

SCIENTIFIC BASES OF HOMOEOPATHY: THE CONCEPT OF VITAL FORCE AS MOLECULAR MECHANISMS BASIC TO PROFOUND HOMOEOSTATIC STATE

DR. R. R. SHARMA, M.SC., PH.D., (London), M.A.M.S., Chandigarh*

ABSTRACT: Present-day orthoscientific theories have no provision for drug-actions at homoeopathic dilutions and have rendered untenable the concept of vital force so basic to homoeopathic philosophy. This has created an unprecedented conceptual vacuum in Homoeopathy. A new approach to scientific theories is presented in the proposed series of papers to explain homoeopathic laws/principles which are herein recognized as established 'facts' in view of the overwhelmingly strong observational evidence in their support. This paper tries to rationalize the concept of vital force as molecular mechanisms prior and basic to the profound general homoeostatic state whose continuance characterizes health and perturbation a disease. The CNS emerges as the 'master-regulator' of homoeostatic state and of the precise generation of disease-specific 'self' remedies which are elicited by 'non-self' homoeopathic drugs. Subsequent papers would elaborate different aspects of this central theme.

INTRODUCTION

Over the past more than a century innumerable cures by Homoeopathy have been reported by a large number of homoeopaths all over the world even of those declared incurable under 'scientific' Allopathy. This author¹ himself has, over the past more than a decade, successfully used and found acting the homoeopathic drugs at incredibly high dilutions never before employed in the orthoscientific practice (see also below). The observational or experimental evidence in support of the homoeopathic 'art' is therefore overwhelmingly strong and persuasive but the present-day scientific theories have no provision for these otherwise established 'facts' of reality. On the other hand, the concept of vital force which is still so basic to the homoeopathic theories has been rendered untenable by researches in molecular-biology^{2,3} creating an unprecedented conceptual vacuum in Homoeopathy¹. There is therefore a need and justification for breaking away from the past and for the revision in scientific thought and approach which this proposed series of papers undertakes to initiate for arousing interest and seeking co-operation of other scientists as well.

The first two papers^{1,4} provided an overview of the proposed hypotheses. This paper, regarded as 3rd in the series, presents a somewhat detailed treatment of the concept of vitalism. It first reviews the status of this concept in idealistic philosophies, pre- and post-1960 orthoscientific theories, homoeopathic theories, and then develops a new molecularbiological theoretical

* Postgraduate Institute of Medical Education & Research, Chandigarh.

scheme to unify and explain the biological phenomena of health, disease and cure. Subsequent papers will deal with the detailed molecularbiological explanations of various homoeopathic principles/laws.

VITALISM IN PHILOSOPHY

From time immemorial, man is used to the concept of 'life' to differentiate the animate from the inanimate. The real nature of life has, however, been a subject of endless debate between the materialists and the idealists. The former including orthoscientists, consider 'vital functions' as attributes of the material state of aggregation and organisation and hence life as having no independent entitative existence of its own. But to the idealists, life is eternal, uncreatable, indestructible and supramaterial—hence not amenable to material experiments. This is the *psyche* of Plato, the *entelechy* of Aristotle, and the *atma* of the *Geeta*. *Sāṅkhya* philosophy presents the most elaborate scheme of evolution of the gross universe from the fundamental undifferentiated reality. The product of the union of *purush* and *prakriti* namely the *mahat* under it, may be regarded as the quantum of consciousness constituting the universal *buddhi*, or the discriminatory entity. *Mahat* is like the 'psion' which was postulated by Sharma⁵ to explain the psi-phenomena of precognition, extrasensory perception and of psychokinesis. It was supposed to constitute and connect all entitative existence into a continuum of 'psion field' which in a way, also makes mutually consistent the three variants of Vedant philosophy, namely *adwaita* (monism), *vishishtadwaita* (special monism), and *dwaita* (dualism). As per Aurobindo's philosophy of synthetic yoga, to constitute the 'non-living' the *living* consciousness is not manifested as such since it is 'engaged' in preserving the configuration and structure. The quanta of energy like photon, and the most fundamental particles of matter, are therefore expected to possess and eventually reveal (?) basic 'psionic structure'.

