking of an attraction

that persists. Though attraction is universal, it is not of a persisting character everywhere and between all substances. Where physiologists and pharmacologists have found it of an enduring nature, they have denominated it as selective activity and elective affinity, just as bacteriologists would call such a phenomenon as staining affinity in their laboratory field. They have of course only stated facts, but not necessarily probed into their causation. Chemists also record that elements have such an attraction or affinity for other particular elements. Reduction of ores by charcoal is a characteristic instance of such affinities. Affinity is found to give rise to the replacing capacity of elements. And looking to the phenomenon of the replacement of one element in a compound by another element, the chemists have devised orders of such elements as follow:

Order I. (non-metals) F, Cl, O, Br, I, S.

Order II. (metals) K, Na, Ba, Ca, Mg, Al, Mn, Zn, Fe, Sn, Pb, H, Cu, As, Bi, Sb, Hg, Ag.

In both of these orders, each preceding element is able to replace all the succeeding elements from their compounds.

2. Periodic Classification and Close Relationships.—

Modern scientists have, it must be admitted, gone a step deeper in their Periodic Classification of elements, which throws some light on the causes of durable attraction. Striking similarities in properties have helped them to classify elements into groups and families like the following: Ca and Ba; F, Cl, Br, and I; Mg, Zn, and Hg; C, Si, Sn, and Pb; N, P, As, Sb and Bi. These are instances of such groups. It is interesting to note that there are groups of elements having similar properties and that many of them are also members of the replacement orders given above.

'The Periodic Law,' as Mellor says,' dimly foreshadows an identical origin or common parentage of families of elements.' We have referred here to the Periodic Classification to point out the same thing. Physicists have much succeeded in showing that the different elements, at least, those of one family, have been formed by the conglomeration of monads or atomicules formed of the same primal matter. The rather old idea that the properties of elements are the properties of number, the

attempt at classifying elements on the basis of their atomic weights, and the proposition that the properties of a compound are nothing but mere interpretations of the electrons' motions, all these aim at finding out a common parentage, a relationship, a kinship or a family tie. The elements, Fluorine, Chlorine, Bromine and Iodine are shown to possess such a family relationship or a natural affinity.

The family relationship of this halogen group is remarkable from a good many points of view. As we have seen before each preceding member of this group (F, Cl, Br and I) is able to replace all the succeeding members from their compounds. They thus play the roll of a 'reliever' of whom a family is ever in need! Again, their pharmacological actions are much similar. For instance, they all act upon the larynx and the bronchial tubes, and, in fact, upon the mucous membranes generally, producing a much similar violent irritation, as can be experienced from a simple inhalation of their fumes. All of these halogens act upon the glandular system, resulting in enlargements having a great resemblance. They affect the sensorium all in a like manner, causing vertigo and a peculiar anxious state of mind. Thus

pharmacologically these elements show a close relationship. It is indeed noteworthy that the elements which are closely related in their pharmacological actions should have also a closeness in their natural relations.

Certain groups of elements nearly always occur in juxtaposition. This is a good evidence of an attraction arising from their formation from some common material. Seeing that Cobalt is never quite free from Nickel, and vice versa, that Silver is almost invariably associated with Lead ores and with Gold, Cadmium with Zinc ores, and Selenium with the Sulphur of pyrites, Mellor rightly observes that 'these associations and co-mixings can not be entirely due to chance, for these elements are neither plentifully distributed nor have they any marked chemical affinity for one another'. 'Consequently', he further remarks, 'it has been suggested that elements in question were formed from some common material under almost identical conditions, and where slight variations in the conditions led to the almost simultaneous formation of closely related elements'. This is one of the many grounds for a natural affinity, between elements, emanating from a close relationship.

The law of Octaves as far as it bears truth is also suggestive of a close relationship and consequent affinity of elements. In Newlands' words, ' members of the same group of elements stand to each other in the same relation as the extremities of one or more octaves in music'. He has tried to show that 'the eighth element starting from a given one is a kind of repetition of the first, like the eighth note of an octave in music'.

Then, there are fifteen elements which are very closely similar in properties, and which can only be separated with difficulty on that account. They are in order, Lanthanum, Cerium, Praesodymium, Neodymium, Illinium, Samarium, Europium, Gadolinium, Terbium, Dysprosium, Holinium, Erbium, Thulium, Ytterbium, and Lutecium.

3. Elemental Identity.— If, thus, the circumstance, that certain elements belong to a particular group, or that they have a similarity of their atomic weights or regularity in the differences of their weights, or that they have been formed from some common primal matter, can create a close relationship between the elements concerned, give them the capacity of replacement, produce a certain similarity in

their properties, throw them into juxtaposition, set up a natural affinity, or attraction between them to a smaller or greater degree, and make it even very difficult in the case of some elements to separate them, it goes without saying that atoms or particles of the same element shall show more perfect natural affinity towards each other. If a helium atom, for such an instance, is entirely isolated in space, it has nothing around it which it can attract or by which it can be attracted. Nevertheless, as soon as a second helium atom is brought into its neighbourhood, the two are drawn towards each other. Dr. Kolbe, in his INOGRANIC CHEMISTRY, corroborates the same fact when he says that, 'In the molecules produced by the union of the atoms of the same element, the homogeneous atoms are not bound together with less, but often indeed with greater, affinity than in the compounds of heterogeneous elements.' 'For example,' he further says, 'the molecule of nitrogen is a much more stable compound of the two atoms of the element than the compounds of nitrogen with oxygen, or with hydrogen or chlorine.'

