Volume VI: Selected Facebook Updates And Tweets Of Chandran K C On Scientific Homeopathy

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Many young homeopaths ask me: "How to convert SYMPTOMS into RUBRICS?"

It is very simple if you have a software that provides search options using MULTIPLE KEY WORDS.

Type one or more words that you expect to be part of rubric you are searching for. A few key terms of the symptom is enough. Type those words in search tool, and click SEARCH. All rubrics, belonging to any chapter of your repertory, that contain the KEY WORDS you used will be instantly displayed. Scroll down through the list and select a rubric that seems to be most appropriate to your symptom. Finished. Work is done. You need not worry how to convert a symptom into a rubric, or to which part of repertory it belongs!

PHOTO 1. For example, in order to convert symptom 'headache relieved by vomiting' into its rubric, I typed the key words HEAD, PAIN, VOMIT in the search tool of SIMILIMUM ULTRA softwareand then searched. Following rubrics were displayed:

1. [Kent]Head : PAIN, headache in general : Violent pains : With red face, vomiting and diarrhoea
2. [Kent]Head : PAIN, headache in general : Vomiting
3. [Kent]Head : PAIN, headache in general : Vomiting : Amel.
4. [Kent]Head : PAIN, headache in general : Vomiting : After
5. [Kent]Head : PAIN, headache in general : Burning : Vomiting, after
6. [Kent]Head : PAIN, headache in general : Pressing : Vomiting amel.
7. [Kent]Head : PAIN, headache in general : Tearing, rending : Vomiting, after
8. [Kent]Head : PAIN, headache in general : Tearing, rending : Occiput : Vomiting

It is very easy for me to select the most appropriate rubric from this list. We can reduce the number of rubrics displayed by using more key words, so that the list will be more specific.

SIMILIMUM ULTRA SOFTWARE provides a most powerful and user-friendly search tool for this purpose.

PHOTO 2. If we know how to use this tool creatively, we can reach SPECIFIC prescriptions that way. Once I had a patient who complained about intolerable burning pains in stomach, which was ameliorated by drinking cold water. I searched using the key words STOMACH, PAIN, BURN, COLD and AMEL. There only ONE rubric displayed, with a SINGLE drug- APIS MEL.

[Kent]Stomach : PAIN : Burning : Cold drinks : Amel.:- Apis.

A few doses of APIS MEL 30 cured that troublesome burning pains of that lady.

Let us take up the issue of so-called ‘homeopathic aggravations’. This phenomenon is very much discussed by homeopaths. It is true that in many instances we experience such aggravation of symptoms after prescribing homeopathic medicines. Some homeopaths believe that aggravations occur due to wrong prescriptions, whereas consider it happening as part of curative process due to ‘exact’ prescriptions. Some homeopaths differentiate between ‘medicinal’ aggravations which are harmful, and ‘homeopathic’ aggravations which are welcome.

In my opinion such ‘aggravations’ are not due to ‘prescribing wrong drugs’ or ‘exact drugs’, but due to prescribing drugs that cover only part of the ‘symptom complexes’ present in the patient. To follow what I say, one should be well aware of the concepts of ‘molecular errors’ underlying pathology, as well as ‘molecular imprints’ present in potentized medicines. As per our view, an individual will be having multitudes of ‘molecular errors’ caused by binding of diverse types of pathogenic molecules on different biological molecules. Each individual ‘molecular error’ may be expressed in the form of specific subjective and objective ‘symptom complexes’. If we select a drug as a similimum on the basis of some of the leading symptoms only, ignoring other symptoms, that similimum in fact covers only some of the molecular errors. The ‘molecular imprints’

contained in that similimum may remove those molecular errors only. But other molecular errors remain. The ‘symptom complexes’ representing those remaining molecular errors would become more expressive and come to the fore. In the absence of scientific understanding regarding the molecular processes behind this phenomenon, we happen to interpret these new expressions as ‘homeopathic aggravation’.

We experience many instances of wonderful cures that do not obey “Dr.Kent’s 3rd observation” or “Hering’s Law”. They are not universal laws of homeopathic cures. They are all only speculative theories based on isolated experiences. Many of such ‘principles’ and ‘laws’ will have to be abandoned as our scientific understanding of real process of homeopathic cure become more and more perfect and accurate.

Most of us would have experienced some initial aggravations followed by complete relief. We should understand ‘molecular errors’ not as singular static incidents. A particular molecular error caused by a particular pathogenic molecule may result in cascading of new molecular errors. It is like a traffic block in a city. A small traffic block may cause cascading of traffic blocks, ultimately resulting in total failure of traffic system in the city. When a molecular error occurs in a particular biochemical pathway in the organism, it may affect other related pathways also. That is why diseases progress expressing trains of new symptoms. When we start removing these molecular blocks, there may be readjustments happening in all these related biochemical pathways, which may appear as aggravations of symptoms. That is part of normal curative process.

That means, when studying the phenomena of ‘homeopathic aggravations”, both chances will have to be considered. “Re-adjustments’ happening in various biochemical pathways as part of curative process, as well as ‘appearing of remaining symptoms’ because of prescription being partial.

According to MIT approach , we can prescribe a combination of drugs that would contain all the ‘molecular imprints’ required to rectify all the ‘molecular errors’ covering all ‘symptom complexes’ expressed by the individual. Hence, so-called ‘homeopathic aggravations’ are never experienced .

I t is amazing to notice the increasing popularity of our groups where MIT concepts are being discussed. More than hundred spontaneous membership requests from

homeopaths around the globe each day! I take it as an indication that homeopathic community has at last started listening to MIT. Even though those 'international leaders' and 'masters' still hold back with hands crossed an tight-lipped, young generation of scientific-minded homeopaths have started to realize the relevance and implications of MIT concepts. The tiny sparks I ignited have begun to grow into a flame! TRUTH needs no certifications and authorizations. Even without any 'recognition' from any 'authority', homeopathic community is all set to recognize and accept MIT concepts of homeopathy, which provides what they were waiting for so far- a genuinely scientific and rational explanation for homeopathy.

It is true that many efforts have been made by 'international leaders' of homeopathy to correct WIKIPEDIA regarding their derogatory statements about homeopathy. But all those arguments were scornfully turned down.

All those "efforts" so far done to "correct" wikipedia were done by proposing very unscientific ENERGY MEDICINE theories. No wikipedia or any scientific minded person can accept such nonsense theories our 'international leaders' of homeopathy promote. No wonder their arguments and theories became laughing pieces for scientific community.

If we want to "correct" wikipedia, we have to explain and prove homeopathy by proposing a SCIENTIFICALLY viable model for BIOLOGICAL MECHANISM of homeopathic cure, discarding all those talk about "vital force" and "dynamic drug energy". MIT is just trying to do that.

Wikipedia says:

“Homeopathy is a system of alternative medicine based on the belief in giving a patient with symptoms of an illness extremely dilute remedies that are thought to produce those same symptoms in healthy people. These preparations are often diluted beyond the point where any treatment molecule is likely to remain. Studies of homeopathic practice have been largely negative or inconclusive. No scientific basis for homeopathic principles has been substantiated”.

"Homeopathic remedies are found to be no more than a placebo, and homeopathy is widely considered a pseudoscience."

"The scientific community regards homeopathy as nonsense, quackery or a sham, and homeopathic practice has been criticized as unethical. The axioms of homeopathy are long refuted and lack any biological plausibility. The postulated mechanisms of action of homeopathic remedies are not only scientifically implausible but precluded by the laws of physics."

I am very much confident that once the hypothesis proposed by MIT regarding potentization and biological mechanism of homeopathic cure is proved scientifically, WIKIPEDIA will have to change their derogatory remarks about homeopathy.

That day is not far away. Wait and see, friends.

BIOLOGICAL MECHANISM INVOLVED IN 'SIMILIA SIMILIBUS CURENTUR', AS ENVISAGED BY THE CONCEPTS OF MOLECULAR IMPRINTS THERAPEUTICS COULD BE SCHEMATICALLY EXPLAINED AS FOLLOWS:

Let BIOLOGICAL MOLECULES be represented by ‘M’, and PATHOGENIC MOLECULES by D.

Pathogenic molecule D bind to biological molecule M to form a pathological molecular complex MD. MD represents a pathological molecular error or DISEASE.

Therapeutic process involves with relieving of M from the inhibitions caused by D.

Let crude drug molecules be represented by D1. If D1 can produce symptoms in healthy organism similar to pathological symptoms produced by D, that means D and D1 has similar molecular conformation, so that they could bind to same biological molecules and create similar molecular errors in the organism.

We say D1 is similimum to D, which caused the disease MD.

Molecular imprints of D1 may be represented by ‘d’, with a 3D configuration complementary to D1.

If D1 is siimilimum to D, molecular imprints ‘d’ will be having strong complementary towards D also. That means, 'd' can act as 'artificial binding site' for D, and selectively bind to it.

When applied as a therapeutic agent, ‘d’ can specifically bind to D of the MD (pathological complex) due to comparatively stronger affinity to form Dd (pathogenic molecule-molecular imprint complex) , thereby relieving M from pathological molecular blocks.

TO SUM UP:

M (biological molecule) +D (pathogenic molecule) > MD (Pathology).

If D1 (drug molecule) is similimum to D (pathogenic molecule), and ‘d’ is ‘molecular imprint’ of D1 (drug molecule),

‘d’ (molecular imprint) will be complementary to D1 (drug molecule) as well as to D (pathogenic molecule).

When 'd'(molecular imprint) is applied as therapeutic agent,

MD (pathological molecular complex) +d (molecular imprint)> M (free biological molecule) +Dd(pathogenic molecule-molecular imprint complex).