This theoretical scheme is consistent with the theme of *Upanishads* that there is a *living* behind all the *non-living* and a *one* behind the *many*. As a reconciliation with the scientific thought this may, however be regarded as representing the preparticle 'abiogenic' (?) stage or evolution from the undifferentiated state of ultimate reality. But the phenomena of health, disease and cure as generally understood and relevant here occur at the final organism 'biogenic' stage and are manifested at the level of molecules, cells, tissue and organs. The relationship between these two stages is quite distant though uninterrupted and comprises a continuum.

Thus, the philosophical thought is not irrelevant or irrational but may be regarded as supra-scientific, instead. Homoeopathic theory is unsatisfactory because it does not make the distinction between pre-particle and organism stages of evolution and mixes the two (see below). This paper will show a way out.

VITALISM IN SCIENCE

When (1810-1842) Hahnemann wrote the *Organon*, the concept of vital force was common to all the contemporary scientific and philosophical theories. Watson² and Florkin³ have traced the history as to how the concept of vitalism has persisted in biochemistry even upto the late 1950's. Scientists believed that some 'vital force' outside the laws of chemistry and physics governs the synthesis and properties of the biological molecules in the living cells and organisms. It was expected that some new natural laws as important as the cell theory would be discovered before the nature of the vital force could be understood. Some scientists hoped that the complex three dimensional structures of enzymes and protein molecules when deciphered would eventually reveal some features unique to the living system.

Researches in molecular biology, however, have belied all these hopes. The amino acid sequence and 3-dimensional structure of a number of proteins, enzymes, hormones etc. have now been worked out. Structure of the genes and nucleic acids (DNA & RNA) have been deciphered. A number of biological molecules have been synthesised in the laboratory⁴. It is now possible to predict 3-dimensional structure of a protein from its amino acid sequence⁵. All these developments have created the confidence that the laws of physics and chemistry are sufficient for understanding the synthesis, structure and properties of the biological molecules including enzymes and proteins and also the biological phenomena of reproduction, heredity, metabolism, perception, photosynthesis etc. The old concept of vital force has thus been set at rest. This however, has created a conceptual vacuum in homoeopathic theories¹ because these are still based on the concept of vital force. This paper would suggest a way out.

CONCEPT OF VITAL FORCE IN HOMOEOPATHY

(a) *The nature of vital force*: Hahnemann could not but base his homoeopathic theories on the concept of vitalism because it was common to all contemporary scientific and philosophical thought. According to homoeopathic philosophy^{6,7} vital force is immaterial, spirit like, imperceptible and animates the material organism throughout in its invisible interior both in health and in disease. Like the forces of gravity and magnetism, it is cognizable only by its effects on the organism. Without it, the organism is dead and capable of no sensations, no vital functions and of no self preservation. It is prior to, but maintains, the harmony and balance in the material organism. It intelligently operates and forms the economy of whole animal, vegetable and mineral kingdoms. It pervades the entire material substance without disturbing or replacing it. It is different from the 'reason gifted mind' which employs the living healthy 'instrument' for the higher purposes of our existence⁸. The material organism derives sensations through its senses by means of the vital force.

Upto this point, the vitalism of Homoeopathy is conceptually similar to

that of the idealistic philosophies (see above) although its scheme is not as clear and elaborate as that of the *Sāṅkhya* philosophy. And, as mentioned above, this is not readily relevant to phenomena of health, disease and cure. Further inconsistencies and confusion arise when the processes of disease and of drug-action are also described⁹ to occur in 'spirit-like' ways (see below). To cap it all, Hahnemann⁸ emotionally and contemptuously discourages all (other) explanatory attempts and gives three good reasons for this: *One*, the precise knowledge of these phenomena will ever remain concealed from every one—be one's intellectual powers of penetration ever so great, underlining the futility of all *transcendental* speculations. *Two*, this knowledge is of no practical utility because all that is necessary and also sufficient for curing disease can be revealed to the accurately observing physician by means of the morbid signs and symptoms and their modalities. *Three*, the physician's high and *only* mission is to restore the sick to health or to cure and not to construct hypotheses concerning these vital processes. Probably because of this attitude of the master, Homoeopathy has throughout developed only empirically in isolation of the advancements in other sciences, leading to its present state of conceptual vacuum¹.