Elemental identity undoubtedly tops all points of similarity, giving rise to natural

affinity or attraction, that is, it tops common parentage, identical conditions, membership of the same group, etc.

It can be safely concluded from the evidence given, that, just as it is true that every particle of matter attracts every other particle of matter, it is also true that the more similar the particles of matter, the more natural affinity have they for each other.

THE LAW OF SIMILARS.

So, a therapeutic agent, in order that it should be thoroughly able to attract and to eliminate a morbific agent, will have to bear the greatest possible similarity towards the latter. The degree of its capacity to fulfil its mission will therefore depend upon the degree of its similarity towards the morbific matter. And this is the Law of Similars which Hahnemann had visualised at about the end of the eighteenth century and the application of which he had seen in his life-time quite materialised through its actual practice by the medical profession.

It is however an extremely difficult task to administer a remedy much similar to the morbific matter. For, to do so we must have

an exact knowledge of the nature of the latter. The morbific matter may be formed of a single element, a simple combination of many elements, a chemical compound, or a number of many compounds, as in the case of various druggings, poisonings, toxins, bacteria, etc. Besides, many of these do not necessarily remain what they are before their admission into the organism. They may undergo various permutations and combinations, and even these would not be found to be exactly the same tomorrow with what they are today, as it is clear from the consideration of the constituents of the organism, its power to manufacture its own drugs and its capacity to transform a foreign matter in some cases if not in all. Hence, the present laboratory implements and instruments at our disposal would, on account of this fact, reveal to us not a precise character of the morbific matter but a general one. Our administration of a similar remedy will also, on that account, not bear a very close correspondence but a general one towards the morbific matter. The cure will also be relatively less satisfactory. We do not of course mean to say that a general resemblance is of no utility at all. But it can not in its own right lead to a perfect cure.

HAHNEMANN AND THE SOLUTION.

The difficulty is however obviated by Hahnemann, for which he deserves our gratitude, by bringing into prominence one much neglected aspect of, or relation between, drug and disease. To understand that relation, we shall have to refer a little, on that score, to the various therapeutic systems and their classification.

From ancient times man has been attempting to cure disease. And several therapeutic systems, based on different doctrines and theories like the Tridosh theory of Ayurved, the doctrine of Signatures, the Grecian theory of Humours and others, have come into practice since then. Then, the modern systems like Chromopathy, Hydrotherapy, Serum - therapy, Organotherapy, Vaccine therapy, etc., have come in vogue. It needs no proof that all these systems aim at curing disease by one or the other of the four essential processes of cure, viz., extermination, elimination, neutralisation and limitation. The Ayurvedic system seems however to have ready-made niches for all the numerous forms of treatment that are already in practice.

It is also not necessary to re-demonstrate

how the activities of drugs belonging to any of these systems are physical, chemical, colloidal or dynamical. These doctrines and theories, and these various aspects of the actions of drugs utilised by them may help to classify the systems. But the number of categories they would create would be almost equal to their own number.

There is however one aspect which is common to the activities of all the several therapeutic agents. It is, namely, the fact that these activities bear, as can be noticed from the stand-point of the patient's subjective suffering or pathos (if the meaning in original Greek is adopted) , an antipathetic, sympathetic, or heteropathetic relation towards the disease or the activity of the morbific matter. And this pathetic aspect or relation divides all therapeutic systems concisely and conveniently into Antipathic, Homeopathic and Allopathic ones.

Both drug and disease give rise to symptoms in the patient. Taking into consideration the symptoms which the diseases produce, the Antipathic system tries to cure or to palliate the diseases by employing drugs which create an opposite effect: *Contraria contrariibus curantur*; the Homeopathic system seeks to cure diseases

by agents capable of effecting similar series of symptoms : *Similia Similibus curantur*; and the Allopathic system uses remedies which produce phenomena of symptoms different from those of the disease treated. Any modes that are not Homeopathic can come under this last division. This is also termed Heteropathic, and that is appropriately, on account of diverse modes of treatment it makes room for.

Now, to come to our point, this pathetic field influenced both by drug and disease is relatively more stable basis, as pre-eminently pointed out by Hahnemann, for finding out a closely resembling remedy which is in view. He has convincingly expounded in his ORGANON how the patient's subjective symptoms are 'the principal or the sole means, whereby the disease can make known what remedy it requires — the only thing that can determine the choice of the most appropriate remedy.' The reasons are obvious. Firstly, the nature of the morbific matter may not be thoroughly knowable, but that of the symptoms it creates is comparatively more perfectly knowable. Secondly, the morbific matter may undergo a change due to the interaction that occurs between it and the organism, and consequently

its character may become more difficult to be understood under laboratory methods. But the change in the nature of the symptoms that would accompany the change in the morbific matter is comparatively ever as thoroughly recognisable as before, and with the knowledge of the change in the symptoms we can substitute in the place of the previous remedy another remedy having closer correspondence with the changed symptomatology.

