SCIENTIFIC EXPLANATION OF HOMOEOPATHY AND MORE

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Introduction:
Even over two centuries after its birth in 1790, Homoeopathy is still ahead of times and beyond the contemporary sciences. New scientific phenomena, concepts & sciences need to be recognized to elucidate its science. New controlled tests, other than the Double Blind Drug Trials, are required to be conducted to establish the efficacy of high potency homoeo medicines having no molecule of the original drug. Self contradiction in the World Health Organisation's definition of health needs to be pointed out and a fresh appraisal of Homoeopathy's curative & preventive potentials has to be undertaken to reorganise the Health Care Delivery Systems for globally improving the quality of health and for reducing the uses of costly allopathic drugs and incidences of advanced, dangerous & iatrogenic diseases. This paper addresses these and other important issues scientifically.

Avogadro's Law & High Potency:

According to Avogadro's law, a gram-mole (molecular weight W in gram) of a substance contains N= 6.022x1023 molecules and the probability of finding one molecule in a patient dose of centesimal potency x is1 p = (6.022/W).10 -2(x - 10) . For instance, this probability for Natrum muriaticum (Sodium Chloride, W=58.46) is nearly 1 in 105 at the potency 12c, 1 in 1041 at 30c, 1 in 10381 at 200c, and 1 in 101981 at 1000c. In other words, the 12c and higher potencies do not have any molecule of the original drug in the dose. But in actual homoeopathic clinical practice, the potencies used are 30c, 200c, 1000c (or 1M) generally and 10M, 50M, CM occasionally. Then there are 50 millesimal potencies having 50000-fold dynamized dilution at every step of potentization. And all are found to have observed curative action2. Moreover, according to the Law of Mass Action, the rate of chemical reaction or activity of a compound is proportional to its molar concentration. However, the more diluted higher potencies of homoeo medicines are observed 2 to produce more profound curative effect. Homoeopaths' such claims are not supported by controlled Double Blind Drug Trials. That is why high potency homoeo medicines are taken by some scientists as placebos, their action as placebo-effects and Homoeopathy as scientifically implausible, violating the natural scientific laws like the Avogadro's law and the Law of Mass Action3-8.But a "scientist" is open minded and logical, willing to be convinced and change his views if the relevant information or evidence presents itself logically afresh. I, like any other scientist knowing the Avogadro's law and the Law of Mass Action, used to discard and disregard Homoeopathy as 'unscientific placebo therapy' till mid 1960s when a homoeopath actually cured an "obstinate" eczema of my wife. This aroused my scientific curiosity. I decided to acquire the ability to prescribe for seeing these medicines act in my own hands, and then to explain their action within the framework of contemporary sciences. More than a decade's hard work, studies and thought convinced me that the homoeopathic art of cure is valid but its science is beyond the modern sciences. This marked the end of my search in one direction and eginning in another, as presented herein.

Controlled drug trials not applicable to Homoeopathy. Homoeopathy can only be tested by those methods which are consistent with its philosophy and practice. For Allopathy, the terms like diabetes mellitus and rheumatoid arthritis are quite diagnostic of the disease and also suggestive of the treatment. But in Homoeopathy, these are only part of the larger "whole" disease portrayed by the totality of subjective symptoms and objective signs, and as such cannot indicate any specific medicine for treatment. An allopath combines a medicine each for nightly fever, iritis,

burning of piles relieved by heat, facial discolouration, appetite loss, anxiety & disturbed sleep, but a single homoeo medicine Arsenic album covers them all. Since the patients of one and the same pathology, say pneumonia, invariably differ in the symptom totality, they need a different homoeo medicine each although Allopathy treats them all with the same drug.

Different patients with different pathologies but having the same 4-to-8 p.m. aggravation are given the same homoeo drug Lycopodium. Therefore, such single medicine vs placebo trials as 'Rhus tox. in arthritis' have no validity. The selection of a homoeo medicine is highly dependent on the subjective symptoms and mental state, which for modern Scientific Medicine are of little diagnostic value.

