SCIENCE OF HOMOEOPATHY IS BEYOND CONTEMPORARY SCIENCES

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1. **Introduction**

Homoeopathy is wonderfully mysterious. On the one extreme, one has only to buy a cheap book like 'Quick Bedside Prescriber' to start treating patients. One the other extreme, however, even the most celebrated homoeopath cannot claim to understand clearly how homoeopathic medicines act. Double Blind Drug Trials conducted in the past in America could not establish the efficacy of homoeopathic drugs to the satisfaction of scientists and adherents of Scientific Medicine. The science-conscious American public therefore demanded and the Government imposed ban on its practice. Its permitted practice in some other countries reflects the public demand and not the official views on its scientificity. Patients come to a homoeopath not as the first choice, but as the last resort when the best and long allopathic treatment does not give adequate relief. When cured, the patient hesitates to admit publicly and the allopathic physician resents patient's unwise act because this 'natural remission' would have occurred even otherwise by doing nothing but now some undefined complications have been added. Prominent scientific journals are averse to publishing supportive research. The *Nature*, while publishing the work of French Prof. Benveniste's team [1] doubted and repudiated it by an accompanying editorial [2] in the same issue itself.

This roughly sums up the situation, which continues even over two centuries after Homoeopathy's discovery in 1790. Nay, some sporadic demands for ban on its practice keep on coming. Recently the website http://www.quackwatch.com/01QuackeryRelatedTopics/homeo.html titled “Homeopathy: The Ultimate Fake”, by Stephen Barrett [3] was noticed. It has the support, among others, of (a) the Executive Director of the American Physical Society, which publishes several top class research journals of Physics. (b) The former Commissioner of the American Food & Drug Administration (FDA), who when holding the post wanted to but did not ban the homoeodrugs only because he was not sure of the Congress support. (c) Forty-two prominent “critics of quackery & pseuduscience”, who have petitioned the FDA against Homoeopathy.

But it is not the end of the perpetual basic criticism of Homoeopathy. For example Dr. P. M. Bhargava, former Director of the Centre for Cellular and Molecular Biology at Hyderabad stated in a press conference on Sunday the 6th July 2003 that **Homoeopathic Medicines are mere Placebos** and urged the Government to immediately withdraw all support to Homoeopathy. Not only this but Practitioner Homoeopaths should not be allowed to prefix **"Dr."** before their name. They all hold that homoeoremedies being "placebo" cannot work and hence should be banned.

This paper will therefore establish the efficacy of the homoeomedicines with appropriate controlled drug trials. It will provide scientific explanation of the action of high potency homoeodrugs having no molecule of the original drug in the patient dose. It will thus show that Homoeopathy has so far been wrongly disregarded as 'unscientific & placebo therapy' largely because of the conceptual inadequacy of the contemporary sciences themselves. It will remove this inadequacy to make sciences also richer, making out a strong case for the scientific recognition of Homoeopathy.

2. **Science & Homoeopathy**

The scientists' criticism of Homoeopathy is natural though largely based on half-truths. Why? The Dalton's Atomic Theory was published in the year 1809 and the Avogadro's law in 1811. Hahnemann wrote the 6th and last edition of the 'Organon of Medicine' on the philosophy of Homoeopathy in 1842 without any reference to them.

According to Avogadro's law of Physics and Chemistry, a gram-mole (molecular weight in grams) of any substance contains $N= 6.022x10^{23}$ molecules. Therefore all homoeo-potencies equal to or higher than the 12^{th} on the centesimal scale or 24^{th} on the decimal scale, representing a 10^{24} fold dilution, do not contain any trace molecule of the original drug in the patient dose. But the Law of Mass Action in Chemistry ordains that the biochemical medicinal effect of any drug is in proportion to its molar concentration, which is zero here. Hence the homoeo-potencies of 30c, 200c, 1000c and higher on the centesimal scale, which are routinely employed in clinical practice, cannot have any chemical, biochemical or medicinal action to treat diseases of the patients!

The scientists' criticism, however, is largely based on half-truths because no serious efforts, with an open mind of a scientist, have ever been made to investigate and discover the new scientific phenomena underlying the homoeopathic art.

All sciences are based on the real facts of observation and on the cogency of their theoretical explanation. If and when there is a conflict between theory and observation, the former is revised to describe the latter faithfully. But if the theory is so well established that the new observations seem anomalous, the latter are again repeated in a different setting. If even then the observations get strengthened, there is a need for re-evaluation to discover new scientific phenomenon, which bypasses and yet is consistent with the old theory. This is exactly the challenge thrown up by the curative action of high potency homoeodrugs with no molecule of the original drug. The underlying new phenomenon is the induction of chemical specificity of the solute drug molecules into the molecules of solvent medium via dynamization processes of trituration and succussion, which are unique only to Homoeopathy.

The contemporary sciences do not provide for it and hence will be enriched by recognizing and investigating it further. But first, let us establish the efficacy of homoeodrugs.

3. **Efficacy of the homoeomedicines established**

How to establish the efficacy of the homoeomedicines and show that they do act curatively even when no molecule of the original drug is present in the dose, is the big question.