To recapitulate : On one hand, we may not be able to recognise the exact nature of the morbific matter which is the cause of disease, but we can know the exact symptomatology or the effect the cause produces. On the other hand, we can know the precise nature of the therapeutic matter or the drug to be administered, as well as the precise symptomatology or the effect the drug creates. There is, thus, a factor common to both, namely the symptomatology of both the morbific and the therapeutic agents, which is thoroughly knowable and from whose stable basis we can find out and refind out a close correspondence between drug and disease, regarding their effects if not their compositions. We have however evidence to infer that if there is a close parallelism between

the symptomatologies of drug and disease, there is a great probability that the substance forming the drug and that forming the disease are also closely related in nature and possess a natural affinity towards each other, as we have seen in the case of the action of the halogen group on larynx, glands, sensorium, etc.

ACTUAL THERAPEUTIC WORKING.

We are now to think of one more, but the most fundamental problem, namely, the actual working of the Law of Cure, before we can feel entitled to close this chapter. We have seen in the previous chapter how the organism, with the assistance of its various forces, absorbs, conducts and eliminates, under the law of Attraction, a substance introduced into it. Then, we have so far seen in this chapter that a therapeutic agent which is most similar to the morbific agent conforms to the law and the process of Cure.

A substance introduced into the organism (be it morbific or therapeutic) is ever subject to the natural eliminating process of the latter as well as to other processes of the same. When a disease retreats in an organism, it means that the natural curative forces of the latter are

competent to do their task. But when on the contrary it progresses, it means that they are not equal to the occasion. The organism obviously does not require a therapeutic agent in the first case, while it does require it in the second. The required remedy, then, to be effective, must be able,

(1) either to stimulate the organism to perform its function appropriately, that is to eliminate itself the cause of disease,

(2) or, to do the same itself with or without the co-operation of the organism,

(3) or, to do the both.

In fact, a remedial substance, in order to be perfectly successful, must be capable of both exciting the organism and eliminating the morbific substance.

An explanation is due as to how a therapeutic agent or substance so qualified must be actually working. Hahnemann did not care much to arrive at a precise scientific explanation of the actual therapeutic working, as he attached more importance to his experiments and observations. Nevertheless, he has offered an explanation. According to him, 'a some-

what stronger, similar, artificial morbid affection is brought into contact with, and, as it were, pushed into the place of, the weaker, similar natural morbid irritation.' This 'highly probable explanation,' as he calls it, is not in any way satisfactory.

OUR OWN NEW EXPLANATION.

We would like to explain the phenomenon, with the assistance of our present physical science, as follows:

(1) EXCITATION OR ACTIVATION OF THE ORGANISM. *A substance having a stronger activity will excite one having a weaker activity.* The phenomenon of 'Excited Activity' found in connection with radio-active substances, bears analogy to this statement. As A. W. Stewart says in his 'Recent Advances in Physical and Inorganic Chemistry,' it is shown in the case of Radium and of Thorium that these substances have the property, when they are brought in the neighbourhood of other substances, of transmitting to the latter the capacity of manifesting the phenomena of radio-activity. He further states, that the strength of the activity, thus excited, depends not upon the nature of the object on which it is located, but

solely upon the strength of the activity of the exciting substance, and on the length of time that it is left in the neighbourhood of the excited object. When the active substance is removed from the vicinity of the excited object, the latter begins to lose the properties communicated to it. The excited activity is quite proportional to the amount of the emanation present.

It may be remembered in this connection that the conception of radio-activity is no longer now confined to a few elements. We can perceive the possibility of the existence of radio-activity even among elements which appear perfectly stable though it may be undetectably small. A form of radiation is actually found naturally present in the atmosphere. Nay, we experience today that nearly every form of Matter can be stimulated to radio-activity, as radio-activity is one of the properties of the nucleus of the atom.

It is the nucleus that characterises an element, and in which enormous forces are concentrated. Activities are expressions of forces. And what is true in the case of one activity is likely to be true in the case of the other. So if an element having a stronger radio-activity can communicate it to another

having a weaker one, it is highly probable that the element will be able to transmit its other stronger activities also in a similar manner.

In its diseased condition the organism is found to have exhausted more or less its activity against the disease. So, if in the light of the explanation offered above, a substance having a stronger activity will be administered, in conformity to the law and process of Cure, we may legitimately expect it to communicate its activity to the organism. It will exhibit the phenomenon of the 'Excited Activity' and it will continue to do so as long as it remains in the organism. It may be remarked here that the law of the 'Excited Activity' may be found capable of being applied to therapeutic purposes other than the Homeopathic ones also.

(2) ELIMINATION OF THE MORBIFIC MATTER BY THE THERAPEUTIC ONE. *A stronger similar substance will disequilibrate and displace the weaker.* A few facts from physics may be recalled here.

A body in stable equilibrium, if it is slightly displaced from its position, soon attains its original position. Its potential energy is a minimum as its centre of gravity is in the lowest possible position. Any possible displacement of

the body, therefore, involves the raising of its centre of gravity and consequently the expenditure of external energy.