M (biological molecule) is free now (CURE)

Dd ((pathogenic molecule-molecular imprint complex) is now bio-degraded or eliminated from the system

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Some homeopaths seem to believe that they can PRACTICE homeopathy without THEORY. We often here them declaring "I am interested only in practice".Actually, whatever you 'practice', there will be a 'theory' behind it. A theory that guides you in your practice. A theory from which your way of 'practice' evolved. Knowingly or unknowingly,

'theory' plays behind your 'outlooks', 'method' and 'approaches' to your 'practice'. A wrong theory makes your practice also wrong.There is a dialectical relationship between THEORY and PRACTICE. Between SCIENCE and ART. Between EXPLAINING and APPLYING. They form mutually dependent and inseparable DUOS or ADWAITHAs. You cannot change one side without inevitably changing the other side of such a DUO. When theory changes, practice will change. When science changes, its art also will change. When your explanation changes, your application also will change accordingly. This universal principle is applicable to homeopathic theory and practice also.Presently existing 'laws, rules, principles and methods' of practicing homeopathy actually evolved from the 'explanations' or 'theories' hahnemann made regarding the 'modus operandi' of homeopathy, based on concepts of 'vital force' and 'dynamic drug energy' within the limitations of historical context he happened to live and work. MIT explains homeopathy in a different way, in modern scientific terms of molecular imprinting and biological mechanism involved in disease and cure. Homeopathy should not be learned and practiced as a bunch of 'eternally immutable laws, rules, principles and methods'. Obviously, 'rules, laws, principles and methods' of practicing homeopathy also will change in accordance with the changes in THEORY that happen along with ever new advancements of human knowledge.

Once you understand MOLECULAR IMPRINTING involved in potentization. And learn to percieve potentized drugs and their therapeutic actions in terms of individual MOLECULAR IMPRINTS they contain, you will see the definition of SINGLE DRUG undergoing a fundamental transformation. You will then understand how different molecular imprints contained in a so-called SINGLE DRUG act differently, on different target molecules. You will then understand, even those drugs we so far believed to be SINGLE, are not really single, but COMBINATIONS of diverse types of molecular imprints that can act as individual drugs up on biological targets having conformational affinity. You will then realize, molecular imprints, which are only nanocavities engraved into supramolecular aggregations of water-ethyl alcohol molecules, cannot interact each other, whether they belong to same drug or different drugs. Then only you can understand why MIT says the question of using 'SINGLE/MULTIPLE' drugs is a NON-ISSUE.

The 'senior homeopath' says: "You may explain the modus operandi of homeopathy with your MIT. But do not go further".He is not averse to 'any'explanation MIT propose for 'modus operandi', because he is not interested in 'explanations of modus operandi', or may be, he knows well that he cannot understand such 'explanations'.But "do not go further" by making any changes in the 'rules, laes, principles and methods of practice' in which he is very much interested! According to him homeopathy is a bunch of 'eternally immutable laws, rules, principles and methods'.There is a dialectical relationship between theory and practice. Science and art. Explaining and applying. You cannot change one side without changing the other side also. When theory changes, practice will change. When science change, its art also will change. When your explanayion changes, your application also will change accordingly. This is applicable to homeopathic theory and practice also.Present 'laws, rules, principles and methods' of practicing homeopathy evolved from the 'explanations' hahnemann gave regarding 'modus operandi' of homeopathy, based on concepts of 'vital force' and 'dynamic drug energy'. MIT explains homeopathy in a different way, in scientific terms of molecular imprinting and biological mechanis. Obviously, 'rules, laws, principles and methods' of practice also will change accordingly.

Dr. Nirupam Joshi quotes from STATUS UPDATE OF A 'SENIOR HOMEOPATH' (Madam):"Those who mix potentised medicines and give it a fashionable/stylish name-molecular/MIT etc etc are doing a great dis-service to the science.
U may explain the modus operandi with the theory, lol but don't take it any further ....Those who follow them are naïve and foolish to do so ."According to this homeopath, "molecular/MIT etc" is only a "fashionable/stylish" name for "mixing of potentized drugs"! Everything we so far explained about the MOLECULAR IMPRINTING and BIOLOGICAL MECHANISM of 'similia similibus curentur' simply went over her head-except "mixing of drugs"! Everything else we explaining were only about giving "stylish name" for this "great dis-service to the science" !There is a popular proverb in MALAYALAM: "Mosquitoes are interested only in the blood even in a milk-filled udder"!More dismaying is, her next statement shows she did not understand what we said about even "mixing". She elaborates the 'dangers' of mixing drugs through a comparison: "eat gol gappas/paanipoori, with 2-3 small bowls of that nice sour water. Then immediately drink one glass of milk/mango shake.. Then eat one orange..If u

vomit and rush to the hospital, ask - Y ..and ask yourself the explanation. When these food items go inside your stomach and make u sick..Won't the potentised medicines, mixed and taken, make u sick? Think yourself.. u are the best explainer to yourself."This 'senior homeopath madam' represents the pathetic intellectual level of majority of 'senior homeopaths'. When you are trying to discuss the use of more than one drug in potencies combined, she is comparing it with eating of many food articles together! The difference between molecules and molecular imprints does not occur to her mind. She is not aware of avogadro limit.These people are comfortable with their closed world of dogmas, aphorisms, and beliefs, even which they really do not understand. According to them everybody except them are "naive and foolish"! They also "practice" homeopathy as "physicians"!It is a futile exercise to argue with this class of people.

Luc Montagnier's Works On 'Ultra-Dilutions' - Right Observations, Wrong Interpretations:Luc Antoine Montagnier is a French virologist and joint recipient with Françoise Barré-Sinoussi and Harald zur Hausen of the 2008 Nobel Prize in Physiology or Medicine, for his discovery of the human immunodeficiency virus (HIV).In 2009 he published a paper regarding detection of electromagnetic signals from bacterial DNA (M. pirum and E. coli) in water that had been prepared using agitation and high dilutions, and similar research on electromagnetic detection of HIV DNA in the blood of AIDS patients treated by anti-retroviral therapy. While homeopaths claim his research as support for homeopathy, many scientists have greeted it with scorn and harsh criticism. Because the research used high dilutions, homeopaths claimed it supported homeopathy, even though it didn't mention homeopathy or use ultra-high dilutions.He was also questioned on his beliefs about homeopathy, to which he replied: "I can’t say that homeopathy is right in everything. What I can say now is that the high dilutions are right. High dilutions of something are not nothing. They are water structures which mimic the original molecules."He did admit that he wasn't working with the very high dilution levels normally used in homeopathy: "We find that with DNA, we cannot work at the extremely high dilutions used in homeopathy; we cannot go further than a 10-18 dilution, or we lose the signal. But even at 10-18, you can calculate that there is not a single molecule of DNA left. And yet we detect a signal."Luc Montagnier's observation that 'high dilutions' contain "water structures which mimic the original molecules." is very important for homeopathy. But, he never explained the exact molecular mechanism by which this 'mimicking' happens, and more important, did not take up the task of

explaining the dynamics of homeopathic therapeutics involved in 'simila similibus curentur'. The result was, people interested in 'ultra-scientific' and 'dynamic' interpretation of homeopathy actually hijacked his theory. Only because he said he could detect 'electromagnetic signals' showing the presence of 'molecular memory of dugs' in high dilutions, these theoreticians used it to rationalize their pseudoscientific concepts of 'resonance', 'vibrations', frequencies', 'drug transmissions', 'radionics', 'drug teleportation' and the like they use in explaining homeopathy. Luc Montagnier's limitation lies in the fact that he could not understand the concept of 'molecular imprinting'.If he could have explained the phenomenon he observed in terms of 'molecular imprinting', instead of 'mimicking' and 'vibrations', the situation would have been entirely different. If he could have gone a bit forward and explained the source of 'electromagnetic signals' as 'molecular imprints', he could have avoided the 'occult' homeopaths and 'spiritual homeopaths hijacking and misusing his statements for their ulterior motives.To be more exact, Montagnier should have said: "high dilutions of something are not nothing- hey are water structures which are 'three-dimensional negative molecular imprints' of original molecules." NOT MIMICS. That could have made a big difference for homeopathy.According to Luc Montaigner, the 'nanostructures' formed in high dilutions are 'mimics' of original molecules. But in terms of modern molecular imprinting technology, 'molecular imprints' are 3d structures with configurations just complementary to original molecules. If we consider original molecules as 'keys', montaigner consider 'nanostructures' as duplicate keys. According to my concept, 'molecular imprints' are 'artificial key holes' that could act as 'artificial binding sites' for original keys or keys similar to them. Molecular imprints bind to the pathogenic molecules due to complementary configuration, exactly like a key hole binds to a key. MOLECULAR IMPRINTING PRODUCES ARTIFICIAL KEY-HOLES, NOT DUPLICATE KEYS. Once we understand this difference in perceptions, it would be easy for us to understand 'similia similibus curentur' scientifically.

Only 'three-dimensional negative molecular imprints' can explain the molecular mechanism of homeopathic therapeutics, where potentized drugs are not acting similar to original drug molecules, but just as exact 'opposites'. That is 'similia similibus curentur'.

“I can’t say that homeopathy is right in everything. What I can say now is that the high dilutions are right. High dilutions of something are not nothing. They are water structures which mimic the original molecules.”

Bnveneste also, similar to Montagnier, perceived potentized drugs as "water structures which mimic the original molecules". Both of them were wrong.

I say, potentized drugs are "water structures which are 'three-dimensional negative molecular imprints' of original molecules." I am trying to explain homeopathy on the basis of this "molecular imprint" concept.

In his article "DNA Between Physics and Biology", Luc Montaigner explains about his famous experiment in which he used 'nano-water structures' mimicking specific dna fragments contained 'ultra dilutions' to induce in vitro synthesize of similar dna fragments using nucleotide primers and plymeraze enzyme as follows:

"Now we undertake the most critical step: to investigate the specificity of the induced water nanostructures by recreating from them the DNA sequence. For this we add to the tube of signalized water all the ingredients to synthesize the DNA by polymerase chain reaction (nucleotides, primers, polymerase). The amplification was performed under classical conditions (35 cycles) in a thermocycler. The DNA produced was then submitted to electrophoresis in an agarose gel. Indeed, a DNA band of the expected size of the original LTR fragment was detected . We further verified that this DNA had a sequence identical or close to identical to the original DNA sequence of the LTR. In fact, it was 98% identical (2 nucleotide difference) out of 104. This experiment was found to be highly reproducible (12 out of 12) and was also repeated with another DNA sequence from a bacterium, Borrelia burgdorferi, the agent of Lyme disease. It clearly shows that the water nanostructures and their electromagnetic resonance can faithfully perpetuate DNA information..."

