## **ORIGINAL PAPER**

## Homeopathy – between tradition and modern science: remedies as carriers of *significance*

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The healing potential and description of homeopathic remedies, as determined in homeopathic pathogenic trials (HPTs) and verified by medical experience, are often found to be meaningfully connected with the symbolic content attributed to the original materials (tinctures, metals etc) through tradition or modern semantics. Such a connection is incompatible with a biomolecular mechanistic explanation of the healing action of remedies. The physiological effects of crude substances are often similar to the symptoms of illnesses cured by the corresponding homeopathic remedy. This is considered a manifestation of the *similia* principle. Evidence is brought here that in several cases the inverse situation occurs, with the healing properties of the crude substance and those of its homeopathic preparation partially coinciding, the remedy usually having broader healing properties.

The existence of these two possibilities in the relationship of medicinal actions of remedy and the crude substance, offers evidence in favor of a direct involvement of the level of significances in the mechanism underlying the homeopathic phenomenon. Finally, an experimental methodology is proposed, which may bring the result of double-blind randomized studies for homeopathic remedies closer to the reported performance of homeopathy in real life medical practice. If successful, this method would be a further indication of a non-local, significance-related interpretation of homeopathy. *Homeopathy* (2013) 102, 114-122.

**Keywords:** Homeopathy; Meaning; Significance; Entanglement; Causality; Synchronicity

## Introduction

In the recent literature there is a debate about the existence, in homeopathic therapeutics, of a non-local component similar to quantum-mechanical non-locality. H. Walach<sup>1</sup> and L.R. Milgrom<sup>2</sup> propose an analogy between the non-local correlations experimentally determined among subatomic particles, which are entangled (in the technical sense that this term is used in quantum mechanics) and a conjectured 'entanglement' among patient, practitioner and remedy during the homeopathic therapy. Reasons proposed for the introduction of this metaphor are:

- (i) Difficulties met so far, despite long-lasting efforts, in the experimental identification of the 'imprints' left in the solvent after the molecules of the initial substance are removed during the potentization procedure.
- (ii) Difficulties in the formulation of a biomolecular mechanistic explanation of the healing action of remedies at high potentization.
- (iii) Difficulties in the search for reproducible experimental systems showing a biological effect (healing or other) of high potency remedies on cell cultures or plants.
- (iv) The relatively small differences found so far between remedy and placebo groups in meta-analyses of clinical trials assessing homeopathic treatment in doubleblind, randomized studies.

As discussed by H. Walach and co-workers,<sup>1,3</sup> a general pattern may be discerned when examining the corpus of experimental evidence. Quoting from reference 1: *"Taken together, the (experimental) data base poses a double* 

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Received 18 July 2012; revised 29 October 2012; accepted 29 January 2013

challenge to an open-minded observer: It shows too many irregularities which cannot easily be dismissed as chance results. Deviations and effect sizes are too large. Some type of anomaly seems to be clearly present, but the irregularities are too spooky. They are not persistent enough in order to be taken as local, stable or causal effects".

Another paradox is the obvious divergence between the recorded relatively poor results of clinical trials in favor of homeopathy (especially when double-blind) and the high rates of successful treatment and satisfaction of the patients during the application of homeopathy in medical practice. Walach suggests that all these apparent contradictions may be expressions of the non-local nature of the homeopathic healing process, because quantum non-local correlations are bound not to bear information, as a consequence of contradictions arising in the framework of relativity theory.<sup>4</sup>

According to this view, due to the need of 'information' to be conveyed by means of a specific carrier with finite speed, a healing process under the action of non-local factors is expected to have an inherent opposition to reproducibility, which is the principal factor tested in modern double-blind randomized clinical trials. The same author has suggested some lines of experimentation which could avoid the pitfall of the search of strict reproducibility<sup>1</sup>: "... introducing a deliberate element of uncertainty, e.g. by the usage of formula remedies in which one never can be sure which was the curative agent". Also focusing<sup>1</sup>: "... more on open, randomized comparative trials which compare real-life homeopathy to other clinical approaches. In open trials one could always argue that the homeopathic remedies were not at stake, but the whole therapeutic approach".