3.1 *Double Blind Drug Trials not applicable to Homoeopathy*

I first thought of the ‘Double Blind Drug Trials’ (DBDT), which every allopathic drug has to satisfy before coming to the market for public prescription. Herein the patients having the same organ/tissue pathology or designated disease are randomly divided into two groups. One is treated with the test medicine and the second with a similar-looking inert 'placebo'. Both the patient and the physician who administers the dose are kept unaware (blind) of the medicine code. Hence the term "double blind". This is done to keep the drug trials free from the subjective bias of the patient and the doctor. The effect of the medicine is evaluated through objective laboratory tests. The medicine code is revealed at the end of the trial and the conclusions are drawn after analyzing the results with statistical methods.

However, I found DBDT inapplicable to Homoeopathy. First, because patients with the same 'pathology' or 'designated disease' cannot be randomized into two groups for treatment with active homoeomedicine and placebo. Since different patients usually have different symptom-totality, calling for different curative homoeomedicines. Secondly, the homoeophysician cannot remain “blind” but must know total symptoms before and after every dose of the *known* medicine to ensure that the cure is progressing according to the Herring’s laws, and the medicines and dose frequency adjusted to the changing need.

It is thus clear that the conventional Double Blind Drug Trials as routinely applied to allopathic medicines are NOT applicable and relevant to test the efficacy of potentized homoeomedicines. The drug trials done in America in the past were double blind and did not appreciate these basic constraints. That is why inconclusive and equivocal results were obtained. And the government imposed a ban on Homoeopathy practice.

3.2 *Treatment of cases serving as own controls*

I therefore got interested in those well worked out and firmly diagnosed cases, which served as their own controls. These, for the Modern Scientific Medicine are: (a) incurable/fatal, (b) difficult-to-cure even with long, some times life long, medication, (c) requiring surgery, (d) viral infections where Allopathy offers nothing, (e) baby/children diseases where placebo does not work.

The cases of Indian Childhood Cirrhosis were diagnosed on liver biopsy, liver function tests, clinical history and physical examination. And were discharged from the referral hospital with hopeless prognosis, a week or ten days' survival and with a whisper advice to take the child quick lest he should die on the way. But all showed definite signs of improvement within three days of the start of homoeopathic treatment with Ars, Phos etc. Since ICC is known to occur with a high frequency in the siblings, it is interesting to report that the prophylactic treatment of the mother during pregnancy and then of the child after birth succeeded in three couples, one of whom had earlier lost five sons to ICC.

President Radhakrishnan's ADC, who had suffered migraine for over 20 years and resigned in disgust when he did not get relief even with the treatments in Germany & U.K., was cured with Lachesis.

A number of cases with confirmed diagnosis of psoriasis were homoeo-treated satisfactorily. The MD in Pharmacology and Dean of Dharwar Medical College in Karnataka, after reading the book **Molecular Homoeopathy** [4] came all the way by air for treatment of psoriasis and experienced relief within an hour of the homoeo dose of Psorinum-1M and "euphoria" on overnight crust shedding.

An army Colonel had to fly in non-pressurized aircraft during 1947-48 Indo-Pak war and developed labyrinth vertigo. Ever since he suffered giddiness & reeling sensation whenever he lay down in bed, turned on side or bent down. A number of E.N.T. experts were consulted and all sorts of tests were done without relief. He took Nat. Sulph 1M in August 1974 on a Friday and did headstand on Sunday.

A four-year girl child was treated in the advance institute of Scientific Medicine for acute Idiopathic Thrombocytopenic Purpura (ITP) in 1993 with 2mg/Kg body weight prednisolone and later with 9 gm/day for 5 days immunoglobulin Ig G, then with Chinese medicine. In April 1997 she again had an acute episode, with platelet count <5000/mm^3. Please note that ITP is so serious a disease that a patient can internally bleed and collapse while talking! The homoeo-treatment with *Lach* raised the platelet count gradually from <5000 through <10000 on third day and then 33000, 79000 to 120000 tested weekly, rising later to 140000. The second case of ITP had platelet count <5000 five days after receiving 1500 mg prednisolone over 3 days in a referral Institute (PGI, Chandigarh). But responded well to homoeo-treatment with *Lachesis* starting 1 September 2001. The platelet count rose to 14000, 25000, 1.3 lac and 3.39 lac after 4, 10, 24 and 45 days' treatment.

A teacher in our Nursing College lost her fiancé in the 1971 Indo-Pak war and developed Thyrotoxicosis complicated with Exophthalmos and Amenorrhea. The treating endocrinologist advised her to learn to live with it. But after homoeocure with Thyroidinum she married and had two children.

Out of the several cases of arthritis and spondylosis the most striking one was that of general spondylosis threatening extremities and requiring urgent surgery. The homoeocure with Rhus and Calc Carb gave her permanent relief.

A senior executive was admitted for surgical removal of a solitary thyroid nodule. On learning of the possible homoeocure he left the hospital and was actually cured with Calc carb. The prolapsed uterus in the third stage advised Thomson correction was rectified homoeopathically Lilium Trig. Several cases of renal stone and of viral hepatitis with jaundice were also homoeo-treated; the Australia antigen test undertaken in one case became negative after homoeo-treatment. A case with confirmed diagnosis of active Idiopathic Ulcerative Procto-Colitis with ulcers in rectum and sigmoid colon and having passed blood with stools for years was cured with Phos and Merc. Earlier his sister had died in 1983 of ulcerative colitis and his family had given up hopes for his survival.