Instead of this vague theorizing about "water nanostructures and their electromagnetic resonance can faithfully perpetuate DNA information", he could have explained this phenomenon in a more rational way, if he could understand the concept of 'molecular imprinting' involved in high dilutions.

According to my view, it is not the 'electro magnetic resonance' or 'mimicking' that induced dna synthesis in his experiments. Actually, the high dilutions of dna solutions he preapared contained 'molecular imprints' of specific dna fragments. When he added nucleotide primers and polymerase enzymes into this molecular imprinted water medium, molecular imprints could have held the nucleotide primers in the correct sequence and position similar to that of original dna fragment. Then, the polymeraze

enzyme could have connected these primers to form dna molecules exactly similar to original one. Here, 'molecular imprints' acted as 'templates', and helped in arranging nucleotide primers in correct sequence by binding to them, due to the specific configurational affinity.

Since he had no any idea of molecular imprinting, he tried to explain this phenomenon in terms of 'electromagnetic resonance', which led to ultra-scientific interpretations. This limitations helped the 'energy medicine' theorists to hijack and misuse the works of luc montaigner.

A few days back, one of my friends posted this link on my wall :http://www.normanallan.com/Sci/bs.html.

Many homeopaths point to this link as the most scientific and authoritative reference for research evidences in favor of homeopathy. This article titled “Beyond Substance” by Norman Allan, Ph.D.is about the much discussed findings regarding the so-called “GHOST-DNA” molecules in ultra-diluted aqueous solutions of viral DNA. This work was referred to the name of Professor Mounir AbouHaidar and his colleagues, Dr. Mohammed Eweida and Michael Dobbs. Exactly, this GHOST DNA concept is same as that of Luc Montagnier. If you read the article carefully, you will understand how clever our 'pseudoscientists' are in hijacking scientific studies and misuse them for pseudoscientific explanations of homeopathy. Hence, I think it is worth analyzing the observations and conclusions of this article in detail.

This article titled “Beyond Substance” by Norman Allan, Ph.D.is about the much discussed findings regarding the so-called “GHOST-DNA” molecules in ultra-diluted aqueous solutions of viral DNA. This work was referred to the name of Professor Mounir AbouHaidar and his colleagues, Dr. Mohammed Eweida and Michael Dobbs.

I find this article is a classical example of how scientific studies are misused for pseudo-scientific explanations of homeopathy.

“The team found that a solution of viral DNA, diluted beyond substance in the manner of homeopathy, can physically bind its substantial, molecular, complementary strand. This implies that the water “remembers” the substance that was in it. It behaves as though the DNA – even though diluted beyond substance – were still there. The ramifications of this phenomenon deeply effects ours understanding of physics, medicine, and of

psychology, and as I hope to explain may prove to be a key to our understanding consciousness".

"In Prof. AbouHaidar's viral assay a solution of DNA, the genetic ribbon – even after it has been serially diluted until there was no substance left – binds its labeled complementary strand. This means water can be patterned; can carry a signal, and in this sense "remembers". Water prefers to be ordered, to be patterned, prefers this to our usual conception of liquid as random. Water is stressed by, rather than enjoying amorphous chaos. It prefers to be organized, to behave like a crystal. So water takes whatever substance we put in it, be that salt, or sulphur, or viral DNA, as a seed from which to organize a pattern".

Based on this research finding, the author tries to explain the homeopathic potentization according to his speculative theorizations.

He expects that if the observed "phenomenon can be replicated, we have a scientific revolution, a paradigm shift, possibly as vast as the discovery of electricity some two hundred and fifty years ago: vast because, as with electricity, it shows us whole new dimensions of order underpinning the phenomenal world, and there is no predicting where all of this may lead".

The author, himself a physical scientist, explains how he was attracted to this work:

"Jacque Benveniste was a prominent French immunologist, chief immunologist at the government's research institute, INSERM. When two of his research assistants asked him if they might conduct an experiment into homeopathy, believing a happy coworker is a good coworker, Benveniste said they might. They showed the results to Benveniste, and he became curious.

If you take an antigen, and dilute it homeopathically – again, diluted until there is no substance – it will still generate an immunological response in certain white blood cells. In this case Benveniste, and his colleagues, were looking at basophils.

Benveniste took these findings to the most prestigious scientific journal, Nature. Because of Benveniste's prominence Maddox, the editor of Nature, said he would publish the work if Benveniste could find three reputable laboratories that could replicate his findings. "That should get rid of him," thought Maddox.

Bruce Pomeranz, of the University of Toronto, was one of the researchers that “replicated” the work, along with labs in Milan and Tel Aviv.

In June 1988 the journal Nature, the gatekeeper of scientific orthodoxy, published Benveniste’s ultradilution (homeopathy) paper. The implications of this work are revolutionary, a paradigm shift it there ever was one. There are a lot of people who would rather fight than shift. Nature, the journal, as part of their publishing arrangement with Benveniste, sent a team to investigate his lab. The team included Randy the Magician, to look for sleight of hand, Walter Stewart, a biologist and statistician who had made his reputation as a figure crunching fraud-detector, and the editor, Maddox himself, who had a background in physics. It did not, however, include a cell biologist who might understand the nuances of Benveniste’s experiment. The team had already made up their minds (as Walter Stewart wrote in “Omni”). They knew there had to be a problem with the experiment because in their view the experiment was impossible. In the lab, Beneviniste and his team demonstrated the phenomenon to them three times, but the Nature team had determined before hand that it was an impossible experiment, and not knowing what else to doubt they decided that they couldn’t trust Beneveniste”blind”. The visiting team therefore insisted on adding their own “blind” to the procedure. To do this they introduced an extra manipulation of the samples (they moved the samples into new tubes). Of course this added procedure might or might not effect the outcome of an already delicate experiment. The investigating team sealed their extra code in an envelope, wrapped that up in silver foil (to foil X-ray eyes), and stuck it on to the ceiling of the lab with a video camera trained on it.! When, in this one trial, this new variation of the experiment no longer worked, Maddox announced that the whole affair was a delusion, or a fraud. Such is the stature of the journal, Nature, that the “expert’s” pronouncement was treated with gravity. “In our view, ultradilution should not work. Therefore it does not. Trust us. We’ve looked. We’ve tried it.” (I paraphrase.) This was all every unscientific, yet here the matter rests. (Work by Professor M Roberfroid, Madeleine Ennis, and colleagues, has since vindicated Beneviniste’s work and homeopath.)

Now our name was on this controversial Benveniste ultradilution paper, and we’re a very respectable laboratory, so there was a large section of the world, at least here in Canada, that looked to us to see what we’d finally have to say on the matter. “We have promising preliminary results,” was all the Professor could say. That, and “No comment.” So when Prof. AbouHaidar’s team stumbled on the incredible that DNA

diluted (one part in ten) eighteen or twenty five times (diluted beyond substance) still binds its complementary strand – they came to see us".

This was how by Norman Allan, Ph.D, author of present article became involved in this work.

The work was done as follows:

"Prof. AbouHaidar is a virologist; a Professor with tenure at the University of Toronto. Professor AbouHaidar was working on a viral assay. You'd take a plant from a field – he was working with potatoes – grind it up, run it through the Professor's assay, and it would tell you whether there was any of a particular virus present in those potatoes. It works like this: you take a virus, which in this case was a DNA virus, and you "digest it", splitting each bit of viral DNA into two single complementary strands. Then you divide this digest into two parts. At this point the two parts are (statistically) identical. Take one half of this now single stranded DNA and call it the "target". Take the other half and call it the "probe".

The target is spotted out on a filter paper – that is to say, you put a drop of it on a microfilter to make a spot. Then you dilute what's left one part in ten, and put a drop of the dilute solution at a second spot. Then dilute again one part in ten, and spot it out again. Keep diluting and spotting out the successive dilutions. This is to test how sensitive the assay is. After all, we may be looking for a little bit of virus in a whole field of potatoes. We need a sensitive assay.

Having spotted out all these successive dilutions, we take the filter paper and bake it at 80 degrees centigrade. After baking, the target won't wash off. Next let us consider the probe. The probe, remember, in this explanation, the probe is made up of the same single stranded viral DNA fragments. These we're going to label so we can see them. We mix them with avidin-biotin. The avidin binds to the DNA, and the biotin will bind to a stain, so we'll get a dark spot where our DNA-avidin-biotin binds the stain.

Now we take our probe and wash it over the targeted filter paper. Where the DNA in the probe finds its complementary strand in the target it binds to it. Next we wash the probe and target, and only where the probe has bound to its complementary strand will there be any of the probe be left. The rest is washed away. Then we 'develop' the probe/target filterpaper with our stain. Only where the labeled probe has bound to the

target will we see any stain. In the test as set it up, the stain gets lighter and lighter with each dilution. It's dark, almost black, in the first couple of dilutions, but fades out of sight at about the seventh dilution.

That's the assay AbouHaidar was refining. (Actually, it's Dr. Southern's dot-blot test, so it's called "Southern blot", though Dr. Western's "Western dot-blot" predates it and is more widely used.). Mohammed Eweida was a postdoc working in Prof. AbouHaidar's lab with this Southern blot assay. Mohammed Ewieda wasn't very happy about his situation. I don't know why, but he was out of there: he was off to the Karolinska Institute in Stockholm in the summer: and so, perhaps to kill time, he spotted out the dilutions eighteen times, even though the staining was lost to sight at the seventh, and and he got a dark spot at the eighteenth dilution!

"Look at that," said Dr. Eweida to Michael Dobbs, a postgraduate student working in the lab. Some months before Mike Dobbs had been to Jacque Benveniste's lecture on ultradilution. (In Homeopathy substances are diluted beyond the infinitesimal till there's no substance left, which is what is meant by "ultradilution".) So, when Mohammed showed Michael his anomalous result with an unexpected spot at the eighteenth dilution Michael thought, incredulously, "ultradilution". "Eh, Mohammed," he said. "Do that again." Dr. Eweida repeated the viral assay, this time taking it out to the fiftieth decimal (one in ten) dilution. (That's 10-50 where ten to the minus 30 is like a drop in the ocean, and 10-37 is like a drop in a million oceans. At 10-26 we pass "Avagadro's number [which relates to the number of molecules in a "gram molecule"] and would no longer expect to find a single molecule in a gram.) Again there was a dark spot that shouldn't be there at the eighteenth dilution, and now there were also stained spots at the 19th dilution, and the 25th and 26th, and the 38th, and 43rd dilution, but not at the dilutions in between. At the 25th and 26th dilutions there is certainly no substance left in the solution. We have passed Avagadro's number. There is no DNA left in the target. And yet the undiluted complementary strands in the probe (labeled with avidin-biotin) binds to the target! They can not be binding to a substance, not to molecular DNA. They may be binding to a signal, an electrical signal imprinted into the nitrocellulose. They are binding to something!