The Double Blind Drug Trials, in which the the patients are randomly assigned to the treatment and placebo groups and the therapist, the patient and the outcome evaluator do not know whether the administered dose is the active medicine or a similar looking inert placebo, are mandatory for all allopathic drugs to satisfy before their release in the market for public use. Such trials eliminate the subjective biases because the disease status is monitored via objective laboratory tests. However, these drug trials cannot be carried out in Homoeopathy because here the 'diagnosis' is made of that single medicine which is most similar to the 'individualised' "whole" patient descibed by the totality of symptoms with their variation modalities. But no two patients of the same nosological pathology are exactly alike due to biological differences in personalities, diatheses and in the composition, patency and population size of the strategic enzymes. So the patients under homoeopathic treatment cannot be divided into treatment and placebo groups randomly. Moreover, the homoeo physician must know the "total" symptoms before and after every dose of the known medicine, so as to check that the cure is rightly proceeding from center to periphery, the symptoms are disappearing in the reverse order of their appearance and the aggravations, if any, are under review. Dose intervals, potencies and even medicines, if need be, are adjusted with the changing symptom totality. All these considerations make the Double Blind Drug Trials inapplicable and irrelevant to Homoeopahy. The drug trials and their meta-analyses, as conducted in the past, without properly appreciating these basic points, will always is inform, bringing bad name to Homoeopathy unjustly3-5.

Controlled drug trials applicable to Homoeopathy:

I, therefore got interested 1, 9 in the homoeo treatments of those well worked out but in a way given up (by modern Scientific Medicine) cases which could serve as their own controls and whose cures could by no means be explained away as mere coincidences with natural remissions. That is, those which, though small in number, could be strikingly decisive enough to dispel the disapproving misinformation about Homoeopathy. These are the cases which for the modern Scientific Medicine are: (i) incurable/fatal, (ii) difficult-to-cure, even with long treatments under Scientific Allopathy, (iii) requiring surgery, (iv) viral infections, where Scientific Allopathy has nothing to offer, (v) 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 discharged from the referral hospital with hopeless prognosis, short 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. 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. His Excellency President of India Dr. 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 Homoeopathy. A number of cases with confirmed diagnosis of psoriasis were homoeo treated satisfactorily. The MD in Pharmacology & Dean of Dharwar Medical College in Karnataka, after reading Molecular Homoeopathy came all the way by air for treatment of psoriasis and experienced relief within an hour of the homoeo dose and "euphoria" on overnight crust shedding. An army Colonel had to fly in non-pressurized aircraft's during 1947-48 Indo-Pak war and developed labyrinth vertigo. Ever since he suffered giddiness & reeling sensation

whenever he layed down in bed, turned on side or bent down. A number of E.N.T. experts were consulted and all sorts of tests done without relief. He took homoeo medicine from me 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 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 platilet count <5000. The homoeo-treatment raised the platelet count gradually through <10000 on third day and then 33000, 79000 to 120000 tested weekly. She has been Symptom free so far. A teacher in our Nursing College lost her fiancy in the 1971 Indo-Pak war and developed Thyrotoxicosis complicated with Exophthalmos & Amenorrhea. The treating endocrinologist advised her to learn to live with it. But after homoeocure 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 extremeties and requiring urgent ortho-surgery. The Homoeo-cure 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. The prolapse uterus in the third stage advised Thomson correction was rectified homoeopathically. 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 a week's homoeo treatment. Potencies used were 200c, 1M generally and 10M & CM occasionally.

These, few of my personal convincing observations obtained under the natural constraints of noncooperation in an allopathic institute corroborate the overwhelmingly huge mass of persuasive observations of innumerable homoeopaths all over the world during the past over two centuries that homoeo medicines do act curatively even in high potencies with no molecule of the original drug in the dose. Obviously, some molecules of the diluent solvent (lactose, water, ethanol) are mimicking the chemical specificity of the solute drug molecule. As opposed to Langman's remark5: "the advance of Scientific Medicine has not been matched by a withering of alternative methods of treatment", a need is justified for "homoeopathic clinical & research units" in advance institutes of Scientific Medicine to encourage open-minded inter-modality cooperation for the good of Science and patients. But really informative were the controlled drug trials on laboratory animals. 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 physician10 and is speculative11 , we conducted controlled animal experiments 1,9,12-14 which also provided much sought after vital information on the role of the homoeopathic potentisation processes.