On the contrary, when a body is in unstable equilibrium, a very slight disturbance may produce a very great displacement. Its potential energy is a maximum, as its centre of gravity is here in high position. So its displacement does not involve the raising of its centre of gravity and, consequently, the expenditure of external energy. Its centre of gravity is above the point of support. So, if the body is displaced, the turning moment due to the weight now acts so as to increase the displacement, and therefore the body moves further and further away from its original position.

Now, the morbific Matter (the cause of disease), whenever it is more than equal to the combating forces of the organism, physically attains stable equilibrium in the organism. When it is to be displaced for the sake of its elimination from its lodgement, that is, from the organism, it would, according to the physical laws, involve expenditure of external energy.

The therapeutic substance, whose energy is to be expended over this displacement, must

evidently be stronger in activity than the morbific one. Once however the stable equilibrium of the latter is strongly disturbed and the latter is thereby put in unstable equilibrium, slight energy of the former would then be sufficient to thoroughly displace the latter, that is, to eliminate it. And moreover the decisive quantum and the determining moment in a change are always a minimum. This is the law of least plus as some call it.

The therapeutic substance is, as it has been explained before, to work under the laws of Attraction and of Similars. And attraction is a force which two bodies exert on one another. A stronger body will naturally exert a stronger force. So when a remedy, having a stronger activity and having the capacity to attract better on account of its similarity to the body to be acted upon, is administered, it is sure to disturb the stable equilibrium of the latter, to throw it into unstable equilibrium and consequently to eliminate it.

We shall now mention a few concomitants of the working of the therapeutic substance. They are however self-suggestive.

(A). The therapeutic substance must stimulate or activate the organism when the

latter is capable of being activated, without precipitating a complete cessation of its urge to live, if it is imminent or apprehended.

(B). It must be most harmless to the host (the organism) while it is most harmful to the morbific substance (the cause of disease). That is, its strength must be only as much as is needed for its purpose.

(C) It must remain and act in the organism for a period not longer than the fulfilment of its object warrants.

These concomitants obviously must influence the selection of a remedy and its dose.

CHAPTER EIGHT.

POSOLOGY.

> "The sources of energy which are thus disclosed to the external world.....bear witness what powerful forces are active in the interior of atoms (the nuclei). This world of the interior of the atom is in general closed to the outer world; ..... . Only exceptionally a door opens, which leads from the inner world of the atom into the outer world; the α or β—rays which come out when this happens are envoys from a world which is otherwise closed to us." —SOMMERFELD.

We have seen in the previous chapter that the drug in order to be perfectly curative must be capable of either stimulating the organism to perform its function adequately wherever it is possible, or, of itself, eliminating the cause of disease, or, of doing the both. That was the consideration of the quality of the drug.

We have also stated as concomitants or as natural corollaries that the drug must function in a manner most harmless to the host, and for

only as much period as is quite requisite.

These qualifications of the drug take us next obviously and necessarily to the consideration of its posology. That is the consideration of its quantity.

CONDITIONS MODIFYING DRUG ACTION.

The quantity or dose is one of the many conditions that modify the action of drugs. Some of these conditions relate to the organism and some to the drugs themselves. Those pertaining to the former are race, sex, age, weight, mental condition, atmospheric and altitudinal situation, body temperature, rate and channel of absorption and excretion, immunity, tolerance, drug habits, idiosyncrasy, reactivity, elective affinity, drug-elaboration by the organism, character, period, seat and stage of disease, pathological changes in the tissues, and effects of previous treatments if any. Those relating to the latter are mass, form, preparation, time and frequency of administration, cumulation or summation, synergysm, selective activity, and possession of several actions.

PROBLEM OF THE MASS.

The potency of all these conditions to affect

the drug-action is in general accepted on all hands. But the problem of the mass or quantity is yet a controversial one in certain of its aspects. The mass is determined by the other conditions, but it itself is a determining factor in the drug-action, independently of the other ones, as drugs are unsafe beyond a certain amount, and certain drugs even act in an opposite manner in their big quantities.

The pharmacopoeias in general indicate the minimum and maximum limits of the quantity within which different drugs may be given with advantage and safety, leaving to experience as to how far one may judiciously depart from them. The controversy arises primarily and mainly with the minimum and secondarily with the maximum limits.

OLD CRITERIONS AND NEW REVOLUTIONS.

The indication of these limits is guided by our Biological and Pathological conceptions of the organism, and by Physical and Chemical ones of the drugs, as substantiated by our pharmacological and laboratory experiments respectively. These conceptions are, however, now in the process of re-formation and to some extent even of revolutionisation.

(1) New Outlook of the Organism.

While recent Biological and Pathological researches are revealing to us the subtler structure and working of the organism and of the causes of disease, the recent Physical and Chemical experiments are disclosing to us the finer atomic constitution and the enormous atomic forces. The cell, for instance, is no longer conceived to be the unit of the world of Life, nor atom to be that of the world of Matter. The ultimate constituents of the organism, which according to the modern science physically partake of the nature of Electrons and Protons like those of the drug, do not in fact come within the pale of the apothecary's weights and measures. But in the absence of the finer knowledge of the constitution of the organism as well as of that of the drugs, minimum and maximum doses were naturally devised as we have them generally, consistent with our general sense of utility and safety. We did not, for instance, know in old days what a small proportion of chlorides and phosphates a red blood cell contains among its other constituents. But we now know that the quantity of sodium chloride, for example,

possessed by red blood cell, would necessitate for its arithmetical symbolization a decimal of nearly more than twenty places. We now know also that the vital and subtler workings of the organism are carried on by units of infinitely small magnitudes. The various toxins (secreted by pathogenic micro-organisms) which are chemically acids, albumoses, alkaloids, ferments, gases or pigments, and the autotoxins (produced by the organism's own organs, tissues or cells) are infinitely small, smaller in quantity than what the apothecary can weigh and measure, and than the usual pharmacological doses, and also minuter in magnitude than the very micro-organisms or cells which produce them and whose diameters can only be expressed in a few microns.