At first sight, to some, this has seemed to contradict classical science. "How can water, with nothing in it, remember what was there formerly, but is no longer there?" But here were Prof. AbouHaidar and Dr. Eweida, here they were with these filterpapers, dozens of them, with dark spots at the 18th and 19th dilution, and the 25th and 26th.

Sometimes the pattern moved a little: sometimes only the 18th turned dark, once it was the 17th.

Well, Prof. AbouHaidar when he first saw it, suspected a joke. And when Dr. Eweida repeated it yet again, Menir AbouHaidar suspected a hoax. So he tried it himself, and there it was. No hoax.

What to do next? One of the next things that Prof. AbouHaidar did was to come and see us, Dr. Pomeranz and his research team. From here on in I'm going to call Dr. Pomeranz, the Professor. The Professor's lab (where I had worked for seven years) was one of the labs that replicated Benveniste's work with ultradilute antigens. The Professor's name was on Benveniste's controversial paper, so Prof. AbouHaidar came to talk to us, in confidence, to hear what we could tell them. "Do it again," we said. And they did.

What does all this mean? It suggests a multitude of things. First let's look at the patterning of water. If you put, say, one part salt in a hundred parts of water, it seems that the salt will pattern the water – the water mirrors the salt's "vibration". Certainly with Prof. AbouHaidar's DNA we seem to see an electrical patterning that comes back into register with the original space/charge patterning at the 18th dilution."

Based on these observations, the author tries to explain homeopathy as follows:

"Now if homeopathic [ultradilute, potentiated] remedies are having effects on organisms – they cured my cat – one of the implications, it seems, is that the body has vibrational fields, patterned energy fields, on which these (vibrational, patterned) remedies can work. Many people, particularly those on the fringe of science, and beyond, have been saying this for years. But no one has demonstrated it in any convincing or replicable manner. This is where Prof. AbouHaidar's discovery is so special. Finally we have a handle into this realm of vibration."

Obviously, the author is caught in the "theory of vibrations" in his interpretations. This is a clear example of how a scientist slips and falls into "pseudoscience". He understands he is moving into the realm of 'fringe science' and 'beyond science'. And now he is trying to utilize "AbouHaidar's discovery" to rationalize the speculations of 'fringe science' and 'beyond science', which "have been saying this for years". He tries to utilize this unexplained phenomenon as a "handle into this realm of vibration". The

intention of the author is clear now. This shows how science can be used to rationalize ‘unscientific’ theories.

How does homeopathy work in practice? As a scientist, we would expect from the author an explanation that would fit to the existing scientific knowledge system available to modern biochemistry, molecular biology and medical science. But to our total dismay, he comes with totally unscientific and irrational concepts and arguments. He says:

“How does homeopathy work in practice? At its simplest level, let’s say you’re in an accident, traumatized, the body goes into a particular pattern of vibration, in this case a kind of ‘shock’, Often people seem to get stuck in these patterns. Tinctures made from the plant Arnica have a vibratory pattern that (we may imagine) closely resembles this vibratory pattern associated with traumatic shock. Empirically it has been observed, again and again, that the potentised remedy prepared from Arnica helps physically traumatised people to heal. So, it may be that the body becomes locked in a particular oscillatory pattern, and the remedy, the “similar”, helps to jog it free, to loosen that pattern’s hold on the body so the body can stop repetitively singing that song”

How is it? Is he talking science? Do these words reflect a scientific mind? We had many times heard this pseudo-scientific ‘theory of vibrations’ from so-called vitalists, classical homeopaths and metaphysical theoreticians. But it is a real pity to hear this from a reputed scientist. As a scientist, we would expect him to talk about the bio-chemical derangements caused by traumas, and how the constituent molecules of arnica tincture rectify these bio-molecular errors. How could the author reach such unscientific conclusions from the reported research findings? The researchers only observed the presence of some sort of ‘memory’ of DNA molecules in ultra-dilutions in water. They said nothing about the mechanism of this ‘memory’. Obviously, the author utilizes these findings to rationalize his ‘fringe science’ speculations. This is unfair and unethical as far as a scientist is concerned.

He continues his imaginative speculations further:

”A further implication of homeopathy is seen in the fact that the personality, the emotional make-up, the thought patterns, of patients are the most important guiding feature in deciding which remedy to use. The “mentals” are given more weight then the physical symptoms. The implication of this is that mind, that thought and emotion, are patterns”.

We expect to hear a scientist explain “thought and emotions” on the basis of neurochemistry, where as this ‘scientist’ is talking about ‘patterns’. Wonderful!.

His interpretation of ‘patterns’ in water formed by adding salt shows his total ignorance regarding the process of ‘hydration’ in aqueous solutions. Every science student knows that so-called patterning is nothing but supra-molecular clustering of water molecules through hydrogen bonding. I think he uses the terms like ‘patterns’ and vibrations’ to take this phenomenon into the realm of ‘fringe science’ which seems to be a subject very dear to him.

Instead of speculating over ‘patterns’ and ‘vibrations’, and discussing ‘fringe science’ and ‘beyond science’, this phenomenon could have been scientifically explained on the basis of “Molecular Imprinting”. Such an explanation would fit in to the existing scientific knowledge-system perfectly. More over, based on this concept, we can provide scientific explanation to the molecular mechanism of therapeutic action of potentized homeopathic medicines, fitting to modern biochemistry and molecular biology. HOMEOPATHY COULD BE DEALT WITH NOT AS A ‘FRINGE SCIENCE” or “BEYOND SCIENCE”. BUT AS REAL SCIENCE!

Let us listen to what the author says further on this subject:

“Come back to the one part salt in a hundred parts water. If we take this salt water and dissolve it again one part in a hundred in clear water, and shake it, it again patterns the water, but this time with some changes. Remember it’s at the 18th and 19th dilution that AbouHaidar’s target bound the probe (at least, that was the case in the first sample that MAME showed us). At the 15th, 16th, there was nothing. This suggests that we are seeing something similar to the interference phenomenon that occurs with harmonic overlays. This is a fairly well known phenomenon (e.g. “Poincare’s recurrence”, see below). However here because it’s a dilution procedure, the harmonics are going to include lower frequency multiples, “subharmonics”, of the original signal as well as the more usual higher frequency harmonics.

It is very funny to see how hastily the author jumps to his pre-determined conclusions such as ‘interference’ phenomenon and ‘frequency harmonics’, based simply on the observed phenomenon of ‘patterning’ of water in salt solutions. Before that he should have applied some thought regarding ‘hydrogen bonding’, hydration’ and ‘supra-molecular clustering’, and also the probability of ‘molecular imprinting’.

“Imagine a conjurer’s rope. Take a segment out of that magician’s rope – say one foot out of ten – and hold it taut between your hands, and twang it. Now (by magic) put it back in the original rope. The note, the vibration, in the small piece will pattern and inform the longer piece. The longer piece will now carry that information, but it will also, during the process, generate harmonics, multiples of that original note. But note, in the dilution process (which the homeopaths have traditionally called “potentiation”) it becomes intuitively apparent that we will be generating both harmonics andsubharmonics of the original pattern. And this explains one of the mysteries of homeopathy”

How can see declare that “this explains one of the mysteries of homeopathy”? Obviously, he is overtly trying to ‘prove’ his concepts of ‘vibration theory’ in homeopathy utilizing the unexplained phenomenon observed by the research team..

“It is part of the traditional homeopathic wisdom that the higher potencies, the higher dilutions, are stronger and deeper acting than the lower potencies: that the mother tincture and the low potencies act superficially, at a surface level, at skin level, and at the physical level, while the high potencies act deeper and begin to effect emotions, thoughts, personality – and they are also, the high potencies, much stronger.”

Author tries to utilize the “traditional wisdom’ of homeopathy to rationalize his speculations. As a scientist, we expect from him rational explanations for those “traditional wisdom” on the basis of “scientific wisdom”. Not the other way.

“If I were going to treat you, say, with salt, sodium chloride (in Homeopathy we latinize it and call it Nat mur, short for Natrium muraticum). Now why would I treat you with Nat mur. Nat mur is one of the polycrests, which is to say it has power over an extremely broad range of symptoms, and with Nat mur, for sure, I would be guided in large part by personality and etiology (causation). Nat mur is seen in problems caused by grief where the person internalises. With that internalizing there’s a withholding and a holding. The person is likely to brood. “Attachment” is a key word with nat mur, and yet they don’t like to be consoled. Consolation will irritate them. The substance, salt, will cause (this pattern, this disposition) these problems, and it will also cure them. That’s why we call this type of medicine homeopathy: we treat like with like. This thought, that “like cures like” was Hahnemann’s great “law”. Now this, to me, is not intuitively apparent. But it is a piece of empiricism that was first recorded by Hippocrates, was reiterated by Paracelsus, and explored and developed into a fine art and science by Hahnemann at

the end of the eighteenth and the beginning of the nineteenth century. Hahnemann experimented on himself. His first experiment was to take quinine. Quinine gave him ague-like fevers!"

As per the author this is the "scientific" explanation for the mechanism of homeopathic therapeutics. The wonder is that this 'explanation' comes from a "scientist". According to him, "internalized grief" creates them "changes in pattern" in the "emotions" of an individual. "The substance, salt, will cause (this pattern, this disposition) these problems, and it will also cure them". "That's why we call this type of medicine homeopathy: we treat like with like". How would this "explain the mysteries of homeopathy" as the author claim? To become a scientific explanation, he would have told us how "grief" creates the pathological disturbances in an individual, and what are the neuro-chemical errors happening at molecular level in various related biological pathways. We would also expect him to explain how sodium chloride creates similar biochemical changes individuals. If he wants to "explain the mysteries of homeopathy", he should also explain what is the active principles in potentized sodium chloride, and how these active principles interact with the biochemical molecules and relieve the organism from the molecular errors caused by "grief". That is the way a real scientist would talk about a science of therapeutics. Instead, the author talks about "patterns" created by "grief" and "patterns" created by "sodium chloride". This is not the language of a scientist. We had already had this type of pseudoscientific "explanations' ad nauseum fro the "gurus" and "masters" of "classical homeopathy".