1. Alloxan induced diabetes in rats Diabetes mellitus was induced in Albino Wistar rats having 180 - 340 gm body weight, 80 - 120 mg/dl blood sugar and zero urine sugar with intraperitoneal 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 100020 fold dynamized dilution, (b) 100020 fold undynamized dilution of alloxan, (c) nothing , or 'sham' treated with ethanol, since the first two dilutions were in it . Blood sugar in (a) group 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 and remained so without any treatment upto 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 significantly (t - test, $p < 0.001$) above the normal range. The (b) group showed no fall with 100020 fold undynamized alloxan dilution from day 7 to 25 nor with 20m potency of Streptozotocin 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. Probability of finding a molecule in the dose is 1 in 1041 in all the cases. Rastogi et al. 15 have confirmed and extended these findings.

2. DMBA Induced toxicity & cancerogenesis in miceUnlike alloxan, DMBA(Dimethyl-Benz-Anthracin) is not a primary pathogen since its metabolites, not itself, induce the pathology. Its incubate with microsomal enzymes of mouse liver, instead of DMBA itself , was the starting material for preparing the test solutions of 20m potency and 100020 fold undynamized 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 treated with dynamized 20m potency as against 36 days for the 20 mice group treated with undynamized 100020 fold dilution. The 10% of mice in the latter group, but none in the former, also developed a fibrosarcoma at the site of DMBA s.c. injection .New scientific phenomenon discovered and Avogadro's law bypassed These animal experiments alongwith the above homoeo treatments of human patients establish that the dynamized homoeo medicines 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 and impacted succussions, which are unique only to Homoeopathy and not investigated by orthosciences, induce the molecules of the diluent solvent medium to acquire and later mimic the chemical specificity of the solute drug molecule, to thereby themselves act as the therapeutic agent. The dose therefore contains plenty of medicinally active diluent molecules, removing for good the perennial conceptual impasse created by the Avogadro's law1,9,14,16,17.

The new science of Inductive Chemistry:

The modern sciences recognize the induction of magnetism and electric charge but rule out the induction of chemical specificity of one molecule in another, which is suggested by, and required to explain, the homoeopathic potentization. The newly proposed science of Inductive Chemistry deals in this new phenomenon as also in the preparation and properties of the "induced molecule" carrying the chemical specificity of another molecule1, 9,16,17. For the basic mechanism, one has to revise the physical basis of chemical specificity and consider the only commonality in the diluent media (lactose, water, ethanol) traditionally used for preparing homoeo potencies, namely the -OH group(s) in their molecule.

New physical bases of molecular chemical specificity and positive recognition. The generally recognized Spectrophotometry fixes the spectral identity of a molecule by the spectrally exchanged energy E (= hn) via the uniquely characteristic frequency n. Similarly, its chemical specificity is determined by the chemically exchanged energy dE with the other reacting moiety. It is a new plausible hypothesis that the chemical and biochemical discriminatory mechanisms positively recognize a molecule in two steps: First, of physical bonding via omlementary 3-dimensional structures and second, of exchanging the energy dE specifically characteristic of the recognizer-recognize pair. The first step exercises a negative recognition and the second constitutes the positive recognition. The first step can be definite 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. That is why the energy and length of a chemical bond depend on both the participants. For example, the same atom Cl should be in four different energy states within the intact molecules Cl_2 , NaCl, AgCl & CH_3Cl . This is against the prevalent concepts in modern Physics & Chemistry to assign the same energy state to Cl in these and any other chloride1,9,16,17. But it can be tested , say by Laser Raman Spectrometry. If a molecule B is induced to carry the exchangeable energy equal to that of A, the chemical and biochemical discriminatory machinaries can be "fooled" to treat B as A. The shape, size and 3-D structure of the small molecule B play insignificant role. Its close proximity near the recognizing site on the recognizer molecule(s) is all that is necessary and also sufficient for exchanging the characteristic energy. The initial step of physical fit for negative recognition is not required.

Mechanism of homoeopathic potentization:

The oxygen atom in the -OH groups of the molecules of diluent medium (lactose, water, ethanol), due to sp3 hybridization has four equivalent valency orbitals. Two of these have bond pair electrons and the other two unshared lone pair electrons. The latter have no definite higher energy levels vacant and can be raised, in small steps , to any desired energy level.During forceful triturations and impacted succussions or agitations 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. 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. This dynamized dilution is a limitless process and can be continued ad infinitum. See detailed discussion and presentation in refs. 1, 9, 17.Supportive experimental evidence Smith &Boericke19 studied the CH3-, CH2- 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 quite naturally from the resonant promotion of lone pair electrons of -OH groups in the potentized ethanol.The Laser Raman Spectral peak 20 of diluent alcohol disappears in succussed dilution of Potassium Bichromate 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 modern science, but follow easily from the resonant promotion of the lone pair electrons of -OH groups of the potentized alcohol.Controlled animal experiments on the alloxan induced diabetes in rats and DMBA induced toxicity & cancerogenesis in mice showed that 20 stages of 1:1000 dynamized dilution of the pathogen acted curatively, whilst undynamized dilution of the same extent had no effect. Thus the dynamization induces the diluent medium to acquire the chemical specificity of the pathogen which it later mimics to act as the therapeutic agent.

