

IS THERE A BRIDGE BETWEEN HOMEOPATHY AND CONVENTIONAL MEDICINE?

by Professor Paul Turner
Department of Clinical Pharmacology
St. Bartholomew's Hospital, London, EC1A 7BE
The Fourth Blackie Memorial Lecture
given at The Symposium on Research
organised by The Blackie Foundation Trust
held at the Royal College of General Practitioners
14 Princes Gate, London, SW7
on 15th November, 1988.

I would first thank the Trustees of The Blackie Foundation Trust for the honour of inviting me to give this fourth memorial lecture in memory of Dr. Margery Blackie. Reading texts of the earlier lectures, one has been left in no doubt that Margery Blackie was a very special person, a woman of conviction both in her clinical practice and in her personal religious faith. I wish I had known her personally.

I am particularly conscious of my responsibility in this lecture, for I am the first to be invited to deliver it who is not a homeopathic practitioner. My background is that of an academic clinician with particular interest in clinical pharmacology, the study of the action of drugs in man, both in health and disease. Although trained entirely in conventional medicine, using conventional doses, my responsibilities as editor of a leading clinical scientific journal brought me face-to-face with the problems of evaluation of homeopathic preparations, and I was compelled, therefore, to look more closely at homeopathic practice and its basis. This has inevitably led to a consideration of the relationship between homeopathy and conventional medicine. There is a long history of jealousy and suspicion between orthodox, conventionally trained clinicians and other practitioners. This, of course, ante-dates the appearance of homeopathy in England, and the following quotation, written in 1824, illustrates some of the professional and social hierarchical factors which were operative then as now:

“It must be owned, indeed, that it is not a little mortifying to a practitioner, educated in the best medical schools, to see himself cast off for the advice of an empiric, especially as this rejection is not confined to the soldier or the ploughman, but happens even in the palace...”⁽¹⁾

Many conventional clinicians and medical scientists believe on scientific grounds that homeopathic practice and theory have no place in modern medicine, and that there is no common basis for discussion between the two. We must, therefore, examine this position before proceeding further.

Fundamentals of homeopathy

There are three fundamental principles on which homeopathy is based:

1. Similia similibus curantur; “like cures like”;
2. Individualisation of treatment;
3. Increasing efficacy with increasing dilution.

1. **Similia similibus curantur**

The idea that a substance may harm or cure at different doses is ancient. In the 5th century before Christ, Hippocrates is quoted as saying “The strangury which is not, cures the strangury which is”, probably referring to the use of small doses of cantharides to treat cystitis. Paracelsus, one of the fathers of therapeutics who, in the 16th century, recommended mercury for syphilis and introduced several new chemical remedies including sulphur, iron and copper sulphate, claimed that in small doses, “what makes a man ill also cures him”.

Today’s pharmacological theory can undoubtedly accommodate this principle, at least in certain specific areas. One of my earliest attempts at research in clinical pharmacology involved determining the intravenous dose of atropine required to block maximally parasympathetic tone on the heart in human volunteers ⁽²⁾. This involved measuring their heart rates at rest and after graded exercise. Although conventional doses only produced an increase in heart rate, we found, as others had before us, that smaller doses produced an initial fall in heart rate before a rise, and even smaller doses produced only a decrease, and no increase in rate. There are several mechanisms which may account for such a differential effect.

(a) Dose or concentration of drug

In the case of atropine, the differential effect is clearly dose related. Small doses appear to produce an agonist, or stimulatory action, at the cholinergic receptor, while larger doses produce an antagonist or receptor blocking action. It is of interest that a similar effect can be demonstrated with most, if not all, drugs that possess atropine-like effects including, for example, the so-called tricyclic antidepressant drugs such as amitriptyline.

Nicotine shows a similar dose-related action, stimulating cells in autonomic ganglia at low concentrations, but blocking them at higher concentrations.

(b) Functional state of the receptor

Pure agonist or pure antagonist drugs respectively stimulate or block their receptors. Partial agonist drugs, however, stimulate or block their receptors according to their functional state. If the receptor is active, then the drug acts as an antagonist, but conversely, if it is inactive, the drug acts as an agonist. For example, the morphine antagonist nalorphine blocks the opiate receptor stimulated by morphine, but in the absence of morphine, and at the same dose, stimulates the receptor and mimics the action of morphine. Ergot derivatives such as ergotamine have the same differential action as alpha-adrenoceptors, depending on their functional state, and this may be the basis, at least in part, for their therapeutic action in migraine.