After making all these big noises about "explaining the mysteries" of homeopathy on the basis of concepts like "fringe science", "beyond science", "beyond substance", "harmonics", "resonance", "vibrations" etc., it is quite wonderful how the author concludes"

"How do I know all this is what is going on? I don't. I do know that homeopathy cured my cat. I know that MAME's ultradilute DNA bound molecular DNA And then we have the well conducted clinical trials of Reilly published in Lancet that demonstrate beyond reasonable doubt that a phenomenon exists. Homeopathic remedies are reproducibly significantly more effective than placebo controls (Reilly 94). We know the phenomenon exists. What I've written here is my groping for an explanation."

See his confession: " What I've written here is my groping for an explanation.". That means, all through this article we were "groping" along with him! Kindly read further:

“In May 1989 MAME submitted a paper on this ultradilute DNA phenomena to Nature. And Maddox, the editor, sat on it. In the summer of 1989 the University of Toronto opened a new botany building, and Prof. AbouHaidar moved his lab out of its old quarters. After the move and some initial difficulties for a short while the ultradilute experiment ran as before, though the pattern (18, 19, 25, 26) became more chaotic. But then shortly after the move, they lost the phenomenon! It no longer worked. They tried it a few times, and moved back to their mainstream work, genetic engineering, with the world not even ruffled.”

“It was not my impression that procedures, protocols, were clearly and precisely defined in AbouHaidar’s lab. (Elizabeth once characterized their work as “bucket chemistry”.) Nonetheless the phenomenon seemed to be robust up to the move, and for a short while after the move. As far as I am aware, apart from Elizabeth and my follow up in 1992/93, there has been no further work done with the phenomenon”

”The fact that when MAME moved labs the phenomenon vanished is itself fascinating”.

“So I urge anyone who has the opportunity to look for ultradilute activity, whether in dot-blots or in other assays, to do so. We stand on the threshold of a new science, a level of patterning in the natural world hitherto overlooked, and who can say where this knowledge might lead”

Dear friends, is this not the same proverbial situation we say “the mountain delivering a mouse”! The whole verbosity has finally faded into nothing!

According to Luc Montaigner, the 'nanostructures' formed in high dilutions are 'mimics' of original molecules. Scientifically, 'molecular imprints' are 3d structures with configurations just complementary to original molecules. If we consider original molecules as 'keys', montaigner consider 'nanostructures' as duplicate keys. According to my concept, 'molecular imprints' are 'artificial key holes' that could act as 'artificial binding sites' for original keys or keys similar to them. Molecular imprints bind to the pathogenic molecules due to complementary configuration, exactly like a key hole binds to a key. MOLECULAR IMPRINTING PRODUCES ARTIFICIAL KEY-HOLES, NOT DUPLICATE KEYS. Once we understand this difference in perceptions, it would be easy for us to understand 'similia similibus curentur' scientifically.

Concept of 'Molecular imprinting in Water' involved in homeopathic potentization could have many unpredictable and unforeseen implications in the field of genetic engineering and gene therapy. Molecular imprints of genes or 'DNA fragments' could be utilized as templates for preparing 'designer genes' as per requirement in laboratories, that could be utilized for 'genetic repairing' protocols.

Extract the required genes or DNA fragments from healthy genomes and potentize them according to homeopathic procedures. These potencies would obviously contain 'molecular imprints' of DNA fragments used for potentization.

Add these potentized 'DNA' to a mixture of neucleotide primers and DNA polymerase enzymes involved in the biochemical process of DNA synthesis. 'Molecular imprints' can act as templates and selectively bind and hold the neucleotide primers in correct positions and sequences exactly similar to original DNA fragments used for imprinting. Polymerase enzymes will then link the individual neucleotides together to form DNA fragments exactly similar to original ones in terms of neucleotide structure and sequence.

This is a possibility I foresee when thinking about 'molecular imprints'. Interested scientists are free to work upon this idea.

Nanoparticle Model Of Iris Bell And Mary Koithan For Homeopathy- Skyscraper On A Flimsy Foundation:

Iris Bell and Mary Koithan, belonging to Department of Family and Community Medicine, University of Arizona College of Medicine, has proposed a new model for homeopathic remedy effects, based on concepts such as 'low dose nanoparticles', 'allostatic cross-adaptation', and 'time-dependent sensitization in a complex adaptive system' in BMC Complementary and Alternative Medicine, 22 October 2012 issue. You can read this full article at: http://www.biomedcentral.com/1472-6882/12/191.

Even though most homeopaths actually got nothing about it, being desperately looking for some or other SCIENTIFIC footing for homeopathy, have embraced this theory with

enthusiasm, as they hope it will give homeopathy a respectable status of NANOTECHNOLOGY!

The foundation of the proposed MODEL is the assumption that potentized drugs "contain measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution". This assumption is based on the RESEARCH conducted earlier by a team of scientists from IIT - B, which claimed they could 'detect' traces of nanoparticles of 'elements' in potentized drugs. As such, the feasibility of this model primarily depends up on the authority of IIT-B work.

ABSTRACT OF ARTICLE is given below:

Background

This paper proposes a novel model for homeopathic remedy action on living systems. Research indicates that homeopathic remedies (a) contain measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution; (b) act by modulating biological function of the allostatic stress response network (c) evoke biphasic actions on living systems via organism-dependent adaptive and endogenously amplified effects; (d) improve systemic resilience.

Discussion

The proposed active components of homeopathic remedies are nanoparticles of source substance in water-based colloidal solution, not bulk-form drugs. Nanoparticles have unique biological and physico-chemical properties, including increased catalytic reactivity, protein and DNA adsorption, bioavailability, dose-sparing, electromagnetic, and quantum effects different from bulk-form materials. Trituration and/or liquid succussions during classical remedy preparation create “top-down” nanostructures. Plants can biosynthesize remedy-templated silica nanostructures. Nanoparticles stimulate hormesis, a beneficial low-dose adaptive response. Homeopathic remedies prescribed in low doses spaced intermittently over time act as biological signals that stimulate the organism’s allostatic biological stress response network, evoking nonlinear modulatory, self-organizing change. Potential mechanisms include time-dependent sensitization (TDS), a type of adaptive plasticity/metaplasticity involving progressive amplification of host responses, which reverse direction and oscillate at physiological limits. To mobilize hormesis and TDS, the remedy must be appraised as a salient, but

low level, novel threat, stressor, or homeostatic disruption for the whole organism. Silica nanoparticles adsorb remedy source and amplify effects. Properly-timed remedy dosing elicits disease-primed compensatory reversal in direction of maladaptive dynamics of the allostatic network, thus promoting resilience and recovery from disease.

Summary

Homeopathic remedies are proposed as source nanoparticles that mobilize hormesis and time-dependent sensitization via non-pharmacological effects on specific biological adaptive and amplification mechanisms. The nanoparticle nature of remedies would distinguish them from conventional bulk drugs in structure, morphology, and functional properties. Outcomes would depend upon the ability of the organism to respond to the remedy as a novel stressor or heterotypic biological threat, initiating reversals of cumulative, cross-adapted biological maladaptations underlying disease in the allostatic stress response network. Systemic resilience would improve. This model provides a foundation for theory-driven research on the role of nanomaterials in living systems, mechanisms of homeopathic remedy actions and translational uses in nanomedicine.----------

The MODEL proposed by the authors has TWO parts. First part explains what are the ACTIVE PRINCIPLES of potentized drugs: "Research indicates that homeopathic remedies contain measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution". Second part suggest a BIOLOGICAL MECHANISM by which these active principles act up on the organism: "Homeopathic remediesact by modulating biological function of the allostatic stress response network, evoke biphasic actions on living systems via organism-dependent adaptive and endogenously amplified effects, improve systemic resilience."

Second part of this MODEL becomes relevant for a discussion only after first part is proved right.

It is made clear that the authors proposes a model for biological mechanism of homeopathic therapeutics, on the basis of the assumption that "homeopathic remedies contain measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution", as 'indicated' by 'researches'. It is the foundation of this MODEL. References given as authority for this assumption are:

1. Bhattacharyya SS, Mandal SK, Biswas R, Paul S, Pathak S, Boujedaini N, Belon P, Khuda-Bukhsh AR: In vitro studies demonstrate anticancer activity of an alkaloid of the plant Gelsemium sempervirens. Exp Biol Med (Maywood) 2008, 233(12):1591-1601. OpenURL

2. Chikramane PS, Suresh AK, Bellare JR, Kane SG: Extreme homeopathic dilutions retain starting materials: A nanoparticulate perspective. Homeopathy 2010, 99(4):231-242. OpenURL

3. Upadhyay RP, Nayak C: Homeopathy emerging as nanomedicine. International Journal of High Dilution Research 2011, 10(37):299-310. OpenURL

4. Ives JA, Moffett JR, Arun P, Lam D, Todorov TI, Brothers AB, Anick DJ, Centeno J, Namboodiri MA, Jonas WB: Enzyme stabilization by glass-derived silicates in glass-exposed aqueous solutions. Homeopathy 2010, 99(1):15-24. OpenURL

REF-1 has nothing to do with 'nanoparticle' theory. Study was regarding "anticancer activity of an alkaloid of the plant Gelsemium sempervirens".

REF- 3 is an article based on the 'research' of IIT-B team, and only a repetition. It provides nothing new to support the propositions of authors.

REF- 4 is a 'study' on 'enzyme stabilization by glass-derived silicates in glass-exposed aqueous solutions' . It is not clear how it becomes relevant as a reference in present context. If they expected it to 'prove' 'silicea' theory, they will have to explain why IIT-B research did not detect presence of "silicea nanoparticles" in the samples they examined.