Among several cases of asthma, the most challenging was that of a young girl who had suffered for a decade with asthma, hives and remittent fever, occasionally spending the whole nights sitting. When Wysolone and Asthaline did not give adequate relief her treating allopathic physician sent her to me and she was cured with Ars, Ipec and Sepia. A case of Progressive Systemic Sclerosis (PSS), two cases of Sarcoidosis and few cases of ESRD (end stage renal disease) were also treated homoeopathically. With homoeo-treatment of PSS the 'progressive' disease process regressed, tongue could protrude and deformity of hands rectified. Known side effects of allopathic treatment of Sarcoidosis with Acticort (40mg OD) were told to the patient as hyperglycemia, hypertension, hyperacidity, renal failure etc., needing regular tests and treatment. Homoeo-treatment of ESRD lowered the serum Creatinine and Urea to safe levels, avoiding dialysis.

On 20 Dec'96 a 44-year-old lady from Bokaro came to me, as a last resort, with a News Paper clipping about my nomination for a Nobel Prize, given by the Professor of Gastroenterology, CMC Vellore. She was a known case of HBV cirrhosis (biopsy proven) with HBsAg +, HBeAg +, ascites +, grade II varices x 4 column, 2.5 cm hyperechoic lesion (? hepatocellular carcinoma), coagulopathy (not corrected by vit. K) preventing FNA, splenomegaly, irritated bowl syndrome, etc. With homoeopathic treatment she is still (August'03) alive and well. A case of HCV cirrhosis with HCV reactive and shrunken liver but HBsAg -ve, is under homoeo-treatment for the past over two years since 14 April'01 and doing well.

Potencies used were 30c, 200c and 1000c, all far beyond the Avogadro’s limit of 12c. But in my latest view [5] the 15c followed, if and when required to change the potency, by (14c+16c) mixture suffice for clinical use, unnecessitating all other potencies available in the market.

These my few but convincing personal observations corroborate the overwhelmingly huge mass of persuasive evidence collected by innumerable homoeopaths all over the world during the past over two centuries that homoeomedicines do cure even in high potencies with no molecule of the original drug in them. Clearly some molecules of diluent medium (lactose, water, and ethanol) act curatively, suggesting a new scientific phenomenon bypassing the Avogadro’s law.

3.3 *Controlled animal experiments*

To allay the objections that the action of high potencies with no molecule of the original drug provides artificial sense of relief due to faith in the physician and is speculative, we conducted controlled animal experiments. This is because the animals do not respond to the placebo effects or to expert assurances.

3.3.1 *Alloxan induced diabetes in rats*

Diabetes mellitus was induced in Swiss Albino Wistar rats having 180 - 340 gm body weight, 80 - 120 mg/dl blood sugar and zero urine sugar with intra-peritoneal injection of 100 - 150 mg Alloxan per Kg body weight after over-night fast. The diabetic rats were divided into four groups of five each for treatment with: (a) 20m millesimal (equivalent to 30c centesimal) potency of Alloxan with 1000^{20} (equivalent to 100^{30}) fold dynamized dilution. (b) With 1000^{20} fold undynamized simple dilution of Alloxan. (c) Nothing, or 'sham' treatment with ethanol, since the first two dilutions were made in ethanol. Blood sugar in the rats of group (a), returned from the initial Mean ± S.D. 308 ± 129 mg/dl (range 179-501 mg/dl) to 90.1 ± 4.0 mg/dl in the normal range of 80-120 mg/dl after 44 days' treatment. It remained so without any further treatment up to 144 days of observation. In group (c) the Mean ± S.D. 276 ± 82.2 mg/dl (range 189-389) first rose to 344 ± 65.6 mg/dl, then showed a delayed slight fall but always remained significantly (t - test, $p < 0.001$) above the normal range. The (b) group showed no fall with 1000^{20} fold-undynamized simple dilution of Alloxan from day-7 to 25, or with 20m potency of Streptozotocin (another diabetogen) from day-28 to 55. But the treatment with 20m Alloxan potency from day-58 to 116 showed significant curative fall from 325 ± 148 mg/dl to 176 ± 51 mg/dl. Fig.1 (see at the end of this paper) brings out these conclusions very strikingly [6-9]. Research workers at the Central Council for Research in Homoeopathy, New Delhi [10] have confirmed and extended these observations.

In these experiments, we had knowingly put those diabetic rats in the treatment group (a) whose blood sugar was highest, so as to demonstrate the curative effect of the homoeo-potency very strikingly. This, in a way, is an improvement over the Double Blind Drug Trials, wherein random selection is used for forming the various groups.

3.3.2 *DMBA induced toxicity & cancer in mice*

The Alloxan is a primary diabetogen since it itself affects the beta cells of the island of Langerhans in the pancreas. Unlike Alloxan, DMBA is not a primary pathogen since its metabolites, not itself, induce the basic pathology. It's incubate with microsomal enzymes of mouse liver, instead of DMBA itself, was therefore the starting material for preparing the test solutions of 20m potency and 1000^{20} - fold undynamized simple dilution.