(c) Actions at different receptors

Drugs may have different, or even opposite effects, because of actions at different receptors at different concentrations or doses. The antihypertensive drug clonidine, for example, reduces blood pressure at low doses by stimulation of alpha-2-adrenoceptors, but can produce an increase in blood pressure at higher doses, probably by stimulation of alpha-1-adrenoceptors ⁽³⁾.

(d) Paradoxical effects

There are several well documented examples of drugs producing rare but paradoxical effects, opposite to those intended and expected. For example, benzodiazepine drugs such as

diazepam which are often effective in the management of aggressive conditions, can rarely induce, in similar doses, an aggressive state, and a similar phenomenon has been documented with the beta-blocking drug propranolol in the same situation ⁽⁴⁾.

(e) Miscellaneous examples

There are many examples of drugs producing unwanted effects upon the organ or system they were intended to treat, when used in inappropriate doses or for prolonged periods. Digitalis glycosides, for example, may precipitate the arrhythmias they are used to treat, and many more. Some cytotoxic drugs, used to treat malignant conditions, are themselves genotoxic and can initiate malignancy. It is important to stress, however, that this is not a universal principle, nor are the mechanisms involved identical.

It is evident, therefore, that the concept that under certain conditions some drugs may have different effects at different doses is not contrary to conventional medical pharmacological science, but is, in fact, consistent with its experience.

2. Individualisation of treatment

Alternative practitioners, including homeopaths, sometimes suggest that they take more trouble than conventional clinicians to tailor the treatment of a patient to his or her individual needs and that this is reflected in the longer history that is taken by them. This has been linked with the idea that these alternative practitioners in some way practise a more “holistic” form of medicine than do the conventional. It is not our place to discuss that question in detail here, although many academic clinical teachers would dispute it. Certainly in my own field of clinical pharmacology, great emphasis is placed in teaching upon individualisation of drug treatment, both in terms of choice of drug and its formulation, and in its doses and duration of treatment. Genetic, somatic and environmental factors all have to be considered in the decision-making process.

Perhaps it is not out of place, however, to suggest that the apparent tendency of modern medicine to “lump” together rather than “split” patients may have evolved, at least in part, because of the development of clinical trial design for the evaluation of new drugs. Although it is possible, in trials of some drugs in some conditions, to use a patient as his own control, this is impossible for many others. For example, in treatment of infectious illness or of cancer, it is necessary to compare treatments in different patients, and this of necessity requires a strict definition of the criteria to be fulfilled by the patients for entry to the study. Inevitably, therefore, diagnostic labels are attached to patients, depending on the clinical and laboratory features they have in common. Once the effectiveness of a drug has been demonstrated in a patient, it is not unreasonable that a doctor should seek to identify, and perhaps label a patient as belonging to that group and treat him accordingly. Nevertheless, the emphasis placed by the homeopathic physician on the importance of the individual doctor/patient relationship, and the uniqueness of each therapeutic decision is well taken and is, in fact, implicit in general clinical teaching and practice, even if not always clearly seen.

3. Increasing efficacy with increasing dilution

The third part of the “Law of Similars” claims that “The cure, shown by the objective disappearance of the morbid symptoms, can be obtained by the prescription of very small or infinitesimal, doses of the substance that experimentally produces the same symptoms in the healthy individual as those of the ill patient”⁽⁵⁾.

This is the principle of homeopathy at which conventional medical science must, at present, part company, for there is no way in which this concept can be accommodated within it, despite all attempts to provide explanations, for example, in terms of changes in the molecular structure of water. It was on this that Lord Lister wrote so trenchantly – “It may be freely conceded that the homeopathic practice of infinitesimal doses conveyed a useful lesson to the Medical Profession by forcibly directing the attention of practitioners to the great truth that Nature is the great curer of diseases, so that a large proportion of patients will recover without any medicine whatever. For to give an infinitesimally small dose of a thing is really to give nothing at all;... but though the system of infinitesimal doses thus did good indirectly, it was in itself essentially absurd”⁽⁶⁾ and this is still the considered opinion of most clinicians and scientists today.

Surprisingly little is known about the pharmacology of drugs and substances present in low concentrations, although as we have already seen, the possibility that they act in different ways from higher concentrations cannot be excluded. As we shall have to discuss more later, a major problem with research in very low dilutions is quality control of the solutions and preparations used, because of the analytical difficulties inherent in low concentrations. Nevertheless, with the increasing sophistication and sensitivity of newer analytical methodology, the quality of progressively low concentrations can be better assured, and a programme of pharmacological studies should therefore be carried out to repeat earlier unconfirmed work⁽⁷⁾ and to extend our knowledge in this area.