It is the REF-2 that matter here. It is a paper published by IIT-B scientists, the real 'research' that for the first time claims to have detected the presence of 'nanoparticles' in potentezed homeopathic drugs. But, if you read that paper carefully, they no where said about "measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution", but only says they detected "traces of nanaoparticles of 'metallic elements' only, 'floating in the upper layers' of the solution". "TRACES FLOATING IN UPPER LAYERS" is different from "measurable source and silica nanoparticles heterogeneously dispersed in colloidal solution". IIT scientists do not make any reference detection of "SILICEA NANOPARTICLES". They detected only 'nanoparticles

of metallic elements', that too not as "heterogenously dispersed", but as "traces floating in upper layers only". Obviously, the reference provided does not corroborate the claims of present authors.

If SILICA nanoparticles, 'heterogenously dispersed' along with 'source materials' were the ACTIVE PRINCIPLES of homeopathic drugs, why IIT scientists could not detect any SILICEA nanoparticles in the samples they experimented? They only talks about 'traces of nanoparticles of source elements' only, 'floating in top 1%layer". Some body have to explain this point before building MODELS based on this nanoparticle theory.

Reports regarding IIT-B research says, "in a study done as part of project work of a ‘chemical engineering’ ‘student’ for his doctorate theses, they ‘bought some samples of medicated globules of homeopathic potencies of some ‘metal elements’ from neighboring shops’, and prepared ‘high dilutions from these globules’. When examined under high resolution electron microscope, they could detect ‘traces’ of ‘nanoparticles of metallic elements floating on the top 1% of the solution’. They also found that all potencies from 6c to 200cthey examined contain nanoparticles of same quantity and shape. They claim to have proved “all dilutions are only apparent and not real in terms of the concentrations of the starting raw materials.”

Can anybody with rational mind set make MODELS of homeopathic drug actions based on the findings of such a 'research'?

JAYESH BELLARE, one of the authors of IIT study, said: “Our paper showed that certain highly diluted homeopathic remedies made from metals still contain measurable amounts of the starting material, even at extreme dilutions of 1 part in 10 raised to 400 (200C),’’ “The hypothesis is that nanobubbles form on the surface of the highly diluted mixtures and float to the surface, retaining the original potency." “The hypothesis is that a nanoparticle-nanobubble rises to the surface of the diluted solution; it is this 1% of the top layer that is collected and further diluted. So, the concentration remains”. " All dilutions are only apparent and not real in terms of the concentrations of the starting raw materials.”

Can you imagine why the IIT team conducted their experiments using only potencies of ‘elemental metals’? Could they detect any nanoparticles of 'alkaloids' or 'hormones' contained in ‘parent drugs’ in any of the complex drug substances of vegetable or

animal origin, other than potencies of ‘elemental metals’ such as gold, copper and iron? What does it mean?

Only ‘elemental’ drugs and simple minerals can be expected to be converted into nanoparticles by process of trituration. Hence, nanoparticles of complex molecules of complex drugs can never be detected. No body can prepare nanoparticles of complex molecules such as atropine or strychnine by homeopathic potentization process. I think the IIT team was very clever to conduct their experiments with ‘metallic elements’ only.

Remember, ‘metallic elements’ are triturated before subjecting to the subsequent process of serial dilutionss and succussions. During this violent ‘rubbing’ of triturating, some metal ions may be converted into ‘nanoparticles’. If the higher potencies were not prepared exactly as prescribed, some of these nanoparticles may remain in traces in ‘higher’ potencies. The IIT team actually may have detected these remnants of nanoparticles ‘floating’ in upper layers of solutions. This finding by no way proves that these nanopartcles are the real active principles of homeopathic high potency drugs. The presence of traces of nanoparticles in high potency solutions only shows that the samples they ‘bought from neighboring shops ‘were not perfectly potentized, or they may be contaminated.

Do you subscribe to their reported observation that only “top layer” is therapeutically effective, since it is only there the nano particles are ‘floating”? What will happen if we remove not only ‘top layers’, but whole upper half from a bottle of potentized medicines? Do you think the remaining part will not be effective therapeutically? If the ‘nano particles’ are only in ‘traces’, and they ‘float’ on top layers of liquid, it is obvious that these nano particles are not the real active principles of potentized drugs. In order to explain our every day experience that every single drop of drug is powerful, the whole drug should be uniformly saturated with this nanoparticles, and if that were the case, we cannot say it is in trace amounts. Kindly think over.

Note their observation: “all of the nanoparticles levitate to the surface and are accommodated as a monolayer at the top”. If their reported hypothesis that “nanoparticle-nanobubble rises to the surface of the diluted solution, and it is this 1% of the top layer” that contains “nano particles” of element which is the active factors is accepted, how would you explain the everyday experiences of homeopaths that even the last drop of our medicines are equally powerful? Do homeopaths utilize only “only 1% of top layer” for therapeutic application in their daily practice? Do they throw away

remaining parts of their stock? Is not this hypothesis at least in this aspect utterly meaning less?

Why can’t we examine IIT 'research' from another angle? The report says that the samples for study were products of some Indian manufacturers, purchased from ‘neighboring shops’. What if the samples were not actually potentized to the level labeled on them, so as to get rid of traces of drug particles? Do you think it is correct on the part of such a reputed research house to purchase samples from open market for conducting such a sensitive experiment? They should have first devised some way to ensure the quality and potency of samples.

IIT-B paper says: "Despite large differences in the degree of dilution from 6c to 200c, there were no major differences in the nature of the particles(shape and size) of the starting material and their absolute concentrations (in pg/ml).”

What does this observation show? If “from 6cto 200c, there were no major differences in the nature of the particles (shapeand size) of the starting material and their absolute concentrations”, it leadsto some serious doubts whether the samples used were really genuine. Ifdilutions were prepared in prescribed manner, 6c and 200c will never contain’same’ quantity and concentrations of starting material. This observation lacks logic. Over all, there are many gray areas in this study,which should be seriously considered by homeopaths.

We all know, ‘trace’ particles of ‘metal elements’ will be present in any sample of water we obtain from nature. They should have ensured that there is no ‘traces’ of ‘metal elements’ in control dilutions, before publishing this report. Instead of ‘naturally occuring’ minerals, that may be present in any natural diluents, somebody should have conducted the study using potencies of complex drug substances, and verified whether 'nanparticle theory' hold good for them also, before making 'models' on the basis of such an assumption.

Only because somebody could detect the presence of some ’traces’ of ‘nanoparticles’ of original ‘metal elements’ floating on the surface of a ‘particular sample’ of homeopathic drug purchased from market, is it prudent to declare that these ‘traces’ are the active principles of homeopathic drugs, and that they have ‘shown the way homeopathy works’? This is a very hasty and unwise conclusion. One has to take into consideration a lot of other variables and factors before makingsuch a tall claims. What if that

particular ‘sample’ was not properly potentized as per strict homeopathic guidelines? What if those drugs were not really ‘high’ potencies, as the labels indicated? What if those ‘traces’ of ‘elemental particles’ came from the water they used for making ‘dilutions’ from ‘medicated pills’ they purchased from ‘shop’? There are a lot of such possibilities.
Here is is an excellent RESEARCH work, even though I do not agree with their interpretations and conclusions. Had it been interpreted correctly, this work would have contributed a lot in the MIT concepts. I feel really sorry for wrong interpretations of this great research work on homeopathy.

I could locate this very important research work ”Homeopathy emerging as nanomedicine” by Rajendra Prakash Upadhyay (Department of Bio-chemical Engineering and Biotechnology, Indian Institute of Technology (IIT) Delhi, New Delhi, Indi a), Chaturbhuja Nayak (Central Council for Research in Homeopathy, New Delhi, India) Published in Int J High Dilution Res 2011; 10(37): 299-310. I am quoting the ABSTRACT of their work here:
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ABSTRACT

Background: Homeopathy is a time-tested two-century old empirical system of healing. Homeopathic medicines are prepared through a characteristic process known as potentization, where serial dilutions are performed with strong strokes at each step of dilution. Homeopathy is controversial because most medicines do not contain one single molecule of the corresponding starting-substance.

Aim: To investigate a possible nanoscience mechanism of action of homeopathic medicines.

Methodology: Ultra-pure samples were prepared and were examined under scanning (SEM) and transmission electron microscope (TEM) along with selected area nanodiffraction (SAD) and energy-dispersive X-ray analysis (EDX). Also trace element analysis (TEA) for silicon was performed.
Results: Homeopathic medicines showed not to be „nothing“, but exhibited nanoparticles and conglomerates of them, which had crystalline nature and were rich in silicon.

Conclusions: During the violent strokes involved in potentization, information arising from the serially diluted starting-substance might be encrypted by epitaxy on silicon-rich crystalline nanoparticles present in the resulting homeopathic medicine. The „size" of the information encrypted on nanoparticles might vary together with the degree of dilution. As homeopathic medicines exhibit healing effects, these nanoparticles along with the interfacial water on their surface might carry this information – which biological systems are able to identify – to the target. As various forms of silica are known to interact with proteins and cells of the immune system, homeopathy might represent a nanomedicine system. Possible confirmation, however, requires further research in materials and interfacial water.

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It is an excellent work, even though I do not agree with their interpretations and conclusions. Had it been interpreted correctly, this work would have contributed a lot in the MIT concepts.

SEE THE FINAL DISCUSSIONS AND CONCLUSIONS OF research paper by Rajendra Prakash Upadhyay and Chaturbhuja Nayak:

“Discussions: The dose of homeopathic medicine a patient takes may contain few (or zero) molecules/atoms of the starting-substance, but this fact alone does not make homeopathic medicines a variety of nanomedicines [12]. Toumey [12] compared homeopathic to nanomedicines, and quoting the example of nanomedicine Aurimune®, argued that nanomedicines differ from homeopathic medicines. The major difference is the use of a known amount of medicine in case of nanomedicines compared to homeopathic medicines. In addition, gold nanoparticles in nanomedicine Aurimune® act as the carriers of the active agent to the target.

