

# A Visit to Flatland: The Periodic Table in Homeopathy

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**Abstract:** The use of the periodic table of chemistry in homeopathy has serious limitations. The periodic law of elements does not adequately predict the medicinal qualities of homeopathic remedies. The shortcomings of grafting a paradigm of chemistry on to homeopathy are evaluated using the writings of Hahnemann and other observers of the scientific method. The manifold provings law continues to be the correct scientific method for testing homeopathic medicines.

**Keywords:** periodic table, periodic law, manifold provings law

## Introduction

The discovery of the facts of chemistry is an inspiring achievement in the intellectual development of humankind. Hahnemann was a successful participant in the advancement of chemical knowledge and widely recognized for his contributions. Similarities in chemicals were known, and the groupings of elements already existed in Hahnemann's time. Yet, Hahnemann, as documented in his writings, rejected the commonalities in chemistry when he developed the methods of homeopathy. Still, some neo-homeopaths think they know better. Why are these practitioners so sure they bring improvement to homeopathy? What are the problems of using the paradigm of chemistry in place of the manifold provings law?

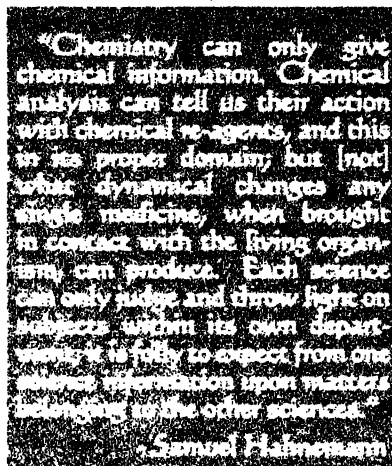
## Chemical Relationships in Hahnemann's Time

### Chemical Affinity Tables

Chemists of the eighteenth century began to systematize all the known chemical behavior with the construction of affinity tables. Chemical substances could be arranged consistently in the order of the strength of their attraction for a certain other sub-

stance. The numerical and chemical relationships had been explored since 1699.(1) Affinity tables became large by 1775: a two-part table with thirty-four columns and up to twenty-seven substances listed in each column.(2) The organizing scheme of affinity tables implied that the information of chemistry was distinct from the information of physical or mechanical aggregations. Chemical reactions were not just a bunch of rocks mixed together in a rock pile. The conceptual framework of chemical affinity tables "established that chemical combinations were the result of the elective affinities, which solely depended on the nature of the substances involved in the reaction."(3)

These new chemical relationships caught the imagination of the public at large. Goethe wrote a popular novel called *Elective Affinities*. The author compares the sexual "chemistry" of two couples with the chemical reaction of calcium carbonate and sulfuric acid. By elective affinity, the original two substances form calcium sulfate (gypsum) and carbonic acid mixed with water (mineral water). By analogy, one couple's attraction was strong and resistant like gypsum, and the other relationship was more changeable and temporary. This use of the new chemistry as a metaphor in popular thinking was quite controversial. It contrasted the natural



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- Samuel Hahnemann

chemical attractions against the accepted ethics of duty and fidelity.(4)

### Triads

"It may seem surprising that Goethe should be mentioned as having been one of the principal initiators of the periodic system. Owing to Goethe's active interest in minerals, Dobereiner began to analyze these stones exhaustively and found that the mineral celestine contained the elements forming the calcium triad. This was in 1817."(5) Triads are periodic relationships between elements. If the equivalent weight of calcium and barium are added, and the average between the two is taken, it equals the weight of strontium. These elements are found together in nature, and they show a numerical relationship as well as a chemical relationship as alkaline earth metals. Lithium, sodium and potassium are another example of a chemical triad. Analogies among more than three elements were not striking. "Tin shows little resemblance to cadmium and zinc, and the same holds for mercury and copper; fluorine differs considerably from other halogens, and magnesium from the other alkaline earth metals."(6)

### The Chemist Hahnemann

"We can affirm that no more complete treatise exists on the subject of the manufacture of chemicals ... Fortunately for its readers, it has fallen into the hands of a writer [Hahnemann] who has improved and perfected it... In the chapter on the preparation of muriatic acid the notes [by Hahnemann] are greater than the text and are more important."(7) Hahnemann was one of the top fifteen German chemists cited from 1784-1789.(8) How excellent a chemist he was has generally not been appreciated.(9) "Hahnemann was an excellent chemical investigator, not a mere analyst following slavishly the methods he found in vogue."(10)