(b) *Only disorders in vital force cause disease*: In Homoeopathy^{8,9}, the seat of the primary and only effective cause of natural disease is considered to be the invisible spirit-like vital force. All changes and abnormalities that the present-day laboratory tests do or can detect in the organs, tissues and cells are but results and ultimates of the disease. It is only the vital force, that animates the material organism throughout in its invisible interior in health as well as in disease, and that, when disordered, can and does give to the organism its abnormal sensations and incline it to the irregular functions known as disease. The affection of the vital force and totality of its outwardly cognizable signs and symptoms therefore constitute a whole. To call one group of symptoms a disease of one part, and another group of another part, like Bright's disease, palsy, or skin disease, is a mistake. Readers would see that these views/concepts are at variance with those of the scientific Allopathy. These will be commented upon later in the paper.

According to homoeopathic theory, no disease can ever be implanted through the actions of crude objects or of ultimate forms of disease. The small pox crust if swallowed gets digested without creating the disease. But a child with small pox can infect another *susceptible* healthy child at a distance in an invisible (dynamic) manner, without "anything material going or *capable* of going" to the latter. It happens just as a magnet communicates magnetic properties to a nearby needle. Disease is nothing, separate from the organism and its animating vital force, or hidden in the interior, be it ever so subtle.

Readers would see that these concepts are not consistent with the present day scientific knowledge about the diseases caused by microbes and chemicals. But Kent⁹ clarifies that viruses etc. cannot and do not implant a disease unless and until the vital force is actually disordered and that the spirit like vital

force is and can be affected only in spirit like ways. After implantation, the disease progresses outward from centre to the periphery, as small pox affects skin in the last (see below).

(c) *Drugs affect vital force in spirit-like ways* : The spirit-like vital force can be affected only in spirit-like ways. As all diseases are caused by disorders in the vital force, drugs are able to cure diseases only by their spirit-like powers to affect vital force and alter the state of health. To effect a cure the drug should be capable of producing in the healthy state, an artificial disease *similar* to the natural disease to be cured. The similar but stronger artificial disease created by the drug during its action, frees the vital force from the influence of the natural disease. The natural disease no longer exists for the vital force which is now occupied and governed by the stronger drug disease. This artificial disease soon passes off leaving the patient free from disease, cured. The vital force thus freed can now continue to carry life on in health. This is the most probable process of homoeopathic drug action according to Hahnemann⁸ who does not attach much importance to the (other) attempts to explain it scientifically.

It is further argued^{8,9} that the vital disorder cannot be turned into order unless the drug is raised to the spiritual plane similar to that of vital force. One who needs sulphur in high potency may take crude sulphur sufficient to move his bowels, rub it on the skin, or take spring baths, but all would be without effect on the disease. The processes of potentization and dynamization bring out the spirit like powers of the drugs and raise their vital planes of action. In very high potencies only the spirit of the medicine remains; the quantity of the medicine in the dose cannot be measured by any chemical or physical procedures.

Readers would agree that these almost mystical ideas and theories are not at all acceptable to the present-day sciences. But, *the facts remain that the homoeopathic medicines do act and act according to the basic law of similars and at incredibly high dilutions never known to and employed in the ortho-scientific practice before.*

According to Avogadro's law, the mass in grams equal to the molecular weight of a substance contains 6.025×10^{23} molecules. But over the past more than a decade, this author himself has successfully used, as a hobby, 30, 200, 1000 centesimal potencies frequently and upto 100,000(CM) centesimal potencies occasionally. The 30 potency here means 100^{-30} or 10^{-60} dilution of the medicine in alcohol. Ten drops of these dilute solutions were used to moisten about 1000 sugar globules of size No. 20 and dried. Five to eight globules constituted the dose to dissolve slowly on tongue. Millions of homoeopaths all over the world have had such observations. How can a scientist ignore and brush aside such a huge mass of consistent observations of so many and of his own, simply because it is not consistent with contemporary 'scientific' theories and belief? The scientific theories must be revised, if they cannot explain 'facts' of reality.

The present-day sciences cannot explain the experimentally well established principle of drug proving, the law of similars, the principle of potentization and the drug action at ultra high dilutions, and other observations like homoeopathic aggravations, recovery from centre to periphery, symptoms appearing last disappear first in treatment and so on^{8,9}. Therefore, extension, modification or even revision of some of the present-day scientific concepts seem to have become necessary. Nay, even the emergence of some new sciences like xenobiology, ultramicroxenopathy and parapsychology as already proposed by this author⁴, may have to be seriously considered. These topics will be taken up in the subsequent papers, but this paper would confine itself to the search for scientific analogue of the concept of vital force as something prior and basic to the 'harmony and balance' in the organism⁸.