In the case of homeopathic medicines, crystalline silica (or silicon) nanoparticles (along with other trace elements leaching from the glass wall of the vial) with interfacial water on their surface may acquire the structural information of the starting-substance during the process of potentization. In medium and high potencies, which are commonly used in clinical practice, the presence of starting-source is likely to be zero but it is “immaterial”. It may be argued that what matters here is the “size” of the possible encrypted information, perhaps with the electromagnetic signature of the starting-substance. Such “size” might derive from the dilution level of the homeopathic medicine, since homeopathic medicines in different potencies exhibit different effects and properties. Furthermore, silica (or silicon) nanoparticles might also act as carriers of

information. Such nanocarriers might convey the information of the starting-substance – which biological systems are able to identify – to the target, which the starting-substance molecules in themselves are not able to reach. The target, however, is unlikely to be local because homeopathy is rated a holistic therapy assumed to work by means of the immune system. It is worth to remark that various forms of silica are known to interact with proteins and cells of the immune system [13].

As homeopathic medicines might have both the “size” of the information of the diluted away starting-substance and the carriers needed to convey this information – which biological systems are able to identify – to the target, they may qualify as nanomedicines. Consequently, the nature, composition and surface features of the crystalline material (along with interfacial water) present in homeopathic medicines compared to controls have paramount importance. These must be further investigated, while keeping an eye also on possible electromagnetic emission. This investigation requires suitable developments in the fields of materials and interfacial water.

Conclusions: Three homeopathic medicines very frequently used in clinical practice were found not to be “nothing”, but exhibited high nanoparticle contents. Such nanoparticles were rich in silicon and had crystalline nature. During the strong strokes of potentization, the nanoparticles might acquire the information of the diluted away starting-source encrypted on them by means of epitaxy. As various forms of silica are known to interact with proteins and cells of the immune system, these nanoparticles (along with the interfacial water on their surface) might also act as carriers of this information to the target. The “size” of information might be related with the dilution degree of medicines. Under such possible conditions, homeopathy qualifies as a nanomedicine system not requiring high technology. For confirmation and further elaboration purposes, new research in materials and interfacial water are required”

The authors say : “In the case of homeopathic medicines, crystalline silica (or silicon) nanoparticles (along with other trace elements leaching from the glass wall of the vial) with interfacial water on their surface may acquire the structural information of the starting-substance during the process of potentization”. This is a very important observation. But they failed to explain this ‘acquiring’ of information in terms of molecular imprinting. Could they interpret this phenmenon using the concept of molecular imprinting, and explain how these molecular imprints act as artificial binding sites for pathogenic molecules, the picture would have been entirely different. Only

‘molecular imprinting’ can explain the biological mechanism of homeopathic cure in a way fitting to the paradigms of mdern biochemistry and ‘ligand-target’ interactions.

In the absence of idea of molecular imprinting, they try to utilize the concept of “possible encrypted information, perhaps with the electromagnetic signature of the starting-substance”, which could lead to hijacking of this valuable research work by energy medicine theorists who propagate pseudoscience. The statement “the target, however, is unlikely to be local because homeopathy is rated a holistic therapy assumed to work by means of the immune system” is pregnant with such possibilities. ‘Targets are unlikely to be local’, but ‘holistic’ is a statement that destroys the scientific credibility of this great work. Concept of ‘holistic target’ instead of ‘local’ or molecular targets is nothing but an attempt to satisfy ‘vital force’ theory. The statement “must be further investigated, while keeping an eye also on possible electromagnetic emission” is also a departure from genuine scientific interpretations of this research. Explaining mechanism of drug actions in terms of ‘electromagnetic emissions’ and ‘resonance’ is a subject very dear to ‘energy medicine’ homeopaths, but it contradicts existing scientific concepts regarding biological mechanism of cure.

The conclusion that “During the strong strokes of potentization, the nanoparticles might acquire the information of the diluted away starting-source encrypted on them by means of epitaxy” shows they have no slightest inclination of molecular imprinting.

Epitaxy actually refers to the deposition of a crystalline overlayer on a crystalline substrate, where the overlayer is in registry with the substrate. In other words, there must be one or more preferred orientations of the overlayer with respect to the substrate for this to be termed epitaxial growth. The overlayer is called an epitaxial film or epitaxial layer. The term epitaxy comes from the Greek roots epi, meaning “above”, and taxis, meaning “in ordered manner”. It can be translated “to arrange upon”. For most technological applications, it is desired that the deposited material form a crystalline overlayer that has one well-defined orientation with respect to the substrate crystal structure.

By explaining potentization in terms of ‘epitaxy’ instead of ‘molecular imprinting’, the authors obviously misinterprets their scientific observations. In epitaxy, it is drug molecules that are carried- not ‘information” of drug molecules. Information can be carried in the absence of drug molecules only by molecular imprinting. Epitaxy is about

carrying a layer of drug molecules -not information- on a carrier matrix, which cannot happen in high dilutions.

I request the authors to re-interpret their observations in the light of ‘molecular imprinting’, which would make their work a great historical milestone in the scientific understanding of homeopathy

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Regarding the SILICA theory. Do the SILICA particles come from the 'glass vials', or from contamination of water or alcohol? What if the potentization was done using some polymer-based vials other than glass? Did anybody conduct such an experiment before proposing the SILICA theory? According to the MODEL proposed by the present authors, homeopathic drugs will be impotent in the absence of SILICA particles in them!

If all homeopathic drugs contain SILICA particles, and if they are part of ACTIVE principles of those drugs, what about our homeopathic SILICA? If all drugs contain SILICA nanoparticles, why should we make separate SILICA for homeopathic drug? Any homeopathic drug will act as SILICA, since they contain SILICA nanoparticles? If all homeopathic drugs contain SILICA nanoparticles, how can we claim our drugs are safe? We all know, SILICA can interact with biological molecules and produce molecular errors, which is evident from the symptomatology of SILICA recorded in our materia medica works!

Since the basic theory of NANOPARTICLES as the ACTIVE factors of potentized drugs is by itself untenable and implausible, a MODEL based on that 'theory' has no any value at all. Foundation itself is very flimsy, on which the authors are trying to erect a 'skyscraper'. Propositions made by the authors that homeopathic drugs ACT by "modulating biological function of the allostatic stress response network", "evoke biphasic actions on living systems via organism-dependent adaptive and endogenously amplified effects" and "improve systemic resilience", are not based on any RESEARCH or observations, but only imaginations and speculations of wildest creativity.

LATE COMERS TO MY FRIENDS LIST AND DISCUSSION FORUMS ARE REQUESTED TO READ MY FOLLOWING COMPILATIONS OF FACEBOOK UPDATES TO GET A PRELIMINARY IDEA OF WHAT IS GOING ON HERE:

VOLUME- I: http://dialecticalohmeopathy.wordpress.com/2012/03/10/selected-facebook-updates/

VOLUME- II: http://dialecticalohmeopathy.wordpress.com/2012/08/04/volume-ii-compilation-of-my-selected-facebook-updates/

VOLUME- III: http://dialecticalhomeopathy.com/2013/05/12/volume-three/

VOLUME- IV: http://dialecticalhomeopathy.com/2013/06/04/selected-facebook-updates-volume-four/

VOLUME V: http://dialecticalhomeopathy.com/2013/10/09/volume-v-selected-facebook-updates/

I see facebook not as a place of fun or leisure. I consider it as a serious and effective WORK PLACE. I make hundreds of posts and comments daily on my facebook timeline, discussion groups, pages as well as on twitter, as part of my endeavor to evolve and promote MIT concepts of scientific homeopathy. My friends, who come on face book only occasionally, and those who are able to spend very limited time here, may miss most of my updates. There are also many late comers in my growing friends list. There may be also some people willing to read some of my posts again and again. In order to ensure my works are secured for future use, and to make them easily available for everybody any time, I regularly compile my face book posts and updates into large volumes. So far, FIVE volumes have been compiled.

‘Thermo-Luminance Studies Of Ultra-high Dilutions' Provides Proof For 'Molecular Imprinting':

“Potentized medicines contain supra-molecular clusters of water/ethyl alcohol, different from control medium, which will be evident from spectroscopic studies.”

This was one of my predictions proposed to be verified, as part of proving the concept of ‘molecular imprinting’ according to scientific methods.

I think the remarkable work discussed below, done by Louis Rey on thermo-luminescence of ultra-high dilutions of lithium chloride and sodium chloride, and published in December 2002, provides crucial support as a very strong proof for this very important prediction.

As per the reported work, ultra-high dilutions of lithium chloride and sodium chloride (10−30g cm−3) have been irradiated by X- and gamma rays at 77 K, then progressively re-warmed to room temperature. During that phase, their thermo-luminescence has been studied and it was found that, despite their dilution beyond the Avogadro number, the emitted light was specific of the original salts dissolved initially.

This wonderful observation that high dilutions of salts very much above avogadro number retains the specific thermo-luminance patterns reminding of of original salts seems to be very crucial. This phenomenon could be well explained only in terms of supramolecular nanostructures of water carrying the imprints of exact ‘conformations’ of ‘individual’ molecules of salts, as explained by MIT concepts.

Thermo-luminance studies have been developed and utilized so far as a "tool to study the structure of solids, mainly ordered crystals". In the present study, the researchers successfully utilized it in ultra-high aqueous dilutions, which demonstrates the short range 'crystalline' character of water as well as high dilution preparations.

Actually, the researchers took up this work to 'challenge' the 'water memory' theory, but proved it otherwise. They confess in their report: "we thought that it would be of interest to challenge the theory according which preexistent ‘structures’ in the original liquid, developed around some added chemicals, could survive a great number of successive dilutions when done under vigorous mechanical stirring".

Another important point to be noted is that the researchers did not use 'commercial samples' as most ‘researches’ do, but prepared themselves 15c dilutions of lithium

chloride and sodium chloride under the guidance of boiron labs. This fact provides more scientific credence to this study.

The study "showed quite clearly that the initial addition of a solute (NaCl and LiCl) in the original D2O leaves a permanent effect even when, by successive dilutions made under strong vibration, all traces of solute have disappeared." The results were reproduced in several repeated experiments, "beyond any ambiguity".

It should be specifically pointed out, researchers had no any idea of Molecular Imprinting. They propose the following hypothesis for explaining their observation:

"As a working hypothesis, we propose that this phenomenon results from a marked structural change in the hydrogen bond network initiated at the onset by the presence of the dissolved ions and maintained in the course of the dilution process, probably thanks to the successive vigorous mechanical stirrings."

