

TITLE: REVIEW ARTICLE ON SCIENTIFIC PERSPECTIVE BEHIND HOMOEOPATHIC DRUG DYNAMIZATION

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ABSTRACT: Dynamization is a process of developing the inherent or latent remedial powers of crud drug to an incredible degree, which is unique to homoeopathy. Hahnemann defines dynamization as the mechanical action upon the smallest particles by means of rubbing and shaking and through the addition of an indifferent substance, dry or fluid are separated from eachother' There are many questions against the drug dynamization. Here I'm try to explaining scientifically the drug dynamization through nanotechnology principle. These unique properties of nanoparticles would help to resolve the question that was raised against the homoeopathy.



KEY WORDS: Potentization, Dynamization, Nanoparticles, Homoeopathic Medicine, Nano pharmacology, Exclusion zone, Homoeopathic Drug, Homoeopathic pharmacology, Homoeopathic scientificresearch.

INTRODUCTION:

Dr. Samuel Hahnemann introduced the concept of dynamization in the 5th edition of Organon (Aphorism 269). In his book Materia Medica Pura, he described how homeopathic medicine enhances the medicinal powers of crude substances through a unique process, making them highly effective and therapeutic, even when these substances show no medicinal effects in their crude form. This explanation of dynamization was provided in 1826 and reiterated in 1827. Prior to this, starting in 1796, Hahnemann had prescribed homeopathic medicines in their crude form, which led to unwanted aggravations in patients. This experience prompted him to explore the concept of dilutions.

Hahnemann began experimenting with the curative effects of homeopathic medicines in very small doses. By 1812, he had used Arnica in the 18th dilution and Nux Vomica in the 9th dilution. His findings revealed that substances previously considered inert, such as common salt, charcoal, lycopodium, and silicea, became effective medicines when triturated with sugar ofmilk. These observations led him to refer to his method as "dynamizations" rather than mere dilutions. While dilution removed toxic effects, Hahnemann observed that it also diminished the healing benefits. Hence, the theory of drug dynamization became crucial in homeopathic practice. (1)

The primary reason why contemporary scientific medicine dismisses homeopathy is due to its theory of dynamisation. Even within the homeopathic community, this concept faced skepticism when it was first introduced in the Organon. Initially, a segment of homeopaths rejected the theory of dynamisation, but over time, they came to accept it after observing its effectiveness compared to more traditional medicines. It's well-known that highly diluted homeopathic remedies do not contain measurable amounts of the original medicinal substance.



In fact, beyondthe 11th centesimal potency, it's unlikely that even a single molecule of the original substance remains. Nonetheless, homeopaths globally hold the belief that these highly dynamised forms of medicine exhibit superior therapeutic effects. However, understanding how these dynamised remedies function on a material level remains challenging.

Throughout history, homeopaths such as Dr. O. Lesser, Dr. Boyd, and Dr. C.E. Wheeler have attempted to provide scientific explanations for the efficacy of these dynamic medicines. Some practitioners theorize that natural energy can be stored in various states, including solid, liquid, gaseous, and even radioactive. They propose that homeopathic remedies store energy in aradioactive form. However, this hypothesis falls short, as even highly diluted medicines have not the criteria for radioactive energy storage. Current physics does not adequately explain the mechanism of action of homeopathic remedies in comparison to known radioactive phenomena.

Dr. Boyd conducted experiments with dynamised medicines using an instrument called the "emanometer," which detects electromagnetic energy and measures its intensity in different substances. His findings suggested that various dynamised homeopathic remedies exhibit distinctelectromagnetic properties at different potencies. However, research in this area is still in its early stages. In his book Homeopathy Explained, Dr. J.H. Clarke references Charles Darwin's experiments with dilutions, particularly with the fly-catching plant Drosera (sundew). Darwin discovered that even extremely diluted solutions of certain ammonium salts could stimulate the plant's tentacle glands, causing them to bend inward. Darwin was reportedly so astonished by these results that he hesitated to publish them, as they contradicted the prevailing scientificviews. However, from a homeopathic perspective, these findings are seen as evidence of the dynamic effect of diluted solutions.

