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HOMEOPATHY: A FRONTIER IN MEDICAL SCIENCE
EXPERIMENTAL STUDIES AND THEORETICAL FOUNDATIONS

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TEXT without figures

Chapter 8 and conclusions

8. PROSPECTS

The experiments, results, theories and speculation reported in this book do not lend themselves to easy conclusions. On the other hand, all due caution is warranted in science when it comes to drawing conclusions. The aim of the authors may be regarded as achieved if what they have written has shed light on a series of new insights and aroused interest in the subject.

The practice of homeopathy is spreading and, slowly but surely, the theoretical and experimental basis on which this practice must necessarily rest is gaining ground. Given the present state of our knowledge, it is no longer possible to dismiss the issue of homeopathy as if were some kind of awkward fossil of medical science. A vast body of experimental evidence, as problematical and controversial as that of any other new field of research, bears witness with increasing consistency to the substantial convergence emerging between the traditional principles of homeopathy and new insights in the fields of immunology, biology and physics.

Modern science is becoming increasingly oriented towards tackling various aspects of the complexity of nature, and medicine cannot escape this tendency. Molecular analysis and systems integration must go hand in hand if we are to avoid the risk of slipping into reductionism as an end in itself. Homeopathy, on the strength of a centuries-old empirical tradition while, at the same time, representing a frontier field of research, will certainly have a future in this context. This therapeutic method, in fact, *appears made to measure for tackling the complexity of disease*, in that it originated and has subsequently developed for the precise purpose of achieving a reasoned selection of remedies in the virtual absence of any kind of certainty as to the "intimate nature" of diseases.

As we have extensively explained, despite its "holistic" vocation, homeopathy cannot be indicated for all diseases, because in those cases where the cause and mechanism of the disease itself are well known and clear, "exact" science can demonstrate which are, or may be, the appropriate remedies (in many cases the theoretically effective remedies are known but are not applicable). In many other pathophysiological situations, however, in those cases where the cause and mechanism lie in the complex dynamic interplay of many factors, which in themselves are not pathological, but are a source of disease on account of their harmful interactions, homeopathy may prove a highly effective instrument. In point of fact, its few theoretical

principles, its strong measure of realism, and its very substantial body of experience (albeit with all the methodological shortcomings outlined above) have enabled homeopathy to survive on the borders of scientific medicine and to present itself anew today as a valid counterpart.

From what has been said, however, there emerges a need for the utmost caution. Classic homeopathy is simple in its traditional principles, but difficult in its applications, particularly owing to the great variety of diseases and human beings. To claim that all the issues raised by homeopathy have been clarified would be an unobjective and, above all, a hazardous conclusion if applied indiscriminately in the practical clinical sphere. It is one thing to talk about theories, hypotheses and the results of experimental models, and quite another to transfer these to human subjects.

The practical application of homeopathy, as it is often practised at the level of medicine of the masses, has little to do with what we have been talking about in this treatise. There is a tendency to transform homeopathy into a kind of *universal remedy* for all cases in which conventional medicine fails, or to consider homeopathy as a *useful placebo*, because it helps to restore the doctor-patient relationship. The former tendency is misleading and wrong-headed, while the latter is limiting, but there are sound reasons, both of a commercial and socio-cultural nature, for fostering and pursuing both. If homeopathy were to remain confined to these two positions, it would betray its origins and its basic aims.

The so-called "alternative" forms of medicine contain an appreciable dose of methodological uncertainty and for this reason can easily be used beyond the bounds of any kind of scientific logic. In the ocean of present-day ignorance as to the causes and therapies of many diseases, it is all too easy to find any number of empirical and intuitive approaches which no-one can readily demonstrate as being either beneficial or harmful. What emerges from the present study suggests that homeopathy can be addressed on a rational, objective and experimental basis and that it is now possible - much more so today than it once was - to use the knowledge and methodologies of conventional medicine and modern biomedical research also to investigate this controversial discipline.

In this field, scientific research may have a basic role to play in distinguishing between certainties and hypotheses, between what is plausible and what has been demonstrated, in objectivating and measuring as much as possible, in rationalizing concepts, in establishing limits of applicability, in refining materials and methodologies, and in controlling the quality of experimental trials and products.

The main lines of research from which we can expect future development of the scientific theories outlined herein are the following:

a) *Research into the physicochemical properties of water* and of water-alcohol solutions. In particular, it would be important to consolidate the NMR evidence (and that provided by other physical spectroscopic methods such as ultraviolet, infra-red and Raman-laser spectroscopy) so as to be able to have methods capable of detecting any possible changes produced in the solvent by dilution and dynamization. In the first place, this would provide methods for the objective "analysis" of information transfer and for studying its stability, mechanisms and variations in a scientific manner.

b) *Design and development of experimental models* of cells, isolated organs and animals for studying the possible biological effects of homeopathic remedies (at the various dilutions) in a rigorous, reproducible and standardizable manner. The standardization of the reagent preparation procedures and the repetition of the results obtained to date in different laboratories should be one of the primary objectives to be achieved in the near future.