See, this hypothesis comes very close to the concept of Molecular Imprinting!

Thermally stimulated luminescence—often called thermo-luminescence—is a well known phenomenon amongst the thermally stimulated processes (thermally stimulated conductivity—thermally stimulated electron emission—thermogravimetry—differential thermal analysis and differential scanning calorimetry, etc.). Its theory and applications have been fully developed inter alia by McKeever, Chen and Visocekas and it proved to be a most interesting tool to study the structure of solids, mainly ordered crystals. To that end, the studied material is “activated” at low-temperature, usually by radiant energy (UV, X-rays, gamma rays, electron beams, or neutrons) which most generally creates electrons–holes pairs which become separately “trapped” at different energy levels. Then, when the irradiated material is warmed up, the heating serves as a trigger to release the initially accumulated energy and the trapped electrons and holes move and recombine. A characteristic glow is emitted most often under the shape of different successive peaks according to the depths of the initial traps. As a general rule this phenomenon is observed in ordered crystals though it can be equally seen in disordered materials such as glasses. In that mechanism, imperfections in the lattice play a major role and are considered to be the place where luminescent centres appear. Thus, thermoluminescence is a good tool to study these imperfections and understand how they appear in the crystal.

This is exactly along those lines that the researchers carried our first investigations, starting, this time, from liquids which were turned into stable solids by low-temperature cooling.

Working essentially with water—mainly deuterium oxide—they have shown that the thermoluminescent glow of irradiated hexagonal ice consisted in two major peak areas—Peak 1 near 120 K and Peak 2 near 166 K having well-defined emission spectra the D2O samples giving a much higher signal than the H2O ones.

In both cases, un-irradiated samples gave no signals whatsoever. For both D2O and H2O it was shown that the relative intensity of the thermoluminescence glow was a function of the irradiation dose and, that at least for Peak 2, it did show a maximum between 1 and 10 kGy .

As a first hypothesis on the nature of the emission itself it has been suggested by Teixeira that Peak 2 could be connected to the hydrogen-bond network within the ice which, in turn, could result from the structure of the original liquid sample, whilst Peak 1 looked to be closely related to the molecule. This strengthens the views on the involvement of hydrogen bonds in this mechanism.

To develop this concept further, the researchers did select to study the effect of lithium chloride on the thermoluminescence of irradiated D2O ice since this particular substance is known to suppress hydrogen bonds. The result, indeed, is spectacular and, at the relatively low concentration of 0:1M, Peak 2 is totally erased whereas the basic emission of Peak 1 remains almost unchanged.

At that point the researchers thought that it would be of interest to challenge the theory according which pre-existent “structures” in the original liquid, developed around some added chemicals, could survive a great number of successive dilutions when done under vigorous mechanical stirring.

To that end they prepared, courtesy of the BOIRON LABORATORIES, ultra-high dilutions of lithium chloride and sodium chloride by successive dilutions to the hundredths, all done under vigorous mechanical stirring (initially 1 g in 100 cm3, then 1 cm3 of this solution in 99 cm3 of pure D2O ... and so on) until they reached—theoretically—at the 15th dilution, a “concentration” of10^{-30} g cm^{-3}. A reference

sample of D2O alone was also prepared according to this technique, still keeping vigorous agitation (150 strokes=7:5 s at each successive “dilution” step).

They did proceed, then, to the “activation” of these materials by irradiation according the following experimental protocol.

One cubic centimeter of each solution is placed in aluminium test cavities of 20 mm diameter and 2 mm depth and frozen to −20◦C on a cold metallic block. The frozen systems are kept 24 h at −20◦C to achieve stability into their crystallization patternand they are immersed into liquid nitrogen and kept at −196◦C for 24 h.

In a first set of experiments the frozen ice disks are irradiated at 77 K with 100 kV X-rays to achieve a dose of 0:4 kGy (30 min). Previous determinations were done to check that the disks having identical positions in the field did receive the same dose (dosimetry has been done using Harwell, FWT, and alanine dosimeters).

After irradiation, all the “activated” samples are transferred into a liquid nitrogen container and kept, there, for a week-time, to even out whatever small differences could exist between them.

Finally, all samples are placed in the thermoluminescence equipment and their respective glow recorded—with both a photo-multiplier and a CCD camera connected to a spectrograph—in the course of rewarming (3=min) between 77 and 13 K, as has been done in our previous published experiments.

Much to their surprise, the experimental results do show—without any ambiguity— that for an X-ray dose of 0:4 kGy the thermoluminescence glows of the three systems were substantially different . These findings did prove to be reproducible in the course of many different identical experiments.

To compare the curves between them the researchers normalized the emitted light readings taking Peak 1 as the reference. In doing so, we obtain for Peak 2 the different curves presented which show quite clearly that the initial addition of a solute (NaCl and LiCl) in the original D2O leaves a permanent effect even when, by successive dilutions made under strong vibration, all traces of solute have disappeared. More remarkable were the fact that, by far, lithium chloride demonstrates a stronger hydrogen bond suppressing “ghost” effect which could be related to the larger size of the lithium ion.

A second set of experiments done with gamma rays (courtesy of CELESTIN Reactor, COGEMA, Marcoule), at a higher dose (19 kGy) did confirm these findings

It appears, therefore, that the structural state of a solution made in D2O can be modified by the addition of selected solutes like LiCl and NaCl. This modification remains even when the initial molecules have disappeared and the effect is the same at different irradiation doses (0.4 –19 kGy) and for different radiant sources (X-rays, gamma rays). As a working hypothesis, the researchers propose that this phenomenon results from a marked structural change in the hydrogen bond network initiated at the onset by the presence of the dissolved ions and maintained in the course of the dilution process, probably thanks to the successive vigorous mechanical stirrings.

Researchers had no any idea of Molecular Imprinting. They proposes the following hypothesis for explaining their observation:

"As a working hypothesis, we propose that this phenomenon results from a marked structural change in the hydrogen bond network initiated at the onset by the presence of the dissolved ions and maintained in the course of the dilution process, probably thanks to the successive vigorous mechanical stirrings."

See, this hypothesis comes very close to the concept of Molecular Imprinting!

If we fail to explain the observations of this monumental research in terms of Molecular Imprinting, there remains the danger that it will be hijacked by 'energy medicine' theoreticians, by interpreting in terms of 'essence of drugs', 'information', 'vibrations' and the like. Actually, Jan Scholten has already done that exercise, by saying 'information' of drugs imprinted in water are the cause of thermoluminence observed by the researchers. Then he very cleverly fits this thermoluminence into his energy medicine frame work of 'bioluminence', vibrations, vital force, resonance and other pseudoscientific theories.

To be specific, precise and fitting to modern scientific knowledge system and its accepted paradigms, it is better to say ‘molecular imprints’ of original drug molecules are the cause of similarity of thermoluminence the researchers could observe. Such an explanation will clearly demonstrate that we are talking about the ‘complementary’ shape of drug molecules imprinted into nanostructures of water, which produce therapeutic effects by acting as ‘artificial binding sites’ for pathogenic molecules.

All the published scientific studies regarding PHYSICAL properties of potentized homeopathic drugs have shown that the SPECTRA of light REFLECTED by them have FREQUENCIES different from that we obtain from unpotentized water-ethyl alcohol mixture.

Based on these reported observations of changed 'frequencies' homeopathic 'theoreticians'and 'intellectuals' make a lot of fancifull theories about homeopathy. They believe and try to make others believe that these observations have proved their 'energy medicine' theories. According to them, potentized drugs produce cures by acting on 'vital force' by 'resonance of frequencies'. Vital force of each individual vibrates in specific frequencies. Disease is caused by derangement of these vibrations. Potentized 'similimum' having most similar vibrations can rectify the derangement of vibrations of vital force through 'fesonance', thereby restoring the health.

Where as some 'theoreticians' say the 'vibrations' of potentized drugs are due to 'electromagnetic radiations', some others say it is 'radioactivity'. Most of them use the terms 'radioactivity' and 'electromagnetic radiations' as interchangeable equivalents, displaying their utter ignorance regarding the topics they are talking about.

Actually, observations of difference in spectra of light reflected by potentized drugs and unpotentized water-alcohol mixture has to be understood and interpreted with a rational and scientific perspective. All these studies were done using different techniques of SPECTROSCOPY, which is the most accurate and reliable method of studying the molecular level and atomic level structure and conformation of matter. Even though there are different techniques, instruments and methods currently employed in spectrometry, basically it is all about sending LIGHT RAYS of known frequency into the sample to be probed, and then studying the REFLECTED or TANSMITTED rays by measuring the change in their frequencies. Analyzing the CHANGES happened in the frequencies of light SPECTRA, scientists reach conclusions about the particle level structure and organization.

Not only potentized drugs, any MATERIAL particle in this universe will show changes in reflected or transmitted STECTRA OF LIGHT, when they are subjected to spectroscopic studies.

Difference in spectra of light reflected from potentized drugs and unpotentized water-alcohol medium proves that certain changes occur in the supra-molecular arrangement of water-ethyl molecules during potentization. Such an observation no way proves potentized drug act as medicinal agents using RESONANCE OF FREQUENCIES. Supra- molecular changes in potentizing medium happening during potentization should be understood in terms of MOLECULAR IMPRINTING, which will help us in explaining biological mechanism of high dilution therapeutics and 'similia similibus curentur' in a way fitting to modern scientific knowledge system.

Theorizations of 'energy medicine' proponents based on weired and 'hijacked' interpretations of published scientific studies only demonstrates their ignorance regarding principles and methods of modern science.

I see facebook not as a place of fun or leisure. I consider it as a serious and effective WORK PLACE. I make hundreds of posts and comments daily on my facebook timeline, discussion groups, pages as well as on twitter, as part of my endeavor to evolve and promote MIT concepts of scientific homeopathy. My friends, who come on face book only occasionally, and those who are able to spend very limited time here, may miss most of my updates. There are also many late comers in my growing friends list. There may be also some people willing to read some of my posts again and again. In order to ensure my works are secured for future use, and to make them easily available for everybody any time, I regularly compile my face book posts and updates into large volumes. So far, EIGHT volumes have been compiled.

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