(2) New Outlook of Matter.

Our outlook of Matter has similarly undergone an extra-ordinary change. The hardest solid, the modern physics tells us, is more like a lattice-work than what we generally understand by 'solid'. In the interior of the smallest piece of the hardest steel, billions of molecules exist separated from each other and all moving rapidly to and fro. A single grain of indigo is found

to colour a ton of water. That is, the billions of molecules contained in the grain spread through the water. A grain of musk, as Thomson observes, will scent a room, i. e., pour molecules into every part of it for several years, yet not lose one millionth of its mass in a year.

Then atoms are known to be found in vast numbers in a very small space. In a little bubble of hydrogen gas, for example, no larger than the letter 'O', there are billions of atoms, and they are not packed together, but are circulating as freely as dancers in a ball-room.

And the atoms in their turn are found to be made up of protons and electrons. At one time it was thought that the atoms were indivisible. The very word atom means indivisible. But now we know that they can be broken. And they are actually split up recently. Moreover, it may be recalled here, there is no proof and there can be prehaps none, as the scientists consider, that the protons, and for that matter the electrons do not consist of a number of small units. protons are known to be about 1850 times as heavy as electrons. Very large forces are packed up in them. And that is why a scientist could say that 'half a brick contains as much energy as a small coal-field,' and

that is why modern physicists discuss the possibility of deriving useful energy from the interior of atoms, and give astonishing estimations of the power which might possibly be obtained from little quantities of Matter.

INFINITESIMAL MASS CAN ACT AS A FORCE.

The conviction that a little mass corresponds to a great deal of energy is rapidly growing upon the scientist's mind, and actual experiences of colloid chemists, biologists and serologists have made it possible to demonstrate that an infinitesimal mass or quantity has power and that it can act as a force. The colloid chemists utilise, as catalisers and as ferments, quantities of a substance many times smaller than what the pharmacologist would generally think of administering in his own province.

Indeed, as few grains of some substances consist of billions of molecules, as a few molecules taken together contain equally large number of atoms, as the atomic nucleus or the protons even characterise the element which the atoms represent, and as enormous forces are concentrated in an atom or its proton, one should easily conceive that even a billionth or any smallest fraction of a substance must, when

administered with accuracy and calculation, be able to avert just as great a biological or pathological action as a whole grain would. The recent progress in various branches of science allied to our subject goes to show that the quantum of the instrument of the biological, pathological and therapeutic actions is far smaller than what it is generally presumed to be. This is, besides, quite in conformity to the extreme minuteness of scale on which the Universe is constructed and to the law of Least Plus.

The infinitesimality of these things was perhaps first perceived and utilised, though to a very limited extent, by the Ayurvedists. But the credit of crystallising it into a matter of an established principle, by carrying it to its logical end, goes to Hahnemann -- the eminent German philosopher and physician. His was however a mathematical stand as corroborated by experience and inductive logic, for, the physics of his time perhaps lent him no helping hand. Mathematically, it will have to be admitted, no limit can be put to the divisibility of Matter. Matter can not become nothing whatever number of times it may be divided. Hahnemann has accordingly said in his ORGANON that 'a substance divided into ever so

many parts must still contain in its smallest conceivable parts always some of this substance, and that the smallest conceivable part does not cease to be some of this substance and can not possibly become nothing.' The utilisation of the power of an infinitesimal quantity is no longer confined to Hahnemann's Homeopathy. It is gaining a wide recognition. The conclusions of the modern scientific researches are bound to be reflected on the medical practice.

POTENTIZATION AND MINIMUM LIMIT.

Now, it is only repeated divisions and subdivisions that give us the smaller and the smallest doses of a drug, whatever be the medium or menstruum that holds the minute immeasurable quantity. The quantity is, however, easily calculable more or less upto a certain number of divisions in terms of molecules and of atoms. In every case, it is not difficult to understand, we shall reach a stage where every grain or minim or the least dispensable quantity of the medium will be found to contain only a single molecule of the substance undergoing the division, if it is a chemical compound, or to contain a single atom, if the substance is a simple elementary

matter; and a further division of the substance wherefrom will mean a division of that molecule or that atom.

As the object of such an infinitesimal division is to make the potency or energy contained in the minute immeasurable parts of a substance available for use, the result is appropriately termed potentization. Pharmaceutically the process of potentization is one of trituration, succussion or dilution according to the medium used. But physically it is one of molecularisation or atomisation. That is, in administering potentized drugs we are able to administer even a single molecule, or a single atom if we so desire. We shall take both of these cases one by one.

