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REFLECTIONS ON HOMEOPATHIC PRINCIPLES AND EXPERIMENTS

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ABSTRACT

Homeopathy is based on experimental facts; however it is criticized by science. Reflections are presented on principles according to which we may interpret homeopathic data, and on experiments that confirm statements on homeopathy.

This paper is dedicated to the memory of my venerated Master of homeopathy, Prof. Antonio Negro (1908-2010)

1. INTRODUCTION

The terms “zero molecule to macromolecules” of the title of the *2nd World Congress on Homeopathy and Traditional Medicine*, held in Bangkok, 2-3 November 2019, clearly refer to the type of chemical consistency of the homeopathic remedies; in fact, in such particular type of medicine the effects of zero molecules relapse on the behaviour of complex systems such as living organisms, and thus on the macromolecule behaviour underlying the behaviour of such complex systems.

Among non conventional medicines¹, homeopathy and traditional medicine are noteworthy

systems. In particular, homeopathy is characterized by being based on experimental facts (that is, provings on healthy persons), as well as by being drastically criticized by current science.

I will present here some reflections both on principles, according to which we may interpret ascertained data coming from homeopathy, and on already known experiments, that confirm general statements on homeopathy.

2. PRINCIPLES

I will consider some general principles according to which several phenomena belonging to homeopathy may be ordered.

2.1. Unicism versus pluralism

In the homeopathic realm, dialectic is present between unicism and pluralism. Undoubtedly, unicism correctly takes into account the *simillimum* (= the most similar, not only the *similis* = the similar), that is the total set of symptoms, characteristic of the remedy to be chosen in each pathological situation of each single individual: this set of symptoms should cover at the *highest*² degree the set of symptoms of the sick person. Each one of such sets of symptoms has to be experimentally determined through a proving on healthy persons, and one should avoid ascribing to homeopathic remedies effects not ascertained by proving (1).

However, the method of choice of the remedy in each case requires a very deep knowledge of *Materia Medica Pura*, from where *simillima* (found from provings) can be learnt.

Moreover, provings were carried out on *single* substances (hence *unicism*), not on compounds of

¹ For example, at *Les entretiens Monaco “Les medicines non conventionnelles. Unconventional therapy”*, 6-7 December 1996, there were treated the following disciplines: homeopathy, acupuncture, phytotherapy, music-therapy, chiropractic, psychotherapy, electro-magnetism, microkinesitherapy.

² However, this has to be intended not quantitatively (the highest number of symptoms), but qualitatively (the more “hot” symptoms, characteristic of both the sick person and the remedy).

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several substances (of which we do not have experimental *simillima*) (2³).

Thus, only from a practical point of view⁴ compounds of homeopathic drugs, based on the only clinical experience, may also have their use, even if prepared through an uncorrect procedure.

2.2. Single sick person versus single sickness of persons

There is a great difference between the approach of homeopathy (according to the individualization principle) and that of conventional medicine (according to its categories of sickness). Such attention to the single person, rather than to the single sickness, has two consequences.

First, the real *simillimum* of the single, unique person in the particular condition considered has to be searched, regardless of the sickness category in which conventional medicine should classify such sick person.

Second, it is not possible to correctly compare, in a clinical experiment, the effects, on a singly considered sickness, of one given conventional drug administered to a first group of persons suffering by such sickness, with the effects of a single homeopathic drug administered to a similar group of persons: in fact, each person of the second group might require a different *simillimum*.

2.3. Fixed versus changing

At least since the ancient Greek philosophers Parmenides, the prophet of changelessness, and Heraclitus, teaching that all things are in a continuous flux, the tension between the two opposite views of fixed or changing fundamental reality continues to permeate several fields both of natural sciences and of human sciences.

Conversely, in Hahnemann's thought such two views are not opposed, but perfectly integrated. These two views are found in his writings respectively on chronic diseases and non-miasmatic diseases.

About chronic diseases, he wrote that they are primitive, deeply-rooted, underlying external symptoms, old, universal, always recurring, internal, and do not disappear even when external symptoms of acute diseases have disappeared, while the whole symptoms of the chronic diseases must be extensively taken into account (3).

About non-miasmatic diseases, he wrote that the set of symptoms of a single case, which is always different for each individual case, can neither be foreseen, nor schematized, nor taken as a model, nor treated by an *a priori* chosen remedy or with *a priori* rules different from the strict application of the similarity law (4).

Obviously, both fixed chronic diseases and changing non-miasmatic diseases are considered by him parts of the same essential human reality.

In agreement with this Hahnemann's integrated view, we may also have an integrated view of the person if one considers both the four (fixed) constitutions (see H. Bernard; M. Martiny; N. Pende, and A. Negro) or the four temperaments (see N. Glas), on one side, together with the four (changing) constitutional stages (see H. Bernard), on the other side.