Hahnemann's test for wine spread his reputation extensively since it limited the addition of lead contamination in preparing the wine. The old test with hepar sulfide would precipitate both the acceptable iron sulfide as well as the lead sulfide. When the hydrogen sulfide water was acidified first, then the iron would remain soluble, but not the lead.(11) Hahnemann developed a method to detect arsenic poisoning in 1786. "Here Hahnemann lives as a chemist even today"(12) He also discovered how to make mercury soluble as the name of the homeopathic remedy implies, and more generally, "He was the first who by means of a special technique, made substances considered insoluble soluble, in that he brought them into [what later was known as] a colloidal state."(13)

A mention of alchemy is in order here. There was no real scientific (European) chemistry until Boyle, 1661, according to standard textbooks. Hahnemann certainly studied Arabian alchemy as his notes on the trituration of gold indicate. However, when he did use alchemical information, "he submitted the substance to empirical testing."(14) The same homeopathic historian says, "Not a trace of doctrine of signatures can be found in Hahnemann's writings."(15)

### Chemistry in Homeopathy

Let us be specific as to what Hahnemann wrote concerning the use of chemical categories in homeopathy. "But if you refer the action of the medicines to their chemical bases, as the newest system does, I hear some one reply, 'then, assuredly, you will act conformably to nature.' In this way some medicines are (as arbitrarily as before) reckoned carbonaceous and others hydrogenous, and to each of these summarily-divided classes peculiar (fictitious) modes of action despotically assigned."(16) Hahnemann emphatically points out that knowledge of a medicine's chemistry does not conform to how a substance will act in a human body. It is a fiction that chemical properties predict function in homeopathic testings.

In 1825, Hahnemann talks about chemistry no less forcefully. "True it is that Chemistry - that art which reveals to us such astonishing miracles, appeared to be a much more likely source for obtaining information with respect to the properties of drugs... [but they] did not understand chemistry or knew nothing about medicine and its requirements."(17) "Knowledge indeed! And what knowledge does chemistry give us with respect to the inanimate, speechless, component parts of medicines? Answer: It merely teaches their chemical signification, it teaches us that they act so and so with chemical re-agents... These appellations tell us nothing of the changes in the sensations of the living man which may be expected by the mineral, each differing from the other in its peculiar invisible, internal, essential nature; and yet, forsooth, the whole healing art depends on this alone!"(18) Truly, the whole reliability of homeopathy rests on the accurate testing of medicinal substances in healthy people. Prior chemical knowledge of a medicine can never be a substitute for real provings.

Still, these historic words do not seem to hold weight for some current homeopaths. The homeopaths who do not want to be instructed by Hahnemann's practical experience may say that he did not know about the periodic table or all the new discoveries in chemistry. They may say that we now know much more about materia medica and can

make important generalizations. Let us see what is new about the periodic table that Hahnemann could not foresee.

### The Periodic Law of Chemistry

An element has one type of atom. An atom type is defined by an exact number of protons. All iron atoms have 26 protons. Iron is an element. There are now about 118 known elements, each with its own number of protons in the nucleus. Carbon has 6 protons and so has an atomic number 6. Radium always has 88 protons in the nucleus, but it may have different numbers of neutrons. These are called isotopes of radium. In its original state, each element should have the same number of electrons as protons.

By 1869, it was observed that elements followed a periodic law. The properties of the chemical elements are periodic functions of their atomic numbers; i.e., that when arranged in the order of these numbers, the elements fall into recurring groups or series, so that those having similar chemical and physical properties recur at regular intervals.(19) "The structure of this system is such that two attributes undergo a periodic change: a numerical attribute, the atomic numbers, and a qualitative attribute; i.e., the chemical properties."(20) The structure of this periodic law of elements is most often pictured as a table of elements arranged in vertical columns and horizontal rows. The vertical columns are called groups or families; they reveal the similar chemical properties or reactions with other substances. The horizontal rows show the relationship of physical properties of elements which concerns the substance itself.(21)