MOLECULAR BASES OF HOMOEOSTATIC MECHANISMS

Claude Bernard was the first to recognise that for full and healthy life, dynamic stability of the 'milieu interieur', the internal environment in which the body tissues and cells live, is essential. But this 'extracellular' environment is known to be in dynamic equilibrium with the intra-cellular environments of different cells, tissues and organs. The compositions of these two classes of environment control and are controlled by a two-way functional coordination with the electrical and/or structural properties of the membranes and intracellular structures and organales in the various cells, tissues and organs. This coordination maintains *intrinsic* 'homoeostasis' for every and all cells, tissues and organs leading to the profound homoeostasis throughout the whole body. Basic point is that in an effort to maintain their own intrinsic homoeostasis every and all individual cells, tissues and organs help maintain the homoeostasis of all other cells, tissues and organs in the body. In the maintenance of this profound generalized homoeostasis throughout the body every and all organs, tissues and cells have a role. But the major contribution is made by the central nervous system (CNS), the autonomic nervous system (ANS), the endocrine plus neuro-endocrine system, together with the absorptive and excretory systems/organs through multi-way biofeed back/forward regulatory coordinated mechanisms. In this scheme, the CNS plays the 'master regulator'. (see also below).

The maintenance of general homoeostasis is accomplished by a delicate and balanced coordination of innumerable metabolic reactions taking place in a series of small and *enzymatically catalyzed* steps. Synthesis and degradation of proteins, enzymes, antibodies, fats, carbohydrates and so on are mediated through enzymatic actions. Permeabilities, structural and transport properties and electrical activities of membranes are ultimately and in some part, enzyme-dependent. The crucial and basic point emerges to be the capacity to adaptively regulate the functional nature, population size and level of activity of the strategic enzyme systems and thereby the directions, routes and rates of various metabolic reactions which they catalyze and the biologi-

cal functions which they mediate, so as to maintain the chemical-electrical-structural stability or the homeostasis in various cells, tissues and organs throughout the whole body. For optimum activity and functions of the enzymes, availability of substrates, coenzymes, cofactors and other influencing factors, like stimulators, inhibitor, in optimum concentrations, and influencing conditions like pH, temperature, in optimum values, is essential. *This enzyme-populated and enzyme-operated defence system is prior and basic to the profound homeostatic state and to the immune system.*

All enzymes are proteins and their synthesis is genetically controlled. Though all the nucleated cells in the body contain the same set of genes, they can turn their genes and thereby the synthesis of corresponding enzyme proteins, on and off, in response to extra- and intra-cellular signals; even with the genes on, initiation and regulation of protein-synthesis sometimes, requires extra- and/or intra-cellular signals. The signals are the inducers, de-repressors, hormones, intra-cellular second messengers like cAMP, cGMP and perhaps prostaglandins and so on^{2,8,10,11}. These signals are under the endocrine-neuroendocrine-CNS control, mediated through the action of yet other hormones from the pituitary, releasing factors from the hypothalamus, and other inter-cellular signals like peptides, monoamines, amino acids; within the CNS^{2,6,12-15}. So, the presence of the right signals, in right amounts, at right places and right times, is the basic determinant for the maintenance of the optimum population size and composition of the enzyme systems and thence of the profound homeostasis. *This molecular signals-populated and signals-operated defence-cum-surveillance system is prior and basic to the above enzyme-populated system* (see next section).

THE CNS-MASTER REGULATOR AND NEW SCIENCE OF PARAPHYSIOLOGY

In the ascending hierarchical scheme for controlling the profound general homeostatic state discussed above, the CNS merges to play the overriding⁶ 'master-regulator' of the regulator-signals required to control the enzymatic-capacity for maintaining the chemical-electrical-structural stability of various organs, tissues and cells. The CNS-master regulator is, therefore, the most basic defence mechanism and, three steps prior to the immune defence. The study of the CNS mediation in the phenomena⁶ of health, disease and cure, including actions of homeopathic drugs, has been proposed to comprise the new science of paraphysiology⁴.

The exact location composition and mechanisms of action of the CNS-master regulator, though still remain open questions, its necessary features as relevant here are as follows⁴:

(i) Constant surveillance of, and spontaneous corrections of perturbations in, the profound homeostatic state and capacity, in order to explain continuance of health and occurrence of natural remissions and cures.