The DMBA pathology in Swiss albino mice was induced by subcutaneous injection of 0.75 mg of it. The 50% survival period SP-50 (period for half the mice in the group to die and other half to survive) was 144 days for the group of 20 mice treated with dynamized 20m potency as against 36 days for the 20 mice group treated with undynamized 1000^{20} fold simple dilution. The 10% of mice in the latter group, but none in the former, also developed a fibrosarcoma at the site of DMBA sub-cutaneous injection. Fig.2 (see at the end of this paper) presents the results of DMBA toxicity very strikingly [7-9, 11].

3.4 *Which is miraculous homoeopathic cure or failure?*

Homoeopaths often feel elated and proudly claim a "miraculous cure" of some patient who did not get adequate relief with long allopathic treatments earlier. The above cases, however, show that once the symptom totality of a case fits well with a homoeopathic medicine the disease is cured irrespective how difficult-to-cure, complicated and incurable diagnosis or hopeless prognosis might be under the Modern Scientific Medicine. Therefore such homoeo-cures are only natural expectations, which should not surprise any one and hence need not be taken as a 'miracle'. The homoeophysician instead should be curious to know and investigate when a well indicated homoeomedicine fails.

4. **New scientific phenomenon discovered and Avogadro's law bypassed**

According to the modern Physics and Chemistry the mechanical processes of forceful agitation, like trituration, stirring or succussion should have no effect on the quality or chemical properties of the solution of a solute in a solvent. That is, the chemical properties of the final solution should remain identically the same whether it is prepared simply by swirling or by using forceful dynamization or agitation at each step of dilution.

These animal experiments, however, establish that the dynamized homoeomedicines do cure even in high potencies when no molecule of the original drug can be present in the dose but undynamized simple dilutions of the same extents have no curative effect. The inescapable conclusion is therefore thrust on us that the agitating mechanical dynamization processes of forceful triturations in lactose and impacted succussions in water and ethanol for preparing the homoeopotencies hold the key. These are unique only to Homoeopathy and have not been investigated by ortho-sciences like Physics and Chemistry.

The action of high potency homoeodrugs as established above by these animal experiments and homoeomedicinal cures of human patients, throws up a challenge and points to a new scientific phenomenon. The underlying new phenomenon is the induction of chemical specificity of the solute drug molecules into the molecules of solvent medium via dynamization processes. Thus the molecules of the diluent solvent medium (lactose, water, ethanol) acquire and later mimic the chemical specificity of the solute drug molecule, to thereby themselves act as the therapeutic agents. The dose therefore contains plenty of medicinally active diluent molecules, removing for good the perennial conceptual impasse created by Avogadro's law [11]. Revision of the physical basis of the 'chemical specificity' of a molecule becomes necessary, however.

5. **Physical Bases of chemical specificity & recognition of molecules**

Molecule is the unit of chemical reaction. Among the given molecules, under the given conditions, the same chemical reaction occurs unmistakably. Therefore every molecule has a characteristically unique 'chemical specificity' representing its chemical properties. What is the physical basis of the chemical specificity of a molecule and how does it recognize other molecule(s) without making mistakes?

Spectrophotometry identifies an atom/molecule by its electromagnetic spectrum because no two different atoms/molecules and no atom/molecule in no two different energy states can emit the same electromagnetic spectrum. This is because the energy quantum for every spectral line in the spectrum is uniquely characteristic of the atom/molecule and its energy state.

But the same very outermost valency electrons produce both the electromagnetic spectrum as also the chemical bonds. Molecule is the unit of chemical reaction and chemically exchanged energy between two interacting molecules is uniquely characteristic of the molecule pair. So chemically exchangeable energy-quantum is the new physical basis of the chemical specificity of a molecule.

The chemical and biochemical discriminatory mechanisms recognize a molecule in two steps: *first*, of physical bonding via complementary 3-dimensional structures and *second*, of exchanging the energy dE specifically characteristic of the recognizer-recognizee pair. The first step exercises a *negative recognition* and the second constitutes the *positive recognition*. The first step can be certain only to tell that the molecule not binding to the receptor for the molecule A is not A. But the second step identifies positively via the chemically exchanged energy dE particularly specific of the molecule A.

If a molecule B can be induced to carry the exchangeable energy of A, the discriminatory machinery can be fooled to treat B as A, as for example happens during the action of a homoeodrug here [11-13].

6. **Mechanism of the homoeodynamization processes**

The molecules of lactose, water and ethanol have one and only one thing in common, namely the -OH group radical. The oxygen atom in the -OH group, due to sp^3 hybridization, has four equivalent valency orbitals. Two of these have bond pair electrons and the other two unshared lone pair electrons. The latter having no definite higher energy levels, can be raised, in small steps, to any desired energy level and hence play the basic role here. The organic solvent DMSO (Dimethyl Sulphoxide) has lone pair electrons but no -OH group and does not serve as a diluent medium [11-13], emphasizing the role of the lone pair electrons of the -OH groups.