"With the Periodic Table chemistry came of age. Like the axioms of geometry, Newtonian physics and Darwinian biology, chemistry now had a central idea upon which an entire new range of science could be built. Mendeleev had classified the building blocks of the universe."(22) The basic building blocks of matter can be classified; there is order among the chemical properties, and this order recurs periodically. Characteristic properties result from the structure of atoms, and specifically, the structure of the electrons of an element explains properties. Sodium and lithium are in the same group (vertical column) because the outer electron structures are analogous.(23)

### This Table is Flat

"In principle the periodic system is a two-dimensional framework; the third dimension has never been taken very far. Thus, the system cannot say anything about nuclear processes."(24) The periodic table "has been cast into three-dimensional forms - screw, spiral, cone, sphere - as well as many

two-dimensional types... there is one deserving preference - a two-dimensional system in which all the elements have their rightful place by reason of their properties."(25) The graphic for the periodic law of chemistry is a flat map and on this map is a flat grid. The grid here refers to a Cartesian grid of two variables where the vertical column is like the y-variable of geometry and horizontal rows are like the x-variable. Every variable has a place or a point on the grid. One row variable and one column variable together pinpoint the location. Every element on the periodic grid has an unambiguous location. Each location flows smoothly to the next chemically correct pigeonhole.

When it takes two variables to locate a place on a grid, then the grid is two-dimensional. When the periodic table is presented with straight rows and straight columns, then it is rectilinear. If the periodic table is drawn like a spiral, then it is curvilinear. In both cases, these are examples of linear thinking, or for this day and age, it may be called "simplistic linear thinking" as a prominent mathematician says.(26) Such thinking assumes that the effects of two distinct factors must be simply additive. For instance, scientists may claim that intelligence is thirty-seven percent genetic and sixty-three percent environment, which is one hundred percent of intelligence, and that is that. Whereas in practice, many more subtle interactions come into play. The qualities of the row of an element plus the qualities of the column of an element do not add up to the medicinal effects of an element. "Limiting your theories to two or three dimensions seemed old-fashioned and ridiculously confining."(27)

The provings of mineral remedies cannot be arranged on a rectangular kitchen table or a spiral shaped dining room table or any other two-dimensional flat linear arrangement idea. The information needed is much more complex and requires multidimensional information not predictable from rows and columns periodicity.(28) "At a conservative estimate, the human body, with its numerous flexible joints is 101-dimensional."(29) This does not include internal dimensions contributed from the variables of the skin, stomach, heart, liver, brain, etc. and time. If one variable changes, all the other variables change. In chaos theory, this is called "sensitivity to initial conditions."(30) The breath of a dove may be the tipping point for the next tornado. One infinitesimal non-chemical dose of gold may prevent leaping from windows. The order among chemicals does not correspond to a linear order of medicinal symptoms.

### A Flat Reality

The idea of flattening the materia medica of ho-

meopathy reflects the popular idea of flattening the world. Globalization politics and computer technology now allow billions of people to participate in a one-dimensional kind of economic opportunity. The playing field is leveled so that many more people can participate. That is, the playing field is being flattened, "as flat as that screen on which he can host a meeting of his whole global supply chain... We have made our world flat." (31) Reality is diminished to the two-dimensional structure of electronics. Dreams are bounded by this clean flat vision, and a fuller more enriched set of relationships is ignored. A person captivated by this worldview "makes no effort to view the world along dimensions that would threaten the rhetorical neatness of his flat metaphor... [He is] unable to imagine any way of engaging these forces except by yielding to them." (32)

The world of plane geometry as represented by the periodic table is pushed upon us as the real, and it is substituted for the lived world. (33) The use of the periodic table becomes a Flatland attempt to understand remedies. It is a counterfeit substitute for the authentic living wholeness of proved symptoms. (34)

"The plane of Flatland is merely part of the solid of Spaceland... the solid of Spaceland is merely part of... [the reality of homeopathy]." (35) "What you call Solid things are really superficial; what you call Space is really nothing but a great Plane... You could leave this Plane yourself, if you could but summon up the necessary volition." (36)

### The Manifold Proving Law

The periodic law became the central concept of chemistry well over a century ago. The tool of the periodic table does not reflect the modern advances in chemistry. The properties of quantum mechanics are not included. A new idea like fractal chemistry does not show up in the information of the tabular table. (37) The many dimensions of information available to a modern chemist require more than a graphic arranged like a table; chemical knowledge requires a multi-dimensional manifold map. (38)

The complex information of mineral homeopathic medicines demands much more of a framework than a flat map. Homeopathic knowledge of elements cannot be limited to the periodic law of chemistry. Homeopathy demands the manifold proving law.