To unlock the latent healing power within a substance, or to achieve its potentisation, Dr. Samuel Hahnemann drew inspiration from the experiments of Benjamin Thompson, also known as Count Rumford (1753–1814), who was the pioneer behind the mechanical heat



theory. Rumford's work focused on the conversion of mechanical work into heat, proposing that heat results from the movement of the smallest particles. Through experiments where two metallic plates were rapidly rubbed together in a confined space, Rumford observed a rise in temperature, indicating that friction could generate heat.

Hahnemann extrapolated from this that metals possess hidden reserves of heat energy in a latent, undeveloped form. He noted that when metals, which may feel cold to the touch, are rubbed together, this latent heat becomes apparent. This physical observation led Hahnemann to support his theory of dynamisation—the idea that through processes like trituration or succussion, the latent energy within substances could be released and transformed, enhancing their medicinal potential.⁽²⁾

According to Dr. Stuart Close, "Homeopathic potentization" is a precise process for reducing crude, inert, or toxic substances to a state where they are physically soluble, physiologically assimilable, therapeutically active, and harmless as homeopathic remedies. (3)

Homeopathy can be considered a form of nanomedicine. Potentization is a significant, though controversial, discovery by Hahnemann. The debate arises because high-potency medications involve dilution factors far exceeding Avogadro's number, suggesting that no measurable residues of the initial components should be present. The nature and bioactivity of these serially diluted and succussed solutions in homeopathy remain subjects of ongoing research.

Research on Homeopathic Drug Dynamization and Nanotechnology

1. Nanoparticle-Exclusion Zone (EZ) Shell Model

The Nanoparticle-EZ Shell Model aims to understand how the memory of a source drug is retained through serial succussed dilutions. The model proposes that during initial dilutions, nanoparticles adsorb the source drug, altering their structure. These modified nanoparticles and their surrounding EZ shells retain information about the source drug. Subsequent dilutions and succussions spread this information to new nanoparticles. This



model suggests that even highly diluted solutions contain information about the source drug, potentially explaining the nature and efficacy of homeopathic remedies. It also aligns with the concept of hormesis, where moderate stress induces adaptive responses.

2. Molecular Mechanism of Potentized Homeopathic Drugs

This experimental study tested the "gene regulatory hypothesis" to explain the mechanism of action of ultra-highly diluted remedies. Research using animal models, bacteria, and yeast, along with modern cytogenetic and molecular biology techniques, revealed that ultra-highly diluted homeopathic remedies could induce beneficial effects, such as repairing radiation-induced DNA damage and modulating gene expression. In contrast, succussed alcohol (placebo) showed no such effects. The study supports the idea that potentized remedies may trigger favorable regulatory changes in gene expression through epigenetic modifications.

3. Presence of Silicon-Rich Crystal Nanoparticles in Homeopathic Medicine

Research investigated the nanoscience mechanisms of homeopathic medicines, specifically pulsatilla, colchicum, and belladona. Using scanning and transmission electron microscopy, it was found that homeopathic medicines contain nanoparticles. High silicon content was observed in samples prepared in glass vials with agitation, compared to those prepared in plastic vials or without agitation. This suggests that during potentization, nanoparticles may acquire information from the starting material and act as carriers of this information.

4. Nanoparticle-Allostatic Cross-Adaption-Sensitization (NPCAS) Model:

The NPCAS model explains homeopathic remedy action through four principles:

- Homeopathic remedies are highly reactive nanoparticles, not bulk drugs.
- Remedy nanoparticles stimulate a complex adaptive response in the organism, acting as novel stressors.



- The adaptive plasticity involves nonlinear physiological phenomena such as hormesis, cross- adaptation, and sensitization.
- Remedy nanoparticles ultimately enhance systemic resilience, allowing the organism to better withstand subsequent challenges.
- This model supports the view that homeopathy is scientifically plausible and grounded in empirical research. Homeopathic remedies, operating as nanostructures, suggest that physiology, rather than pharmacology, is key to understanding their actions. (5)

CONCLUSION:

Conclusive evidence that homeopathic dilutions contain nanoparticles. These findings could pave the way for new research in nanoscience and homeopathy, potentially leading to advancements in both fields. Clinical trials should be adapted to assess the efficacy of homeopathic and hormetic medicines, reinforcing their place in medicine and science. Unlike synthetic nanomedicines, homeopathic nanomedicines appear to carry drug-specific information in an amplified form to the organism, reflecting a holistic approach.

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