During forceful triturations and impacted succussions the outermost electron shell of the solute drug molecules comes repeatedly in close proximity with those of the diluent molecules. This induces *resonant promotion* of the lone pair electrons of the diluent -OH groups, in small steps, to energy levels of the chemically active electrons of drug molecules. The diluent molecules thus acquire the chemically exchangeable energy and hence the chemical specificity of the drug molecule to get “potentized” with the drug. During serial dilutions of potency preparation the original drug molecules get eliminated and the diluent molecules resonantly promoted by them take over the resonant promotion of the unpromoted diluent molecules [4, 11-13]. These considerations have experimental support [14, 15].

6.1 *Supportive experimental evidence*

Smith & Boericke [14] studied the CH_3-, CH_2- and -OH peaks in the Nuclear Magnetic Resonance spectra of ethanol, unsuccussed and succussed dilutions of sulphur in ethanol. Only the -OH peak of only the succussed potency spreads and reduces in area under the curve. No modern science can explain this observation, which in our theory however, follows from the resonant promotion of lone pair electrons of -OH groups in the potentized ethanol [14].

The Laser Raman Spectral peak [15] of diluent alcohol disappears in succussed dilution of Potassium Dichromate and reduces in height in that of Ammonium Nitrate but a new peak of the solute appears in both cases. These results cannot be explained by contemporary sciences, but follow easily from the resonant promotion of the lone pair electrons of -OH groups of the potentized alcohol [4, 11-13].

7. **Power of high potencies & bypassing of the Law of Mass Action**

The therapeutic action of potencies higher than the 12th centesimal is exercised by the diluent ethanol resonantly promoted with the original drug. These medicinally active alcohol molecules can easily cross the water and lipid channels in biological barriers like blood-brain barrier, placenta membrane, cell & nuclear membranes to produce profound therapeutic effects. Large crude drug molecules of the low potencies cannot easily cross these barriers. This may be the basis of the homoeopaths' empirical observation that higher potencies are more powerful. It could also explain why high potencies could cure even some of those conditions, which for the modern Scientific Medicine were incurable, difficult-to-cure or requiring surgery (see above). This also bypasses the Law of Mass Action according to which the chemical or therapeutic activity of a drug is proportional to its molar concentration, and hence the high potencies with no drug molecule should have no therapeutic action

7.1 *Inert substances become homoeodrugs on dynamization*

We can now understand why Sodium Chloride, though already present as such in the blood and food, becomes a homoeomedicine *Natrum mur* on dynamization. Similarly some inert substances turn into dynamized active homoeodrugs like *Lycopodium*, *Graphites*, *Carbo veg* etc.

8. **Other explanations of dynamization not satisfactory**

Chapter-3 of the book **Molecular Homoeopathy** [4] presents a critical review of other explanations of dynamization along with their rebuttal. This includes Dutta's "microisotopes" theory [16]. In Physics the "isotopes of an atom" are the atoms, which have the same '**atomic number**' equal to the number of protons in the nucleus and hence occupy the same (*iso*-) position (-*topas*) in the Mendeleeff's " Periodic Table of Elements", as the given atom. But there is NO 'Periodic Table of Molecules'. Hence there can be NO isotopes or microisotopes of molecules, which Dutta's theory is based on. In fact his microisotopes are non-existent entities and the term is a misnomer. See ref. [17].

9. **Basis of the homoeopathic Law of Similars**

All biological functions and phenomena in health or sickness are mediated via molecular mechanisms. Disease, being a state of altered health, is caused by an *unnatural* substance or "xenobiotic" affecting the strategic target biomolecule in the target organs/tissues, thereby changing the rates and/or routes of biochemical reactions and producing unnatural biochemicals, tissue changes and organ pathologies. A natural substance like glucose or a hormone can behave xenobiotically if its concentration crosses the "normal range", or itself mutates into an 'autoxenobiotic'. The chemical specificities/properties of the affecting xenobiotic and affected biomolecule together with the exact physiological role of the biomolecule in health, determine the totality of signs and symptoms and their modes of variation with modifying factors to provide the "portrait of primary disease". It can serve to identify the xenobiotic causing the disease, natural or artificial (as of homoeodrug proving).

The symptoms, being effects of disease, coexist with it. The new science of ***Xenobiology*** studies the total biological response, including objective signs and subjective symptoms, of healthy subjects to xenobiotics [4, 11-13]. This comprehensive science of ***Xenobiology*** includes as its particulars the Toxicology, Parasitology, Immunology &c. It provides the Materia Medica to the new science of ***Inductoxenopathy,*** which uses "induced xenobiotics" beyond the Avogadro's limit of 12c as medicines working on the homoeopathic Law of Similars , *turning killers as saviours.*

Allopathy, Ayurveda, Unani, Sidha &c form a group operating on the *Principle of Opposites* Their medicines oppose i.e. suppress, neutralize, block or remove the products, effects and results of the disease process. Homoeopathy alone is a group by itself, working on the *Law of Similars*. Here, a high potency of that drug is given whose large doses in healthy subjects create symptom totality similar to the patient. For example, digitalis is known to lower the heart rate in healthy persons. Its large repeated doses are therefore used in Scientific Medicine to control tachycardia. However, potentized digitalis is a homoeomedicine for bradycardia.