Because the periodic table is presented as a chemical law, it is useful to quote §135 and 136 of the *Organon* as a law also. The homeopathic manifold proving law says that the complete knowledge of a remedy is perfected by multiple experiments on healthy individuals. "The totality... is brought near

perfection only by manifold experiments..." (39) Multiple testings on many people reveal the many dimensional bio-space of remedy symptoms not revealed on a flat grid. Homeopathy does not stagnate in gridlock if real provings continue. Homeopathy does not need to be frozen in chemistry; rather, it grows with manifold variations of real experiments until one fully sees the overall experience. (40)

### A Reductionistic Model

Chemical concepts do not allow the many degrees of freedom inherent in people's response to medicinal substances. The model borrowed from chemistry is an inadequate substitute for the understanding of remedies. The periodic table reduces the richness of remedies to oversimplified concepts. The renowned and accomplished chemist, Hahnemann, has more to say about this science for those not yet swayed.

"Chemistry can only give chemical information... Chemical analysis can tell us their action with chemical re-agents, and this in its proper domain; but [not] what dynamical changes any single medicine, when brought in contact with the living organism, can produce. Each science can only judge and throw light on subjects within its own department; it is folly to expect from one science information upon matters belonging to the other sciences." (41) Through hard won experience, Hahnemann realized that the assumptions of other sciences did not apply to the certainty of healing with medicinal substances.

Hahnemann was not the only observer of science who drew these conclusions. A contemporary experimenter in light and color said, "In recent times this danger has been heightened as expressions and terms are drawn from all areas of knowledge and science to express perceptions of natural phenomena. [They] hide and obscure... instead of illuminating and revealing... It would be most desirable, however, to base the language for the details of a particular area on the area itself." (42) Goethe further says that reductionistic theories from other sciences are fixed formulas that transform living things into dead ones; they kill the inner life in order to apply an inadequate substitute from without; they have the effect of rigidifying things that are dynamic. (43) There is no substitute for the manifold experiments on living, healthy individuals who express themselves in free and spontaneous language that breaks all preconceived categories.

When Hahnemann began his journey into homeopathy, he first rejected the conjecture that Peruvian bark acted due to its bitter and astringent chemical properties. Hahnemann was convinced that no method had yet been found to correctly understand the action of medicines. All methods were found to

be haphazard, "whether they chemically analyzed a substance...or tested them on the sick."(44) No matter how many new chemistry discoveries were made in his lifetime, Hahnemann did not find anything to counter his experience. The first English translation of the *Organon* says that to know medicinal effects, one cannot "arrive at this result by any specious reasoning a priori, nor by smell, taste, or appearance of the medicinal substances, nor by chemical analysis."(45) The last edition of the *Organon* says, "The pure, characteristic, curative virtues of medicines cannot be apprehended by specious a priori sophistry, or from the smell, taste, or appearance of the medicines, or from chemical analysis."(46)

What about the very first *Organon* of 1810: "Every mineral and every salt is certainly different from every other in external appearance as well as in its inner physical and chemical peculiarities."(47) Later editions say, "Each mineral and each salt differs from others in regard to external character as well as internal chemical properties."(48) Hahnemann had no experiences to change his mind. From the beginning he said, "Each substance effects alterations in the health and condition of the human body after its own distinct and definite fashion, a fashion which forbids the substitution of any other substance for itself."(49) By the final edition of the *Organon*, he sees the same truth. The quotes are repeated here to make a point. The chemical construct of the periodic table does not transfer to homeopathy.

In Hahnemann's time, affinity tables and triads defined the relationships of chemicals. Affinity is implicit in the definition of the periodic system.(50) The periodic table, then, is only a more organized and more complete concept of chemical relationships that were already being explored and already known. It was a concept that was gradually developed over time. It is not a sudden discovery or novel idea that changes the real homeopathic method of verifying *materia medica*.

For example, if homeopathic methods were limited by the relationships of chemistry, the homeopathic triads would never have been thinkable. *Sulphur*, *Calcarea carbonicum*, and *Lycopodium* constitute a well-known triad; and *Causticum*, *Colocynthus* and *Staphysagria* are another triad.(51) It would never be allowed with periodic table thinking. Real homeopathy depends on actual clinical experience, not on predetermined theoretical constructs.

