



COMMENTARY

ON THE PLAUSIBILITY OF HOMEOPATHIC ‘SIMILITUDE’

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ABSTRACT

The homeopathic principle of similitude is not based on the principle of vaccination but on the more general principle of inversion of effects, a widespread medical phenomenon. Based on the systemic networks which play an important role in response to stress, this principle concerns the reorganization of regulation systems, through a coherent response to the medicine. This model is backed by a large number of published studies from our laboratory and others, by toxicological evidence such as the emerging fields of ‘hormesis’, of neuropharmacology, and of systems biology. The immune system is just one example of the possible application of this law of similitude, which constitutes the true ‘heart’ of the homeopathic idea, and again ethically justifies the attempt to apply it to experimental pharmacology.

I read the article,¹ which draws a negative balance between the potentially beneficial features of homeopathy and its potentially negative features. My own research experience in this field prompts me to disagree with many of the author’s assertions concerning the lack of evidence for homeopathy: much evidence is accumulating in the current literature, though there are still some problems with the study methodologies and interpretation of results. Here I address one specific point concerning the scientific plausibility and rationality of the fundamental tenet of homeopathy, which is similitude. Certainly, if the validity of this fundamental idea were to be disproved, the entire theoretical framework of homeopathy would collapse, thereby justifying the accusation of unethical reliance on a therapeutic method devoid of a rational basis. The author, in particular, criticises the analogy between vaccination and homeopathy, and in this connection cites a paper by my group² where,

according to him, we claim that ‘homeopathic effects may be mediated by the immune system.’ This assertion does not do justice to the content of the article, where the vaccination is not even mentioned, and ignores its central point, which relates to the plausibility of homeopathy, as we clearly demonstrate therein. We describe the general principle of inversion of effects, a widespread medical phenomenon, through three possible mechanisms: non-linearity of dose–response relationship, different initial pathophysiological states of the organism, and pharmacodynamics of body response to the medicine. Based on the systemic networks which play an important role in response to stress, a unitary and general model is designed: homeopathic medicines could interact with sensitive (primed) regulation systems through complex information, which simulates the disorders of natural disease. Reorganization of regulation systems, through a coherent response to the medicine, could pave the way to the healing of the cellular, tissue and neuro-immuno-endocrine homeodynamics. Preliminary evidence is suggesting that even ultra-low doses and high-dilutions of drugs may incorporate structural or frequency information and interact with chaotic dynamics and physical

¹ K. Smith. Against Homeopathy – a Utilitarian Perspective. *Bioethics* 2011; doi: 10.1111/j.1467-8519.2010.01876.x.

² P. Bellavite et al. Immunology and Homeopathy. 5. The Rationale of the ‘Simile’. *Evid Based Complement Alternat Med* 2007; 4: 149–163.

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electromagnetic levels of regulation. This model is backed by a large number of published studies from our laboratory and others, by toxicological evidence such as the emerging fields of hormesis (beneficial effects of low doses of toxic substances),³ of neuropharmacology,⁴ and of systems biology.⁵ The immune system is just one example of the possible application of this law of similitude, which constitutes the true 'heart' of the homeopathic idea, and again ethically justifies the attempt to apply it to experimental pharmacology. A final point concerns the analogy between the practice of vaccination and homeopathy. Though this is a somewhat technical question, it is worth clarifying because it is precisely on technical grounds that the author's accusation of non-ethicalness is founded. The author disputed the analogy between vaccination and homeopathy claiming that vaccination is only preventive, whereas homeopathy is only curative. This criticism is not true because the 'therapeutic vaccination' is actually a novel approach to immunotherapeutics, as in the case of cancer,⁶

virus⁷ and autoimmune diseases,⁸ to mention only the most representative fields. In conclusion, our work and that of many other researchers suggests that homeopathy is not only plausible, but constitutes one of the frontiers of medical science, and more specifically of complexity science, biophysics, and nanopharmacology.⁹ For these reasons the tenet according to which 'homeopathy is based on principles that are incompatible with well established science' cannot be accepted and investigation of homeopathic treatments appears to be warranted and ethically justifiable.

Paolo Bellavite (b. 1952) is a Medical Doctor, haematologist, and professor of General Pathology at Verona University Medical School. He completed post-doctoral degrees in Biotechnology and in Biomedical Statistics. He is working on leukocyte biology, neuropharmacology and integrative medicine, with special focus on the scientific bases of homeopathy. His papers up to 119 are cited in the PubMed database. He is a member of GIRI (International Study group on Very Low Dose Effect), FIAMO, SIOMI, and the Association 'Medicine and the Person'.

³ P. Bellavite, S. Chirumbolo & M. Marzotto. Hormesis and its Relationship with Homeopathy. *Hum Exp Toxicol* 2010; 16: 11–18.

⁴ P. Magnani et al. Dose-effect Study of Gelsemium Sempervirens in High Dilutions on Anxiety-related Responses in Mice. *Psychopharmacology* 2010; 210: 533–545.

⁵ P. Bellavite. Complexity Science and Homeopathy. A Synthetic Overview. *Homeopathy* 2003; 92: 203–212.

⁶ X. Chen, C.H. Chang & D.M. Goldenberg. Novel Strategies for Improved Cancer Vaccines. *Expert Rev Vaccines* 2009; 8: 567–576.

⁷ A. Bertolotti & A. Gehring. Therapeutic Vaccination and Novel Strategies to Treat Chronic HBV Infection. *Expert Rev Gastroenterol Hepatol* 2009; 3: 561–569.

⁸ L. Delavallee et al. Emerging Applications of Anticytokine Vaccines. *Expert Rev Vaccines* 2008; 7: 1507–1517.

⁹ P. Bellavite & A. Signorini. (2002) *The Emerging Science of Homeopathy: Complexity, Biodynamics, and Nanopharmacology*. Berkeley, CA: North Atlantic Books.