1. Molecularisation.--Sodium chloride (NaCl) will be a suitable instance. A single grain of Sodium chloride contains more than 300 million, million, million molecules. We shall take sugar as a medium for the intended potentization of this salt. One grain of NaCl is triturated according to the decimal method in nine grains of sugar. The result will be that every grain out of the ten grains of the prepared mass will contain 1/10th of the 300 million, million, million molecules. Then one such grain is again

triturated in nine grains of sugar. Thereby every grain of the second triturated mass will contain 1/100 th of the original 300 million, million, million molecules. After such fifteen or sixteen triturations we shall come to a trituration, every one grain of which will contain only one molecule or two of NaCl. This is what we would like to call the molecularisation of a drug. It is clear that the larger the number of molecules a grain or a minim of a drug possesses, the more times the drug is capable of being divided for molecularisation. Indigo and musk mentioned before are the best examples of substances having innumerable molecules. Camphor is also known to possess millions of molecules even after a good number of its divisions.

It may be noted here that a substance made up of chemical molecules can not be divided or potentised beyond molecularisation, first because a chemical compound can not be split up mechanically, and secondly because a further splitting means decomposition of the chemical compound with loss of the properties of the substance as a compound.

2. *Atomisation.*-- We may take Lead for this purpose. One grain of Lead consists of more than 160 million, million, million atoms.

Sugar will serve the purpose of a medium here also. After 14 or 15 divisions of a single grain of Lead in accordance with the same decimal method used for the molecularisation of Sodium chloride, we shall find that each single grain out of the mass of the last trituration will contain only one atom of Lead. Here also we can see that the more the number of atoms a grain of an element possesses, the more the number of times it will have to be divided for its atomisation.

MATHEMATICAL POSSIBILITIES AND ACTUAL EXPERIENCE.

We have so far indicated the scientific possibility of reaching the minimum posological limit. Hahnemann, the pioneer of the minimum dose, and his followers have relied upon mathematical possibilities and prepared a vast number of subdivisions beyond that of atomisation. The minute particles of a substance in such subdivisions can not be conceived, with our present knowledge of science, to possess the elemental character of the substance, though their existence can not be denied as the atom is actually split up recently and the proton and

the electron may some day be found capable of being split up. But even if the proton or the electron is found to split up tomorrow, that will in no way satisfy the needs of posology which requires that a substance must retain its elemental properties whatever length of subdivision it may undergo.

It is a known fact that every atom in its normal state consists of a certain number of electrons and an equal number of protons, the number varying from 1 to about 240. And this fact creates a possibility of a division beyond atomisation. But it is obvious that, if the number of protons in an atom will be by any process divided, the nucleus will lose the character of the element it represents, because scientists seek for the transmutation of elements in the very change of the atomic weight which, according to the data available for the present, is equal to the number of protons the nucleus contains. And, transmutation of an element is not aimed at in the process of subdivision of a drug.

The actual experience of Hahnemann and many eminent Homeopathic physicians however claims that 1/1000 th, 1/100, 000 th and even 1/10, 000, 000 th subdivisions do unmistakably

show the action of the original substance (chemical or simple) in strict conformity to the properties which it exhibits in its unpotentised or undivided state. One must, in fairness to this claim, say that the Homeopathic pharmacologists have first administered such subdivisions to different persons at different places through different associations organised for this purpose. They have then gathered the data thus made available, compared the notes of the actions of the substance administered, and ultimately taken as proved only those actions that were found corroborated on all hands. Their experimental methods are rational, provings pure, and judgement sound. Their logic is obviously inductive. It is their actual pharmacological experience that is weighing with them, and they have been patient enough to await the sanction of science. Their patience is to a great extent justified as the molecules which were, in the days of Leslie, the last portions of Matter which could not be further divided, were soon found to be quite divisible. They have seen that the atoms which next played the role of indivisibility have also been sooner proved to be capable of splitting. And they

hope consequently that the present atom may one day be discovered to be a parent of small atoms or atomicules which may retain the parental properties.

The present analysis of the atom into its protons and electrons and the present knowledge that the properties of an element change with the change in the number or weight of the protons are not in favour of any therapeutically useful subdivision beyond molecularisation and atomisation. And we are not inclined to detain our readers any longer in considerations which are at least for the present hypothetical. Our purpose is, however, served if our readers have understood that even on a purely scientific basis the minimum posological limits are far wider than what our general presumptions warrant.

The utility and sufficiency of minimum doses will not be lost sight of, if our readers recollect from the previous chapter how a very slight disturbance caused in a suitable manner effects a very great displacement.

The controversies regarding the maximum posological limits do not deserve a special consideration. The treatises on toxicology will be found to have dealt adequately with them.

certainly obviate our knowledge of their individualities which form the most important asset in therapeutics. One can clearly see the wisdom of the principle of a single remedy. A single remedy by virtue of its singleness distinctly manifests its individuality in its provings, and makes the choice of a dose (as of a drug) a matter of scientific precision. And a scientific precision helps a perfect visualisation of the therapeutic effect. One has to shape a desired therapeutic action into a distinct mental image. But we shall postpone the consideration of this point to the next chapter where it will share the detailed treatment meted out to many clinical points.

FREQUENCY OF A DOSE.