c) *Pharmacological and biochemical studies of the active ingredients* used in homeopathy, for the purposes of identifying the possible targets in the patient's body at molecular, cellular, or some other level. Quite apart from the issue of high dilutions, it would be important in itself to work right through from the empirical identification of the remedies (as per the homeopathic tradition) to a definition of the mechanism of action on a pathophysiological and pharmacological basis.

d) *Controlled clinical trials*, which constitute a decisive aspect also of homeopathic research. Gearing methodologies to the particular demands of the homeopathic method makes it possible to draw reliable conclusions as to the efficacy of a remedy or series of remedies in the treatment of a disease or series of diseases. Needless to say, from controlled clinical trials we should not expect a definitive "confirmation" or "condemnation" of homeopathy as such, but only an extensive series of results of varying degrees of reliability and positive or negative outcomes, as in all fields of modern medicine. From these results, obtained patiently and methodically by various research teams, we can expect a better definition of the field of applicability of homeopathy, a more rational choice of remedies and dosages, and a clearer knowledge of any interference or synergisms between the homeopathic method and conventional medicine.

e) *Classic homeopathic experimentation*. The edifice of homeopathy, according to its classic tenets, can never be regarded as complete. New substances, both natural and synthetic, can be continually introduced into the homeopathic pharmacopoeia, after being tested in healthy subjects (proving) and in patients (clinical confirmation). The materia medicas and repertories can and must be updated, emended with the removal of any errors, and made easier to consult and use. In view of the vast amount of material accumulated over the years by the homeopathic tradition, there can be no doubt that in this process of implementation and revision a fundamental contribution will be made by the increasingly widespread use of internationally linked and coordinated computer systems.

As can be seen, many different disciplines can contribute to the study of the principles of homeopathy and to the definition of the experiments to be conducted to test their validity. In this book we have reviewed many of the lines of research already embarked upon or so far only sketchily developed. Of course, we have not been able to clarify various issues in detail, particularly in the field of biophysics, which is beyond the sphere of competence of the authors. This book, then, should be viewed mainly as a contribution made to these issues by General Pathology, a discipline by its very nature oriented towards forms of synthesis and integration rather than towards the analysis of individual details. The existence, in this field, of some form of overall, synthetic thinking, which at the same time is critical and rigorous, may help to direct the efforts of investigators in a coherent and productive manner for medicine in the future, which will be neither official nor alternative, but only medicine, if possible increasingly geared to meeting the challenges of new diseases.

The fields of research open to investigators are therefore multiple and extremely broad-ranging. The various health authorities should realize this and promote suitable research projects on these topics, with greater conviction and commitment than has been the case to date. If research in this field is worthwhile, it necessarily follows that adequate resources must urgently be devoted to it.

It would also be desirable if, without forgoing a proper measure of caution and graduality in their interventions, academic circles would abandon the scepticism which has so far characterized their attitude towards homeopathy and which sometimes expresses itself as out and out hostility. If this subject were in some way included in the university syllabus, two important objectives would be achieved: first and foremost, newly graduated doctors would be better informed as to the possible indications or contraindications of homeopathic remedies, which the patients often take as self-medication. It is undeniable that a knowledge of homeopathy would also be useful for doctors who do not intend to use it in their specific sector. Moreover, young researchers would have an incentive to undertake studies in this field, which, as things stand in the universities today, may seem useless or even counterproductive for the purposes of a university career. One of the mechanisms which favor research, in fact, is the evaluation of scientific qualifications and curricula in applications for university posts or promotion. If homeopathy "does not exist" in the university, research will hardly be developed in this setting, or at least not to a degree comparable with that of other disciplines.

The implications of research in homeopathy are very far-reaching. From a general point of view, our very understanding of biological and physiological reality could be greatly extended by it. The phenomenon of the effects of microdoses prepared according to homeopathic procedures may also have spin-off applications in botany, veterinary science and in the study of ecosystems. In medicine, the specific, rationalized use of small doses (or high dilutions) of specific substances for stimulating or restoring the balance of endogenous defense and repair systems of the human body may complement, increase and even in some cases replace the present technological approach. It would appear increasingly necessary for the problems posed by modern diseases to receive high level technological and scientific responses, but also responses based on a new awareness of the complex relationship between the human being and the environment and on a rational use of resources.

A homeopathic theory which also aims to become a scientific theory in the modern sense of the term, without relinquishing its basic principles, should incorporate in the body of its teaching the issues pertaining to the new frontiers which we have attempted to present and discuss in this review. In view of the multiplicity of factors involved in such an updating process - conduct of research studies and their results, forms of socio-economic conditioning, evolution of scientific paradigms - it is by no means easy to foresee at what a rate and to what extent this may come about. It seems clear, however, that a more fruitful dialogue between homeopathy and modern biomedical science will be to the advantage not of one side or the other, but of medicine itself, whose only true mission is and always has been "*to restore the sick to health, to cure, as it is termed*" (*Organon*, paragraph 1).