The symptom totality of a disease, in fact, indicates the total biological response of the *healthy subject in the patient* to the causative xenobiotic. It has two components: activation of the defence mechanisms against the antigenic determinants on the xenobiotic molecule, and the patho-physiology of the affected biomolecules, cells, tissues & organs. The potentized homoeomedicine D_x , prepared by resonantly promoting the diluent molecules D with the crude drug molecules X, contains a mixture of diluent molecules resonantly promoted with the antigenic and pathogenic determinants of X. The xenobiotic X′, crude drug X and the homoeo-potency $D_{x\ carry}$ similar chemically exchangeable energies and chemical specificities, hence elicit similar symptom totality. The homoeocure has two pronged effect: one of stimulating the immune response, and second of dislodging X′ from the disease complex MX′ formed with the biomolecule M, through competitive chemical exchanges:

$$MX' + D_x \approx MD_x + X'$$
$$MD_x \approx M + D_x$$
$$X' \rightarrow \text{biodegraded/ bioeliminated}$$
$$D_x \rightarrow \text{depromoted to} \rightarrow D\text{ , the diluent molecule} \rightarrow \text{metabolized .}$$

Competitive chemical exchanges between the pathogenic and curative xenobiotic molecules are thus basic to the homoeopathic drug action on the Law of Similars. That is why only a very minute quantity of the potentized homoeomedicine is needed in actual practice. Wurmser [18] found that dynamized potencies of Arsenic and Bismuth increased their elimination from animal tissues. I have treated Arsenic toxicity with *Arsenic album* 200c, Opium toxicity with *Opium* 1M and Belladonna toxicity with *Bell* 10M. The support is also provided by the control of Alloxan induced diabetes in rats with 20m (30c) Alloxan and of DMBA toxicity in mice with 20m (30c) DMBA, presented above.

10. **The sub-molecular nature & seat of disease, medicine & cure**

10.1 *The molecule and beyond*

The foregoing discussions show that (a) the chemically exchangeable energy-quantum associated with a molecule is the physical parameter basic to its chemical specificity, which determines its chemical properties. (b) The primary cause of disease at the sub-cellular or even sub-nuclear level is the change in the chemically exchangeable energy-quantum associated with the physiologically important target biomolecule(s), which set in the changes in rates and/or routes of biochemical reactions. These then lead to the generation of morbid signs and symptoms as manifestation of the disease. (c) A disease causing 'xenobiotic', which is alien and unnatural to the organism, causes the change in the chemically exchangeable energy of the target biomolecule. (d) The homoeopathic dynamization processes resonantly promote the molecules of the diluent medium (lactose, water, ethanol) to acquire the chemically exchangeable energy-quantum of the molecules of the original solute drug. These diluent molecules then act as the therapeutic agent and mimic the chemical specificity of the original drug during the curative action of the potentized homoeomedicine. (e) The molecule of the potentized ethanol, because of its tiny size, competitively exchanges with the disease causing xenobiotic molecule from the molecular disease-complex. (f) In this process the original difficult-to-cure natural disease-complex is replaced with the easy-to-cure artificial disease complex.

10.2 *The nature & seat of disease*

Under the Modern Scientific Medicine (Allopathy) the terms like 'arthritis', 'sinusitis', 'conjunctivitis' etc are quite diagnostic of the disease and suggestive of the treatment, assuming that inflammation (-*itis*) is *the disease*. In Homoeopathy inflammation is *only a symptom*, which together with other concomitant symptoms involving different organs & tissues portrays the 'whole disease' i.e. inflammation, like any other symptom, is 'an effect or a result of the disease' and NOT the disease in itself. A single homoeopathic medicine cures the 'whole disease' if its symptoms elicited in healthy subjects as recorded in the Materia Medica are 'similar' to those of the patient under treatment.

In Homoeopathy disease is a "miasm", acute or chronic, indicating a pre-disposition, tendency or susceptibility. The chronic miasms are three: *psora* (tissue-inflammation), *sycosis* (tissue-growth) and *syphilis* (tissue-destruction). In our theory, however, a trait, tendency or susceptibility is of genetic origin that sets in, with the formation of a molecular 'disease-complex', when a pathogenic xenobiotic affects the strategic target biomolecule(s) of physiological significance, like a nucleic acid molecule. This introduces a change in the 'chemical specificity' or 'chemically exchangeable energy quantum' of the target biomolecule giving rise to altered rates and/or routes of chemical reactions, which in turn lead to the signs and symptoms as results and effects of the disease. This explains why homoeopathic medicines can cure even genetic and hereditary diseases, susceptibilities underlying microbial infections and allergies and even emotional traits. For example in Asthma, the pathogenic xenobiotic creates susceptibility to the allergen(s), which in its turn causes inflammation, and then narrowing, of the airways. Allopathy treats the narrowing and inflammatory components leaving the susceptibility uncured. That is why life long treatments are required. Homoeopathy goes deeper to cure the susceptibility to allergen(s) to remove inflammation and constriction of the bronchial airways. Allopathic antibiotics kill the bacteria 'causing' the tissue inflammation.

Homoeopathy removes the susceptibility to bacteria and cures the inflammation without killing the causative bacteria. Homoeopathy cures viral inflammation by removing susceptibility to the causative virus but Allopathy cannot cure it because it lacks specific antiviral drugs. Therefore our theory's primary cause of disease, namely the change in the chemically exchangeable energy of the target biomolecule, is sub-molecular and hence is prior not only to the Allopathy's concept of disease, namely the tissue-inflammation but also to the homoeopathic miasms. Both inflammation and miasm are the results of the molecular disease-complex.