In general, the factors, which modify the action of drugs and thereby help to determine the dose, will determine their frequency too. The action, the amount, and the frequency are quite interdependent factors. It may also be pointed out, in general, that a single or a few doses should be given and one should then wait for the time which that amount may require for its full action. It is obvious that the doses must be repeated when the improvement is

about to cease or has ceased. Acute and critical cases may demand more frequent doses for the establishment and continuance of an improvement than what chronic and noncritical ones may do. A mistake in the repetition of doses, as in their choice, will prove detrimental to the patient's life in proportion to the seriousness of the case and the magnitude of the mistake. There will however be very little or no mistake if two things are ever kept before the mind, viz., that the amount of action required to accomplish a critical alteration in Nature is the least possible and that a critical moment is also infinitesimal. There is no royal nor popular road to the Nature's fulfilment. The only road is a strict conformity to its laws.

THE MODE OF ADMINISTRATION.

We all know how the channels of absorption are concerned in the determination of a dose. A dose is smaller subcutaneously, large orally, and yet larger per rectum. There are besides many routes requiring a difference of doses. There is however one among the all to which we wish to draw a special attention of our readers. And it is the nerve-route. The actions of a drug, through whatever channel it

may reach its destination, are either direct or reflex. For the direct action (except in the case of the primary local action), fluids or vessels are required to absorb and carry a drug to its destination. But for the reflex actions, nerves are the route. And we want to analyse here the nerve-reflexivity.

NERVE-ROUTE AND NERVE-ACTION.

What do the nerves carry that results in the reflex action? Is nerve-action a mere chemical, electrical, or a thermal phenomenon occasioned by a drug as well as by other causes? Or can the nerves also absorb and carry a drug as the vessels do? Here we shall have to take into consideration a few physiological and pathological data in order to be able to answer the questions adequately.

(1) The nervous tissue -- a kind of protoplasm with highly specialised properties-- contains a large percentage of water ranging between 65.1% (as in sciatic nerves) to 83.5% as in the cerebral grey matter.

(2) The velocity of the nerve-impulse in man is 120 metres per second at normal body temperature.

(3) A reflex action necessitates three

things.

(A) An afferent nerve.
(B) A nerve-centre consisting of nerve cells, and
(C) An efferent nerve.

Now, it is evident that something propagates during a reflex action from the beginning of the afferent nerve to the end of the efferent one. That something we are accustomed to term an impulse. And the ultimate stimulation or depression we interpret as the result of the impulse. The ideas about both the cause and the effect regarding the nerve-action are yet quite vague. For instance, in respect of the effect, Prof. Dixon can only vaguely say that the nerve-ending during activity liberates a chemical substance which by combination with some metabolite in the end-organ rouses it into activity. Equally vaguely he further says that a muscarine-like body is after vagal excitation liberated at the nerve-ending in the heart and that it stops the heart.

AN ABSORPTIVE PHENOMENON IN THE NERVE ACTION.

We have however reasons to believe that

the impulse can be proved to be a physical absorptive process, that is, that the nerves also are capable of actually absorbing and conducting drugs through their substance. In the first place, the high percentage of water in the nerve-substance makes room for such an action which is a physical process. In the second place, the nature of the velocity of the nerve impulse is not incomparable to that of a physical propagation. The speed of air particles may be taken for a comparison. It is approximately 528 metres per second, when unrestricted, under ordinary circumstances. The rate of a nerve propagation is 120 metres per second, that is, about four and two fifth times slower than that of the air particles. But there is, on that account, nothing in the velocity of a nerve-impulse, which can be imagined anything different from a physical propagation. Its apparent slowness is obviously due to the fact that it is not unrestricted in its path.

In the third place, it is neither speculation nor hypothesis to hold that the nerves are capable of taking up substances along their route. Our view is corroborated by a pathological datum of a great significance. And it is that the toxin of tetanus is actually absorbed

and carried by the axis-cylinders of the local nerve-trunks to the motor cells in the spinal cord, pons and medulla. The high percentage of water in the nerve-substance must have undoubtedly a concern in this absorption and conduction.

THE NERVE--ABSORPTION AND INFINITESIMAL DOSES.

We do not however believe that a substance in any form and in any dose can be thus absorbed and carried by nerves. It must suit the route. But it is highly probable that ions, atoms, and extremely small molecules alone can be thus taken up. Only infinitesimal quantities may be able to utilise the nerves as channels of their absorption or to vehicularise the nerves. In the processes of inunction, inhalation and olfaction of some drugs, the local nerves are probably capable, like the blood-vessels, of absorbing the minute particles which naturally emanate from those drugs, but which are minuter than the particles that are absorbed by the blood-vessels, and capable of absorbing still minutest particles that are available from the finer and the finest subdivisions or potentizations of any drug. The action of potentized drugs through

the external and the internal surfaces of the organism, which are provided with nerves (as well as with blood-vessels), will evidently take place in a rapid and penetrating manner.

Hahnemann could see, with his mind's eye, the possibility, rapidity and penetration of such an action, when he wrote that the action of a drug 'spreads out from the point of the sensitive fibers provided with nerves whereto the medicine is first applied, with such inconceivable rapidity and so universally through all parts of the living body, that this action of the medicine must be denominated a spirit-like action.' For, he was not perhaps aware in his time of the rate of the nerve-propagation being 120 metres per second, that is, quicker than the rate of the blood circulation which is one total circulation in 15 seconds.