(ii) Two-way functional communications mediated through chemical signals, and neuronal connections, with higher centres in the cerebral cortex

on the one hand and with lower peripheral systems and tissues on the other, in order to explain (a) co-existence of mental and psychological symptoms with diseased state, (b) co-existence of sensations and feelings with diseased state, (c) modifying effects of thought, belief and suggestions on the processes of health, disease and cure.

(iii) Sensitive, positive recognition of xenobiotics in the *milieu interieur*, and synthesis and release of appropriate triggers/signals to commission or generate appropriate enzymatic machinery to deal with the intruder, in order to explain the homoeopathic procedure of drug proving and also the action of homoeopathic drugs at high dilutions¹⁴. This point will be discussed in detail in subsequent papers.

(iv) Two-way communications via chemical signals and neuronal connections with the endocrine system, in order to explain biofeed autoregulations in health and chemical changes in disease.

(v) Bidirectional two-way communications with blood and CSF, in order to explain (a) biofeed regulations in health, and disturbances in disease, of chemical composition of the two, (b) psychosomatic interactions, and (c) the production of psychological symptoms during proving, and their removal by the action of homoeopathic drugs, without the drugs crossing the blood brain barrier.

(vi) Provision for CNS-mediation in the pathogenesis and cure of infectious diseases, to be discussed in a subsequent paper.

The central core of these hypotheses is the CNS-mediation in the phenomena of health, disease and cure (see next section). In this context it would be relevant and interesting to mention that during the past decade considerable attention has been paid to the study of neurosecretory cells, neural mechanisms of pain, neurobiology of peptides, local circuit neurons (LCN's) and local neuronal circuits (LNC's), role of calcium in synaptic transmission and so on¹⁶⁻¹⁹. The following findings and conclusions can be cited as leading evidence in support of these hypotheses about the CNS-master regulator:

(a) Some of the neuro-secretory cells have two directional secretory capacity into blood and CSF.

(b) More than fifteen peptides, including enkephalins, endorphins, substance P, neurotensin, oxytocin and vasopressin are now known to exist in the mammalian nervous system and to have potent neurotropic actions. These are highly localized within the CNS neurons and particularly concentrated in nerve terminals.

(c) The enkephalin-containing neurons exist in many parts of the CNS including hypothalamus.

(d) A variety of the neuropeptides also exist outside the CNS, for example, in the gut, spinal cord, pancreas, and so on.

(e) These peptides are found to perform multiple actions as neurotransmitters at some sites and as endocrine hormones and as neuromodulators at others.

(f) The pituitary peptide hormones (corticotropin, beta-endorphin, alpha and beta-melanotropins) may act on CNS via pituitary portal vessels to hypothalamus or an arachnoid channel continuous with the subdural and subarachnoid spaces.

(g) Pituitary cells have functional receptors for a variety of neurotransmitters, peptides and peripheral hormones²⁰.

(h) Most areas of the human brain have some opiate receptors, although the opiate receptor density varies 40 fold from the lowest to the highest; only white matter and cerebellum are totally devoid of opiate receptors; opiate receptors are concentrated on synaptic membranes. The opiate receptors mediate all pharmacological actions of natural opiates obtained from plants. Several peripheral tissues respond to opiates which have neuronal elements with opiate receptors¹⁶.

(i) The distribution of enkephalin levels in different areas in the brain parallels the opiate receptors' density.

(j) The enkephalins and endorphins produce a wide spectrum of effects including analgesia, catatonia and behavioural disturbances.

(k) The neuropeptides play a role in behavioural actions like thirst, mating, learning and memory and so on.

(l) Calcium ion plays an important role in the release of neurotransmitters¹⁹.

(m) Nociceptive neuronal connections extend to the brain stem, thalamus, cerebral cortex, etc.

(n) The individual undifferentiated nerve endings in the skin respond specifically either to physiological thermal, to noxious mechanical, or to noxious thermal stimuli. In the case of polymodal nociceptors, the same ending is capable of responding to noxious mechanical, thermal or chemical stimuli¹⁶.