We may note that the four constitutions are regarded in different ways by different quoted scholars. For Bernard, the constitutions are linked to elements. For Martiny, the hallmark is given by the embryological framework. For Pende, followed by Negro, one has to take into account morpho-functional properties of the person. Finally, for Glas, temperaments can be related to the ancient elements hearth, water, air, fire.

2.4. Elements in the Periodic Table versus mineral homeopathic remedies

In the *Organon*, Hahnemann compares the difference among the features of the various plants or minerals with the difference among the effects

³ The title *Organon of the Rational Art of Healing* of the 1st edition of 1810 was changed from the 2nd to the 6th edition.

⁴ For example, in particular circumstances, such as the auto-cure of young people in a camping.

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(including the pathogenetic and curative effects) of the plants or minerals themselves:

«As certainly each species of plants is different from every other one with regard to external appearance, way of life and growth, taste and smell, and as certainly each mineral, each salt is different from the others with regard to external, internal, physical and chemical qualities [...], so certainly all these vegetal and mineral substances have pathogenetic – and thus also curative – effects different among themselves. Each of those substances acts in its own way, a different and well defined way which removes every confusion, and determines alterations of the state of health and of the coenesthesia of human being.» (5)

Such comparison made by Hahnemann may be taken into account as the basis for considering the specific qualities of some elements, as ordered in the Periodic Table, in relation to the specific qualities of mineral homoeopathic remedies.

Let us now consider in particular C, P, S, Cl at the right side of the Periodic Table, and Ca, Mg, K, Na at the left side of the Table.

C, P, S, Cl are elements linked, according to Bernard, to the four constitutions (carbonic, phosphoric, sulphuric, muriatic).

Ca, Mg, K, Na are elements linked to the first four stages one person may undergo during a disease. All the stages, according to Bernard, are: Calcium, Magnesium, Potassium (Kali), Sodium (Natrium), then followed by Baryta, Ammonium, Acid.

By considering both the constitutions and the stages, according to Bernard, we have:

- Calcarea carbonica, Magnesia carbonica, Kali carbonicum, Natrium carbonicum,
- Calcarea phosphorica, Magnesia phosphorica, Kali phosphoricum, Natrium phosphoricum,
- Calcarea sulfurica, Magnesia sulfurica, Kali sulfuricum, Natrium sulfuricum,
- Calcarea muriatica, Magnesia muriatica, Kali muriaticum, Natrium muriaticum.

We know that, according to the so called octet rule, an atom is stable if it has 8 electrons (2 for He) in the external layer, like the noble gases. For the

above considered elements, we will have the following situations. For the elements linked to constitutions, C can either give or receive 4 electrons, P, S, and Cl can receive from 3 to 1 electrons. In contrast, for the elements linked to stages, Ca, Mg, K, and Na can give from 1 to 2 electrons⁵.

Let us remember again that, according to Bernard, the constitutions are linked to elements. Also Negro accepted to link elements and constitutions; he did so on the basis of experimental evidence obtained both from the *Materia Medica Pura* and from clinical experience.

We may carry on further reflections.

First, constitutions, clinically determined, are not directly related to atomical features of the elements, nor to their physical and chemical properties, but to the pictures of the global effects caused by elements on a complex system such as a healthy human being (= the *simillima*); that is, constitutions are linked to elements in a mediated way, through the above pictures. Such pictures have been obtained experimentally during provings.

Second, the differences among the four constitutions (as well as their closeness to a common morph functional core) can be traced back respectively to the differences among the four chemical elements C, P, S and Cl (as well as to the closeness of such elements on the Periodic Table); however, even this is possible not through a one-step pathway, from constitutions to elements, but through a two-step pathway, from constitutions to the picture of elements' effects in human beings, and then to elements.

In summary, both those two points mean that, between a constitution and the corresponding element, there lies the above picture, experimentally determined.

⁵ That is, one goes from Ca with 2 electrons in the orbit 4s and 0 in 3d, to Mg with 2 electrons in 3s, to K with 1 electron in 4s and 0 in 3d, to Na with 1 electron in 3s.

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3. EXPERIMENTS

A great amount of experiments have been devised on homeopathy.

Let me briefly remind in particular two experimental researches where I worked personally.

First, the research that, having been stimulated by the lectures of Prof. A. Negro, I devised and carried out with A. Cotugno on the effects of high diluted drugs on the prevention and control (respectively administering the drugs before or after the teratogenic agent) of mice teratogenicity (which implies anatomical, biochemical, and behavioural manifestations, and, at higher doses, the death and resorption of fetuses) induced by some purine derivatives (caffeine and adenine); the highly diluted drugs, being administered to animals, were chosen according to the homeopathic criterion or the isopathic one; their effects were depending on the type and degree of dilution of each used drug (6, 7).

And second, the non-sacrifice research directed by Prof. N. Sukul and carried out by his group (A. De, R. Dutta-Nag, B. Nandi, S.P. Sinhababu, A. Sukul) and other scientists, and then also with myself, on potentiated *Nux vomica* countering alcohol-induced loss of righting reflex in albino mice and toads (8, 9, 10, 11).