The absorption and conduction of drugs by nerves, if the possibility is accepted, is a physical process in the nerves. And the statement of Mc Dowall, an eminent physiologist, in these recent scientific days, that 'there is an increasing volume of evidence that the conduction (in nerves) may be a physical process', is in a way helpful to the discerning mind.

Those who would desire to test the truth

of a direct drug action through the nerve route will have to resort to minute or infinitesimal doses. A vast experience has been however already accumulated at the hands of those who have been using finest subdivisions of drugs in actual practice for more than the last hundred years. It is a field for a worthy and interesting research to those who are uninitiated in the workings of the infinitesimal doses.

the individuality of the case. Any scheme that can comply with these two main calls will serve the purpose of case-writing. The scheme of 48 heads, arranged by Constantine Hering in his CONDENSED MATERIA MEDICA, for instance, is with a few alterations worthy of a recommendation for the purposes of both case-taking and case-writing.

CHAPTER TEN.

CONCLUSION.

> ' For some psychological reason symmetry has an attraction for human mind; and we are always apt to prefer a regular arrangement to one in which irregularities predominate. Psychological peculiarities are, however, undesirable guides in the search for truth. '
>
> — A. W. STEWART.

In the last nine chapters we have treated the main component features or principles of Medicine and shown in each of them the contribution of Samuel Hahnemann to Medicine, and the place of his Homeopathy in it.

We had to go over the philosophical background, the theoretical basis and the field of actual experiences of the Medical Science. In all of these three aspects, while determining the laws that govern them, we could, we must frankly state, arrive only at a general nature of the laws like those of Attraction, Similars, Excited Activity, etc., and we had to face devi-

ations, infringements and irregularities in those laws, though their number and extent are quite limited. And we termed them the seeds of error, or of imperfection or of freedom in the laws. For, we are all in the search for truth and we must record things in the world as they are. We quite agree with Thomson in his observation that the fact that the world has been so constructed is perhaps the supreme discovery of science. Medicine like other sciences is also an attempt to understand the laws and the facts of the Universe, of course, for its own purposes. We may much prefer a perfect symmetry to the less perfect one which we find in the construction of the Universe, because it is in our nature to strive for perfection. But no seeker after truth should, for the sake of his aesthetic and artistic tendency, blind himself or others to the realities of the world.

We have stated a few instances of the seeds of imperfection in the last portion of the first chapter and elsewhere. We may add one more here. And it is that we do not for the present know why there are two types of electricity or why like electricities should cause repulsion, while unlike electricities cause attraction. These are the imperfections of the laws

of Attraction and Similars. And they are there. Every thing that one has said so far to bring such facts in conformity to the general law or laws has become vague and obscure. But no truth seeker should ever be tempted to mistake vagueness and obscurity of statements for profundity of conception. It may be observed here that the statement of a scientist that 'attractions and repulsions are only forms of stress' may help one to find a scientific approach towards a perfect symmetry in the law of Attraction.

Hahnemann possessed a mastermind. Only exceptionally, once in a hundred or even a thousand years, we meet a genius of the type of that of Hahnemann. And it opens a door to the depths of knowledge. We could see his distinct contribution to the basic, theoretical and practical problems that concern the Universe and the Medicine. We found him teaching a kind of Realism as man's philosophy of the Universe, harmony as the general universal attitude, Vital Principle as the instrument of the activity of Life, Attraction as the general law and the law of Similars as the universal resource of restitution.

He introduced three new elements in the field of therapeutics, viz., individualisation of

the patient, infinitesimalisation of the drug and vehicularisation of the nerves. He prepared a pure Materia Medica -- an exhaustive and a thorough statement of the drug-action on the subjective and objective planes of human Life. His treatise on the baneful chronic effects of Scabies, Syphilis and Gonorrhoea are highly instructive. Hahnemann was a reformatory and a revolutionary spirit.

We have dispassionately found that the observations of the new physics regarding the ultimate units of Matter and their reflection on our psychological and physiological outlook of the organism is an undeniable tribute to Hahnemann's insight.

We may, however, plainly point out here that we do not want ourselves or our readers to adore Hahnemann for his anything and everything. For, we were ourselves not satisfied with his explanation of the actual working of the therapeutic substance. And we have offered our own new one. But we can not and we should not, we assert, ignore him only because he violently moved the medical traditions, conventions, or orthodoxies from their very basis. He created in his times a very powerful zone of thought-provocation. And

many of his progressive conceptions have filtered down in the medical thought of today, or at any rate have been much corroborated by modern philosophy, physics and medicine. Our references, for instance, to Bergson's 'elan vital,' Smuts' 'holism', and the experiences of biologists, serologists and colloid chemists might help the readers to see for themselves the recent substantiation of Hahnemann's main tenets.

We reiterate here that Hahnemann, like any one else, must be judged from all of his writings taken together; and the spirit with which he entered on his mission must be absorbed and assimilated without prejudice and indifference that time and novelty carry with them.

We shall conclude this book with his own words: "Love of ease and obstinacy preclude effective service at the altar of truth, and only freedom from prejudice and untiring zeal qualify for the most sacred of all human occupations, the practice of the true system of medicine."

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