10.3 *Hahnemann's Vital Force updated*

In all the above steps and processes the primary role is played by the invisible 'chemically exchangeable energy-quantum' of a molecule, which determines its chemical specificity. That is why molecules undertake chemical reactions and positive recognitions intelligently without making mistakes. It may therefore be taken as basic to the '**molecular intelligence**'. These ideas have the merit for updating the Hahnemann's concept of Vital Force, which J.T. Kent called the Vital Substance [19, 20]. This is because Hahnemann talked of the invisible 'spirit like disease' and 'spirit like medicine ' and of the cure, taking place at the 'spiritual level'.

11. **Deficiencies in World Health Organisation's definition of health**

The Modern Scientific Medicine (Allopathy) accepts the World Health Organisation's definition: "Health is a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity". Here "absence of disease is NOT health"! This is an internal inconsistency or self-contradiction, confusing the notion of health as well as of disease. It arises because for diagnosis under the Scientific Medicine a disease has to be advanced enough to create laboratory detectable biochemical abnormalities and/or biopotential variations and/or pathologic tissue changes out side the "normal range". And there is no way of ascertaining the exact normal value of the diagnostic parameter for the particular patient before sickness to compare with its value in disease. In the pre- or sub-clinical stage, the clinical laboratories report N.A.D. (no abnormality detected or no appreciable disease) but the patient suffers and has some subjective/mental and physical symptoms on which a curative homoeomedicine can be given to nip or abort the disease. Therefore, Homoeopathy can serve as an effective Preventive Community Medicine. Its scope of preventing diseases from progressing further to advanced dangerous stages is all-inclusive.

The other deficiency in WHO's definition is that it does not recognize the existence or achievability of the "supra mental health". No organized attempts have therefore been made under the Scientific Medicine based Health Care. However the Yoga practices of *pranayam* (breath control) and *dhyan* (meditation) have been shown to induce the rare abilities like intuition, self control on thought, assuming alpha and theta brain states at will, etc. Homoeopathy and *dhyan* help attenuate anxiety and other psychological components of disease.

12. **Unified holistic therapeutics *Navayurveda***

The 'similar medicines' of Homoeopathy working on the 'law of similars' and the 'opposite medicines' of Allopathy/Ayurveda &c administered according to the 'principle of opposites' can be given together inter-currently with advantage to the patient because their modes and planes of action are different. The Yogic pranayam and dhyan help control the psychological components of disease. A judicious combination of these three with other supplementary and complementary modalities of restoring and promoting health constitutes the new integrated holistic therapeutics ***Navayurveda***. Here allopathic medicines are given not to suppress the morbid symptoms but make the basic homoeocure comfortable by controlling the symptoms within the tolerable limits, which varies from patient to patient. With the progress of homoeocure the allopathic drugs are tapered off. Thus the need or use of allopathic drugs is drastically reduced but the curative and preventive potential are greatly enlarged. The general quality of health is significantly improved by nipping the diseases in their early pre-clinical stages. The incidences of advanced, dangerous as also iatrogenic diseases are reduced, and so is the need for expensive centers for bypass and organ transplant surgeries. The national governments even with limited resources can well afford to assume the responsibility of public health under this cheapest yet most effective Homoeopathy based Health Care Delivery System. The rich advanced countries presently under the health care of Allopathy or Scientific Medicine have to actually experience, to believe in, the better quality of health achievable via Homoeopathy and Navayurveda.

13. **Selecting the right potency for clinical use**

Every dynamized potency of a homoeopathic medicine is finally raised in ethanol (ethyl alcohol). Potencies higher than 24X, 12c or 8m comprise two types of alcohol molecules, the ones resonantly promoted with original drug molecule and the unpromoted normal molecules. The potencies lower than 12c, in addition, also contain some original drug molecules. The unpromoted normal alcohol molecules have no effect. The original drug molecule and the alcohol molecule resonantly promoted with it carry the same “chemically exchangeable energy” hence have similar chemical effect or behavior. Both can be and have, in fact, been used for “drug proving” as well as for treating “similar” symptoms of natural diseases according to the Law of Similars.

But in actual practice the patient dose should not contain any molecule of the original drug because the toxic metabolites produced during its biodegradation are unsafe whereas those (water and carbon dioxide) of the resonantly promoted alcohol are safe. It is therefore logical to use only potencies higher than but nearest to the 12c. In actual practice one may start the treatment with 15c or 10m to be followed, if and when needed, with a mixture of (14c + 16c) or (9m + 11m) [5]. This is because the Nuclear Magnetic Resonance spectrum of a drug potentized in alcohol is not a sharp thin line but has a spread indicating the presence of promoted molecules with exchangeable energies higher as well as lower than the test drug molecule. Therefore when the utility of the molecules present in 15c or 10m is exhausted the (14c + 16c) or (9m + 11m) mixture offers a wider range for curative action.