### Learning Remedies with the Periodic Table

Some homeopaths believe that the actual provings of mineral remedies do show organization that relates them to the periodic table. As in any field of knowledge, bits of information or facts can be se-

lected to support any personally chosen belief system or worldview. "Facts soon reach a point where they become less and less manageable unless an attractive and meaningful system of classification is brought into being. Such a system brings order out of chaos and reveals relationships which tend to remain obscure in a maze of unclassified bits of information."(52) This is a quote from a traditional chemistry text, and I believe it expresses the primary reason for the periodic table in homeopathy. Short cuts, and making things easier have always been popular, and the same is true in homeopathy. The repertories in homeopathy are examples of tools to make homeopathy simpler, but evidently, they are not easy enough. Certain homeopaths need grand theories to organize the bits of information called symptoms. One such intellectual scheme is the periodic law of chemistry. It meets the need for simplicity in mineral stereotypes and fulfills the desire for categorical certainty.(53)

Chemistry is the science of matter. Is homeopathy a science based on matter? Is our *materia medica* based on the science of matter? Electrons are responsible for an atom's chemical properties. "The personalities of the elements are a consequence of the ways in which these electrons are arranged."(54) This is from a chemical text, not a homeopathic book. Are electrons responsible for the homeopathic medicinal effect? The arrangement of electrons of each element determines its location on the periodic table. Does a location on a chart equate with how a medicine acts? The higher potencies in homeopathy contain less and less matter, and so correlate with chemistry less and less. The usefulness of a chemical law as an organizing principle in homeopathy vanishes.

None of these questions may seem pertinent to practitioners who use the periodic table, because they assign themes to elements, not just chemical properties. It is easy to develop themes. "Iron is the most stable nucleus of all," and "iron forms alliances so readily," says the chemistry textbook.(55) Iron people must get to know people easily and stay loyal to their friends. Does this match the popular periodic table theme? Carbon is interesting. Graphite, some charcoals, diamond and fullerene (buckyballs) are made of just the one element. They must all have a unifying theme. I am sure someone made one up.

### What's Wrong with Themes

Themes are not real symptoms; they are interpretations and extrapolations. More needs to be said. Here is an extract of an interview with a well-known teacher of the periodic table: "Can you extrapolate about plants in the same way as the system of the

periodic table? Yes...The advantage of the mineral kingdom is that you can say that a remedy is in a series and at a stage: horizontal and vertical. For instance, a mineral can be in the Gold series, and then at Stage six. The remedy will show the combination of both the series and the stage.”(56) There is no doubt in this person that it is acceptable to extrapolate about homeopathic remedies based on a chemical paradigm, but homeopathy cannot and must not be an estimate of an unknown based on a trend. Extrapolations misrepresent what is known, “as if they told us something beyond their own narrowly circumscribed domain, they often mislead and cover up phenomena.”(57)

The same person continues in the interview: “Is there a theme that runs through the rose family. Yes, of course. It is the love problem. That’s why the rose is chosen as the symbol of love. The whole culture often knows what the plants are really for.”(58) Here is a statement that totally ignores the basic tenants of homeopathy. We cannot know what a remedy is good for based on outer form and common function in society. Only provings are accurate enough to determine medicinal use. The theme of rose is not based on real symptoms, but on symbolism. The theme chosen for a rose is so over-broad and over-generalized as to be useless. What person does not have issues with love in life? There are countless symbols of the countless manifestations of love. If I love the Alpine meadows, I think of edelweiss. If I express my love for my mother with flowers, I send irises, her favorite.