3.1. Some arguments against homeopathy

In spite of more than two centuries of effectiveness of homeopathic medicine, which in addition, if correctly used, does not present the dangerous side effects of conventional medicine, homeopathic medicine is criticized by science with several argumentations.

3.1.1. Placebo effect

A first type of criticism to homeopathy may be summarized as follows: homeopathic medicine in itself does not have any effect.

However, the great amount of experiments on the positive effects of homeopathic drugs, obtained when they are applied to animals, plants, and *in vitro*, and collected in many papers and books

(for example, 12, 13⁶), obviously demonstrate that the effects observed after the administration of homeopathic drugs are not merely a placebo effect, but real effects. Note that my above-mentioned research with A. Cotugno (again 6, 7) was devised just to test again the placebo hypothesis, which was obviously excluded by the effects of high diluted drugs on the prevention and control of teratogenicity induced in mice.

Rather, instead of the placebo interpretation, the effects of high dilution have been explained in the framework of hormesis, according to which low concentration of a toxic substance may have stimulatory effects on an organism, or, generally speaking, a substance is stimulating at small quantities, harmful at higher quantities, and toxic at highest quantity (14, 15).

In the case of low concentration of the drug, the response of an organism as a function of time shows an initial negative trend (to which corresponds the initial worsening, after the administration of a homeopathic drug), followed by a positive rebound trend (to which corresponds the final healing phase). When the concentration is too high, the initial phase is very deep and the rebound does not take place (16).

Moreover, the second phase, that of positive rebound, is quite close in time to the first negative phase. Accordingly, the goal of homeopathic medicine is, for Hahnemann, not only to obtain the healing, but to obtain a "rapid" healing (always by a correctly chosen *simillimum*) (17, 18).

3.1.2. Beyond Avogadro's number

Another type of criticism to homeopathy is more radical, based on a well accepted science principle linked to Avogadro's number⁷, and may be

⁶ This book consists in the proceedings of an International School on Biophysics held in 1995; at such meeting Prof. N.C. Sukul and his group presented four papers.

⁷ The Avogadro's number (6×10^{23}) indicates the number of molecules of 1 mole of any substance.

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summarized as follows: homeopathy cannot absolutely have effects.

However, the mechanism of action of homeopathic drugs has been discussed. We may refer to the seminal book of N.C. Sukul and A. Sukul (19). For instance, there have been considered some peculiar modalities of the effects of homeopathic drugs, such as laterality of symptoms, and time modalities of symptoms (20), as well as the possible mechanisms of their interaction with biomolecules (again 20).

This opens to the field of the so called structural memory of water (21). The possibility of formation of clathrates (22) (in which a guest molecule, *e.g.* of a drug, is included in a lattice of host molecules, *e.g.* those of a water solution interacting by H-bonds) has been hypothesized; by forceful mechanical impulses (due to the succussions needed for preparing each homeopathic high dilution) the guest molecules should separate from their host molecules; then new clathrates should form; the process may be repeated at each step of the preparation of a final high dilution, which, according to Anagnostatos, should still contain clathrates (23, 24). In this view, a homeopathic drug may be regarded as a stereospecific structured water (again 20). Luc Montagnier⁸ and coworkers found that some sequences of DNA may induce electromagnetic signals of low frequency in highly diluted water solutions, which maintain the memory of the characteristics of DNA (25). By experimentally investigating on high dilutions, the effect of a homeopathic drug diluted far beyond Avogadro's

Thus, at the 12th dilution 1:100 of 1 mole of a drug (that is, at its dilution 10^{24}), the solution will no more contain drug molecules. If the initial amount of the drug is less than 1 mole, the above critical dilution is less than the 12th and, for a fixed initial amount of drug (*e.g.*, 1 gram), it depends (in the inverse proportion) to the molecular weight of the drug.

⁸ He received the Nobel Prize in 2008 for the discovery (in 1983) of the Hiv virus causing Aids; very recently he received the Prigogine Medal.

number was transferred through capillary water, which acted as an information vector (26).

The most exciting results arise from investigation on physical features of potentized drugs at high dilutions: changes in molecular structure (H-bonding, and H-bonding strength) of a potentized drug compared to its ethanol and water diluent or to other potentized drugs were revealed by various types of spectroscopic analysis (27, 28), among which NMR, IR, FTIR, electronic, fluorescence, and UV spectra (for example, 29, 30, 31, 32, 33, 34, 35). However, further experiments may be needed (36), performed also with Terahertz (THz) spectroscopy (for example, 37) and with other different experimental conditions (38).

In any case, the goal of science is always to increase the knowledge of natural facts and their interpretation. When some new found natural facts do not fit to old interpretations, science has to endeavour to devise new interpretations (39), not to dogmatically ban the new facts (if correctly ascertained) as *a priori* impossible. This should be the case also for homeopathy, and thus we should deserve all enterprises of individuals and institutions working for this goal of science in homeopathy.

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