(o) There is an increasing dis-satisfaction with the generally accepted notion that mature neuron is a stable structure. A lot of attention is being focussed^{17,18} on the study of LCN's having no or short axons and on the LNC's which the LCN's form within the CNS. The pattern of local connection is extremely complex¹⁷. The functional superiority of the human brain is linked up with the prodigious abundance and unaccustomed wealth of forms of the LCN's and LNC's, which in the cerebral cortex are supposed to mediate various mental and psychological functions.

(p) The LCN's and LNC's intercommunicate through electrical and chemical (e.g. GABA, glycine) signals and are considered¹⁷ not to be as well specified genetically as the long-axon neurons, providing thereby a pool of modifiable neurons and neuronal circuits of crucial relevance required here for adaptation to the changes associated with the phenomena of health, disease and cure.

The complexity of structure and capacity potential for integration and control in the CNS are thus, very very great lending support to our hypo-

thesis concerning the 'homoeostatic state' and the CNS-mediation in the biological phenomena of health, disease and cure (see next section).

Readers would however appreciate that the above division of the homoeostatic machinery into various levels of enzyme-operated system, signals-operated system and CNS-master regulator is only for convenience of arguments whose significance will become clear in the next section and subsequent papers. In reality, the homoeostatic mechanisms and role of every and all cells, tissues and organs of the body and of enzymes and signals are highly coordinated, inter-dependent and interwoven into a single whole. The whole organism is its the own homoeostatic regulator.

HOMOEOSTATIC STATE VERSUS VITAL FORCE

The 'homoeostatic state' has two components: (a) the presence of profound general homoeostasis, and (b) the potency and fullness of the capacity to maintain homoeostasis under perturbations. When the profound homoeostatic state continues, health exists; when perturbed or impaired, disease ensues; restoration of homoeostatic state after perturbation is cure. According to the above scheme, maintenance of general homoeostatic state is accomplished through constant surveillance, detection and positive recognition of perturbing causes by the CNS-master regulator and removal of the causative factors by the appropriate enzymatic machinery commissioned or generated by the CNS-master regulator via the release of appropriate signals in cascade. Medicines only help in this natural self-correcting process. This capacity for endogenous generation of disease-specific 'self' remedies is manifested in continuance of health and in natural remissions, remains deficient/impaired during a natural disease, and is restored with 'non-self' homoeopathic drugs. This point will be elaborated in subsequent papers.

Like the homoeopathic vital force, the molecular-biological homoeostatic machinery pervades the entire organism, is prior to the harmony and balance, i.e. the profound general homoeostasis, and mediates biological functions and sensations in health as well as in disease, but is not spiritual or immaterial, nor beyond experimental investigations and research; and can be affected in non-spiritual levels and ways.

An error in the CNS-master regulator or signals-populated system should give rise to CNS mediated subjective symptoms followed, after some time, by metabolic disturbances mediated by enzymatic actions and then by gross tissue changes. This typifies an actual 'natural disease' and supports the homoeopathic views as against those of the scientific Allopathy that:

(a) The primary cause of disease has several planes to situate on, namely, the CNS-master regulator, the signals populated pre-enzyme system, the enzyme populated system, the immune system, the cellular/tissue level and so on, mentioned in order of their grossness. (b) The primary cause plus totality of outward signs and symptoms, subjective as well as objective, constitute a whole. (c) It is a mistake to call one group of symptoms as a disease

of one part and another group of other part. (d) CNS is involved in all diseases, including infections and skin diseases, giving rise to subjective and general symptoms. (e) Metabolic and tissue changes detectable by laboratory tests, are only results of the disease. It is a mistake to regard only these objective ultimates as the necessary and sufficient components of disease and to disregard and down-weight the subjective symptoms. (f) Surgical removal of the abnormalities (like tumours, nodules, effusions) from tissues and organs, chemical neutralization of the abnormal secretions (like acids), supplementation of deficient components (like nutrients, hormones, enzymes), suppression of subjective symptoms (like pain), and the like procedures, widely and commonly practised in allopathic therapeutics, do not and cannot remove the cause of the disease situated at deeper planes mentioned in (a) above. These steps maintain the symptom-free state, while CNS-mediated homeostatic machinery removes the perturbation¹⁴. (g) Procedures primarily affecting the tissues and cells but not the CNS, create only superficial diseases, underlining the basic differences between the natural and experimentally created diseases. (h) Only subjective symptoms are present in the initial stages of the disease which cannot be detected and diagnosed by laboratory tests although the disease does very much exist.