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. 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 biomolecules, thereby changing the rates and/or routes of biochemical reactions and producing unnatural biochemicals, tissue changes and organ pathologies. The chemical specificities of the affecting xenobiotic and affected biomolecule togetherwith 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" which can serve to identify the xenobiotic causing the disease, natural or artificial (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 xenobiotics1, 21. This comprehensive science includes as its particulars the Toxicology, Parasitology, Immunology &c. It provides the Materia Medica to the new scienec of Inductoxenopathy which uses "induced xenobiotics" beyond the Avogadro's limit of 12c as medicines working on the homoeopathic Law of Similars 1, 9 , turning killers as saviours.

Allopathy, Ayurveda, Unani, Sidha &c form a group operaing on the 'Principle of Opposites'. Their medicines oppose i.e. suppress, neutralise, 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 creat 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 homoeo-medicine 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 pathophysiology of the affected biomolecules, cells, tissues & organs. The potentized homoeo-medicine Dx 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 homoeopotency Dx 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 + Dx  MD x + XMD x  M + D x X  biodegraded/ bioeliminated D x  depromoted to  D, the diluent molecule  metabolized. Competitive chemical exchanges between the pathogenic and curative xenobiotics are thus basic to the omoeopathic drug action on the Law of Similars. For example, Wurmser22 found that dynamized potencies of Arsenic and Bismuth increased their elimination from animal tissues. I have treated1 a case each of Arsenic toxicity with Arsenic album 200c, Opium toxicity with Opium 1M and Belladona toxicity with Bell 10M. The control of Alloxan induced diabetes in rats with 20m Alloxan and of DMBA toxicity in mice with 20m DMBA, presented above, are also supportive.

Deficiencies in WHO's definition of health:

According to World Health Organisation's definition "absence of disease is NOT health". This internal inconsistency or self contradiction 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 asceratining the normal value of the dignostic parameter for the particular patient before sickness. 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 some subjective/mental & physical symptoms on which a curative homoeo medicine 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 23.The other deficiency in WHO's definition is that it does not recognise the existence or achievability of the "supra mental health". No organised attempts at its promotion have therefore been made under the Scientific Medicine based Health Care. However the Yoga practices of pranayam (breath control) and dhyan (meditation) have been shown24 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. The "similar medicines" of Homoeopathy working on the law of similars and the "opposite medicines" of Allopathy/ Ayurveda &c acting according to the principle of opposites can be given together intercurrently with advantage to the patient because their modes and planes of action are different. The Yogic pranayam and dhyan help control the sychological 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 1, 9, 25, 26. 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 community 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 centres for bypass and organ transplant surgeries. The national governments even with limited resources can well afford to assume the responsibility of public health to provide "health (care) for all" 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 Navayurveda. The basic idea is supported by the simple observation that homoeopathically treated tonsilitis avoids tonsilectomy which is not infrequent if antibiotics are used for treatment.

Concluding Remarks:

Homoeopathy is complete and comprehensive medicine therapeutics still ahead of times. It has so far been disregarded as unscientific placebo therapy due largely to the inappropriately conducted drug trials and conceptual inadequacies of the contemporary sciences themselves. Chemically exchanged energy as the new physical basis of molecular chemical specificity, new scientific phenomena of the induction of chemical specificity of one molecule in another, and new sciences of Inductive Chemistry, Xenobiology & Inductoxenopathy are required to elucidate its science which also enrich the modern sciences. World Health Organization and national governments, in a thought revolution of sorts, may reorganize the Health Care Delivery Systems to maximize the therapeutic potentials and minimize costs, limitations and deficiencies. Advanced institutes of Scientific Medicine may include units for Homoeopathy to be followed by full-fledged Navayurveda institutes. The homoeopathic science has to be developed and elucidated enough to put it alongwith other major sciences under the same cover. This is expected to felicitate its scientific recognition.