Homeopaths are not theoretical detached observers looking for symbolic reasons behind illness. Homeopaths must be disciplined to observe in an accurate way, and this requires training and experience. The homeopath suspends all judgment and evaluation. The facts must speak for themselves. The trained homeopath shifts from the common “seeing roses” to seeing “a particular rose mode of perception.”The real homeopaths “suspend all classification systems that we usually employ; so we stop seeing a rose and encounter the phenomenon, formally called rose, as it is.”(59) Homeopaths learn carefully to free themselves from habitual categories, also called prejudices. They constantly train themselves to see the individual, not the category. The “categorized artifact” created by the usual mode of perception must be ignored to let the practitioner see the rose as if he had not seen one before.(60)

A theme is a mental representation of our own creation. Instead of looking into the actual more closely, these practitioners do the opposite - they turn away from it and construct a theoretical schema. They impose a framework upon the phenomena that is not its true nature.(61) A theme is

a picture that exists before the case taking. It gives shape to the case taker’s actions so that they pay attention only to the symptoms relevant within the already adopted framework. They do not gain as observers. They acquire extra knowledge in the form of facts and they find regularities - the same single order of connectedness, that they artificially created, and then this framework is imposed on the symptoms from the outside. This process eliminates the internal relationships and inner complexities that are already being. They reduce complexities to simplicities.(62.)

Homeopaths become bewitched by themes. These theoretical preconceptions and pre-judgments of remedies allow for no new unique patterns when actual observations are made. Individualization no longer comes first. The uniqueness of each person, each person’s sickness, or each remedy is subsumed under the new importance of a common theme.

### Grouping Combination Chemical Remedies

Combination mineral medicines are chemical remedies made up of more than one element, like sodium plus chloride. All the *Natrum* remedies like *Natrum muriaticum*, *Natrum carbonicum* and *Natrum sulphuricum* can be considered as a single group of remedies because they have an element in common. Homeopaths say that it is possible to understand through analogy the use of the chemically similar mineral combination remedies that may have little information recorded in the literature.(63) Some homeopaths observe that this may be possible since they believe that chemical compounds are affected by the elements from which they are made. If remedies are composed of similar elements, there should be similar symptoms. Allopathic drugs, for instance, are developed with this chemical basis in mind.

Does chemical composition predict medicinal effect? “Chemistry is such a subtle subject, one where observations are so difficult to predict, for it is difficult to assess whether one particular effect or another will dominate,”(64) says a prominent current chemist. Something new and unforeseen may emerge from the interactions of what was analytically isolated. “Chemistry is concerned with the specific and in some sense unpredictable result of bringing together atoms into chemical combination. Water and all its properties are not simply predictable on the basis of knowing about oxygen, hydrogen, and the laws of valence bonds, not even given all the resources of twenty-first century physics and chemistry.”(65)

Most predictions about the symptoms of a combi-

nation mineral remedy are built up from the simple addition of the symptoms of one mineral plus the symptoms of the second mineral. This is obviously insufficient given today's knowledge. According to chaos and complexity theory and nonlinear dynamics, small modifications in chemical structure vary the outcome in large ways. The Natrum remedies can be compared through evidence from provings and materiae medicae. A modern homeopath can verify this with computer resources. However, the popular synthetic remedy pictures are artificially built, "based mostly on his perception of his cases rather than a study of the provings." (66)

This is a serious breach of homeopathic method. Homeopaths do not predict a symptom like a soothsayer; they do not imagine a symptom like a poet; they do not create a symptom like a magician, and then confirm it in a sick person. "If we were only to administer medicines to invalids, prescribing them one by one in a simple state, little or nothing would be seen of their pure effects, because the symptoms of the natural disease then existing mingling with those which the medicinal agents are capable of producing, the latter can rarely be distinguished with any clearness or precision." (67) The sick person's symptoms may change because the disease runs its course, because he would have gotten better anyway, because of placebo effect, because he wanted to get better, because a proximal cause like bad food was removed, because he wanted to please the doctor. There is no excuse to teach this totally repudiated short cut. Clinical observations can only be validated after they are compared to the known and verified manifold provings.

## Conclusion

The periodic table is a two-dimensional, flat, linear, columns-and-rows representation of real substances in nature that do not order themselves in a geometric fashion. An artificial geometry is used to impose an artificial order on the limitlessness of nature's diversity. The periodic table is the map of nothing but an imaginary kingdom. It is not real, not earthlike. The wondrous diversity of natural mineral substances is reduced to only the ghost of electron atomic orbits.

The structure of an element so ordered by the periodic table does not predict what it will do in a sick person. Instead of real provings, imagined themes occupy assigned locations like a marching formation of soldiers all in step. The manifold provings law, which has withstood the test of two hundred years, has been discarded. An intellectual scheme from chemistry added to symbolic fantasies replaces a proven method. The use of the periodic table in homeopathy is an unproven assumption. It is a

construct that does not fit.

## Acknowledgements

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