In the final section of this paper, I return to this matter, proposing a methodology aiming to relax reproducibility of experiments and clinical trials in homeopathy.

L.R. Milgrom<sup>5,6</sup> has discussed the possibility that homeopathy depends on both local bio-molecular phenomena and a non-local component. This view fits well with the present situation of research in homeopathy, because existing evidence, both theoretical and experimental, points towards a multitude of microscopic phenomena, most of which are related to the amazing properties of water as solvent (see the special issue of *Homeopathy* dedicated to the "*memory of water*"<sup>7</sup>). Such phenomena, most of them ultimately related to quantum-mechanical properties, may form a bridge between local (bio-molecular) and nonlocal, non-causal aspects of homeopathy, at least at the 'remedy' level.

A detailed description of quantum-mechanical aspects of 'patient-practitioner-remedy' non-local interactions (entanglement) is formulated by Milgrom<sup>8-10</sup> who describes by state functions the three components of the entanglement. However, these state functions are not related to quantifiable physical observables as in orthodox quantum theory. They are related to more qualitative observables, such as signs and symptoms of a disease.<sup>8</sup> It remains an open problem if this description, especially for human being (patient, practitioner) can be brought closer to a quantum description of organismal components. We can mention here the suggestion of the mathematical physicist R. Penrose<sup>11</sup> that consciousness may be an emergent property of the brain involving quantum entanglement properties of the microtubular component of nerve cells.

The phenomenon of quantum entanglement is related to quantum non-locality and to some phenomena of microphysics initially viewed as paradoxical. This line of research was started by a famous article of Einstein, Podolsky and Rosen where the authors attempted to show that quantum mechanics is intrinsically incomplete (the EPR paradox). Later, J.S. Bell formulated what was subsequently named 'Bell inequalities', which could allow the verification or refutation, on an experimental basis, of the existence of non-local correlations between particles generated under certain very specific conditions (entangled particles).

The experiment led by A. Aspect and co-workers and its more recent variations verify that nature, at least at the microscopic level, exhibits spontaneous non-local correlations between remote particles, as long as these particles remain entangled. In the related articles of Aspect<sup>12,13</sup> further references may be found. In an early essay addressed to the non-specialist, N.D. Mermin<sup>14</sup> has presented the essentials for understanding this conceptually intriguing research subject.

In the cited references by Walach and Milgrom a connection between quantum non-locality and specific features of homeopathy is attempted and aspects of quantum theory about non-locality are summarized, and an extended review of the relevant literature is also provided. In Atmanspacher *et al.*<sup>15</sup> a general theoretical framework is exposed, which allows the extension of the concepts of non-locality and entanglement outside the limits of microcophysics. This is done by formulating a modified quantum mechanics, named 'weak quantum mechanics', where only some of the axioms of the standard theory are retained (see also Lucadou *et al.*<sup>16</sup>).

By means of this theory, it is suggested that non-locality may be extended at the macroscopic level, through theorems analogue to the Heisenberg uncertainty principle, on the basis of the existence of non-commutable operations. These ideas represent a promising field, open to further exploration, for the understanding of how homeopathy works.

The present study focuses on the examination of two aspects of homeopathy which, as I will attempt to show, both directly involve *meaning*. Evidence presented in the next two sections is compatible with a non-local (and consequently not exclusively based on biomolecular mechanisms) view for homeopathy. H. Walach<sup>1</sup> formulated a meaning-related description of homeopathy, combining the non-local interpretation of homeopathy with the concept of *synchronicity*, published in 1955 by the founder of analytical psychology C.G. Jung and the eminent physicist W. Pauli in a joint publication.<sup>17</sup> There, synchronicity is characterized as an "*acausal connecting principle*".

Synchronicity, in its original form, deals with the strange simultaneous occurrence of events which are meaningfully inter-related but lacking any causal connection. More Download English Version:

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