CONCLUSIONS

(i) The 'art' and the basic laws/principles of Homoeopathy are established facts of reality but none of the present-day sciences is conceptually and technically advanced enough to negotiate these phenomena. The concept of 'vital force' has been rendered untenable by researches in molecular-biology creating a conceptual vacuum in Homoeopathy. This justifies the need and search for revision in the scientific thought and approach which the proposed series of papers has undertaken.

(ii) The molecular-biological concept of 'homeostatic state' with underlying molecular mechanisms as developed in this paper, has several features of the 'vital force' and rationalizes several time-honoured homoeopathic views including some which are opposed to those of the present-day scientific Allopathy.

(iii) The theories developed in this and other papers in the series suggest that CNS is the most basic and precise homeostatic-regulator, directing the generation of disease-specific 'self' remedies. This capacity is manifested in natural cures and remissions and is impaired in disease states. Homoeopathic 'non-self' drugs help restore this capacity by inducing/activating necessary enzyme systems, at sub-cellular levels. This point will be elaborated in subsequent papers.

REFERENCES

1. Sharma, R. R.: A Unified Theoretical Approach to Homocopathy, Immunology and Raja Yoga and Its Consequences, *Transactions of the XXXII International Homoeopathic Medical Congress, India*, pp. 73-85 (1977).
2. Watson, J. D.: *Molecularbiology of the Gene*, W. A. Benjamin Inc., New York (1965).
3. Florin, M.: *A History of Biochemistry*, vol. 30 of *Comprehensive Biochemistry* (M. Florin & E. H. Stotz, eds.), Elsevier Pub. Co., New York (1972).
4. Sharma, R. R.: Bases of Xenobiology, Ultramicroxenopathy and Paraphysiology As Three New Sciences And of New Approach to Unified Therapeutics, 1978. *P. G. I. Bulletin* (submitted).
5. Sharma, R. R.: Parapsychology--A Link Between Physics and Metaphysics, *Everyday Science*, 19 (2), p. 21 (1974).
6. Harper, H. A., Rodwell, V. W. and Mayes, P. A.: *Review of Physiological Chemistry*, 16th ed., Lange Medical Publications, Los Altos, Maruzen Asian edition (1977).
7. Sternberg, M. J. E. and Thornton, J. M.: Prediction of Protein Structure From Amino Acid Sequence, *Nature*, 271 (5640), pp. 15-20 (1978).
8. Hahnemann, S.: *Organon of Medicine*, 6th ed. (1842), 2nd Indian ed., Roysingh Co., Calcutta (1968).
9. Kent, J. T.: *Lectures on Homoeopathic Philosophy*, B. Jain Publishers, New Delhi (1970).
10. Watson, J.: *Immune System*, (E. E. Sercarz, A. R. Williamson, C. F. Fox, eds.), p. 511, Academic Press, New York (1974).
11. Horrobin, D. F., Matbaji, J. P., Manku, M. S.: *Medical Hypotheses*, 2 (5), p. 219 (1976).
12. Bern, H. A.: Neurosecretion, (F. Stutinsky, ed.), p. 5, Springer Verlag, Berlin (1967).
13. Knowles, F.: Neurosecretion, (F. Stutinsky, ed.), p. 8, Springer Verlag, Berlin (1967).
14. Querton, G. C., Melnecheck, T., Schmitt, F. O. (eds.): *The Neuroscience*, Rockefeller Univ. Press, New York (1967).
15. Iversen, L. L., Nicoll, R. A., Vale, W. W. (eds.) Neurobiology of Peptides, *Neurosciences Research Program Bulletin*, 16 (2), M.I.T. Press, June (1978).
16. Kerr, F. W. L. and Casey, K. L.: Pain, *Neurosciences Research Program Bulletin*, 16 (1), M.I.T. Press (1978).
17. Rakic, P. (ed.): Local Circuit Neurons, *Neuroscience Research Program Bulletin*, 13 (3), (1975).
18. Schmitt, F. O., Dev, P., Smith, B. H.: *Science* 193:114 (1976).
19. Llinas, R. R. and Henser, J. E.: Depolarization-Release Coupling Systems in Neurons, *Neurosciences Research Program Bulletin* 15 (4), M.I.T. Press (1977).
20. Vale, W., Rivier, C. and Brown, M.: Regulatory Peptides of Hypothalamus, *Annual Review of Physiology* 39, pp. 473-527 (1977).