At present a very large number of potencies is available in the market to confuse the practitioner. To start with, Hahnemann used the mother tinctures of original drugs but found them unsatisfactory and hence introduced potentized dilutions, first on the decimal (X), then centesimal (c) and later 50 millesimal scale using 3c as the starting base. This author has introduced and used the new millesimal (m) scale effecting 1000-fold dynamized dilution at every stage. And Kadiri Koya is reported [21] to have prepared "quadric" potencies by a method in all other ways similar to that of Hahnemann's 50 millesimal potencies. Instead of 3c he uses the 30c, 200c or higher up to CM potency as the starting base. The quadric potencies are denoted as Q30\1, Q200\6 etc.

The popular use of 15c and (14c+16c), or still better of 10m and (9m+11m) potencies, will drastically reduce the manufacturing cost of useful potencies in clinical practice and obviate the need of all other innumerable potencies higher or lower, including the 50 millesimal and quadric potencies.

As mentioned above the perennial criticism of Homeopathy by scientists is the use of potencies higher than the Avogadro's limit of 12c. The dilutions in Kadiri Koya's Quadric Potencies are higher than even the 50 millesimals. These will therefore only accentuate the scientists' criticism of Homoeopathy [22, 23].

14. **Clinical drug trials on new potencies**

Under the aegis and financial support of the "Association for Scientific Research in Homoeopathy", the Kerala State Homoeopathic Cooperative Pharmacy Ltd. has supplied the carefully prepared 14c, 15c & 16c potencies of six medicines: Arsenic album, Belladonna, Bryonia, Calcarea Carb, Rhus Tox, and Sulphur. Initial trials at multiple centers so far have been consistent with expectations. But curious and interested readers are encouraged to get these medicines and use them in their clinical practice to satisfy themselves.

15. **Summing up remarks**

i. The science of Homoeopathy is beyond the contemporary sciences. It has so far been disregarded as 'unscientific placebo therapy' largely because of the conceptual inadequacy of the sciences themselves to discover and negotiate the new scientific phenomena underlying its art.

ii. The WHO 's Alma Ata declaration for "Health for all by 2000" adopted in 1978 will never be achieved under the Allopathy based Health Care. Things will become worse after 2005 when, with GAT in place, prices of allopathic drugs will steeply rise beyond the reach of most people.

iii. With Homoeopathy based Health Care, however, even the poor developing countries with limited resources could provide health care for all.

iv. Homoeopathy provides for the best form of Preventive Community Medicine, nipping diseases in their pre- or sub-clinical stage when the allopathic clinical tests are negative.

v. With Homoeopathy based Health Care in place, there will be reduced number of cases with dangerously advanced diseases and of those requiring bypass surgery and organ transplants. The quality of health will appreciably improve even in rich countries, which has never been experienced before under Allopathy.

vi. Navayurveda offers the ideal form of combined therapeutics with advantage to the patient.

vii. The use of 15c and (14c+16c), or still better of 10m and (9m+11m) potencies may be popularized to simplify clinical practice of Homoeopathy.

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Alloxan induced diabetes in Swiss albino rats

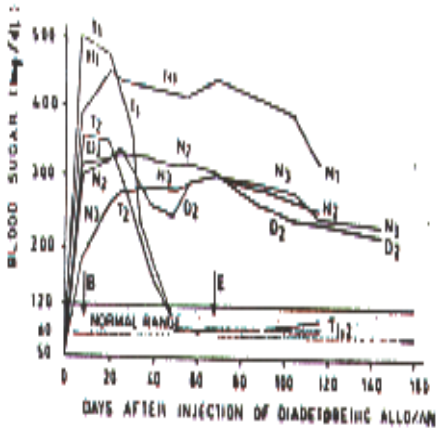

Fig. 1: Controlled treatments of Alloxan-induced diabetes in Swiss albino rats. T1, T2 treated with 20m (30c) Potency of Alloxan; D2 treated with 100020 fold simple undynamized dilution of Alloxan in ethanol; N1, N2, N3 untreated or sham treated with ethanol controls. B beginning, E end of treatment. See text.

DMBA INDUCED TOXICITY IN SWISS ALBINO MICE

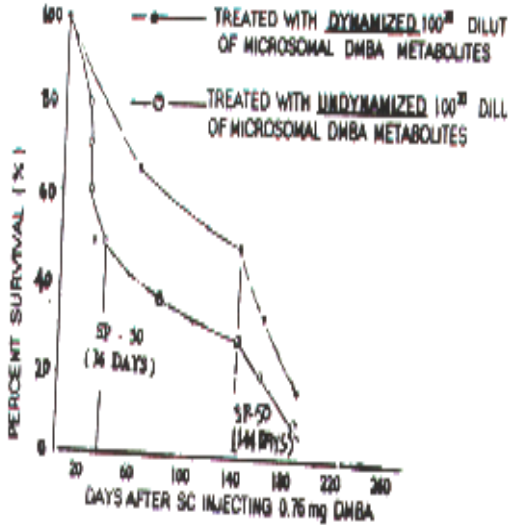

Fig. 2: Control of toxicity & cancer induced by subcutaneous injection of 0.75 mg dimethy benz-anthracine in Swiss albino mice. The 50% survival period (SP-50) was 144 days for the group of 20 mice treated with the 20m(30c) potency of DMBA-incubate with liver microsomal fraction and 36 days for 20 mice treated with 100020 fold undynamized simple dilution of DMBA-microsomal incubate, which also developed fibrosarcoma in 10% cases. See text.