It is not so much the very low concentrations which arouse such scepticism, or even incredulous hostility, but the claim that progressive dilutions which cannot contain any active agent whatsoever, possess therapeutic activity.

Although there have been attempts to submit some of these preparations to conventional scientific examination over the years, the published experimental and analytical details are generally insufficient to lead to a firm conclusion on their validity. During the past decade, however, several trials have been reported in which attempts have been made to control variables which have led to earlier problems in data interpretation, and these have produced differing results.

Recent clinical trials

A pilot study comparing the relative values of homeopathic treatment with salicylate therapy in rheumatoid arthritis⁽⁸⁾ was open to considerable criticism about its design and execution, but a second study⁽⁹⁾ which sought to correct these faults showed a significant improvement in subjective and objective assessment of joint function in patients receiving conventional first-line treatment plus homeopathic remedies, but no change in patients receiving similar first-line treatment plus a control preparation. On the other hand, when the homeopathic medicine Rhus toxicodendron⁽¹⁰⁻⁶⁾ was compared with placebo and with the anti-inflammatory drug fenoprofen in a double-blind double-dummy, cross-over trial in patients with osteoarthritis⁽¹⁰⁾, it was found to be no more effective than placebo, while fenoprofen gave highly significant improvement.

We have recently completed a double-blind cross-over trial of Rhus toxicodendron⁽¹⁰⁻¹²⁾ in a group of patients with fibrositis, selected, on symptomatic grounds, as likely to respond to this treatment⁽¹¹⁾. Patient response was rated, not by a homeopathic or conventional clinician, but by the rheumatology department clinical metrologist experienced in assessment

and measurement of joint function. Under the rigorous conditions of our experimental design, highly statistically significant, although clinically modest, improvements in subjective and objective parameters were found on active treatment compared with placebo.

Turning from chronic musculo-skeletal disorders, a randomised, double-blind placebo-controlled trial comparing a homeopathic preparation ⁽¹⁰⁻⁶⁰⁾ of mixed grass pollens with placebo in 144 patients with active hay fever showed clinically modest but statistically significant reduction in symptom scores assessed by both patient and doctor ⁽¹²⁾. In an editorial for the journal **Human Toxicology**, commenting on this paper, I concluded that “if the integrity of the authors is accepted then either the highly diluted (30c) homeopathic preparation was significantly better than placebo, or there is some other explanation for the results ... Most of the between-groups analyses produced P values of around the 2-5% levels of significance, and it would be helpful to know how many other comparative studies of this preparation have been carried out, how many comparisons were made within them, and the results. Experience with clinical journals over many years has taught me that papers reporting positive results tend to be written and published more readily than inconclusive or negative results” ⁽¹³⁾. This problem of data selection in research, as well as in publication, is one to which we must return when considering the recent controversy about the papers by Davenas et al in **Nature**.

Animal and isolated tissue models

It is difficult to see how progress can be made towards a better understanding of the nature of the homeopathic phenomenon without animal or cellular models for its investigation. Attempts have been made to develop such models over the years, with varying degrees of success, and claims and counterclaims have been made for them. The earlier studies are generally insufficiently documented to permit repetition or interpretation.

In 1982, Fisher ⁽¹⁴⁾ claimed to have demonstrated in lead-intoxicated rats that homeopathic diluted lead ⁽¹⁰⁻⁴⁰⁰⁾ provoked a highly significant urinary excretion of lead, of the same order as that produced by the chelating agent penicillamine in conventional doses. However, Fisher recognised that there were certain deficiencies in the design and execution of that study, and so we have more recently repeated it under rigorously controlled experimental conditions ⁽¹⁵⁾. The results showed that while the chelating agents 2, 3 dimerceptosuccinic acid (DMPS) produced a marked increase in urinary lead excretion, the homeopathic preparation of lead, at several dilutions, did not differ from distilled water, used as a control. However, in a similar study published at the same time, Cazin et al ⁽¹⁶⁾ found that decimal and centesimal dilutions of arsenic were active in mobilising and increasing the excretion of arsenic in the rat. Examination of their data suggest that an apparent periodicity in efficacy with increasing dilution is present, similar to that demonstrated by Davenas et al ⁽¹⁷⁾ in the **Nature** paper to which we must return, and the question must be asked, therefore, as to whether a similar fault in the experimental or methodological design ⁽¹⁸⁾ may account for their findings, at least in part.

Controversy has been heightened recently by the publication of several papers in which isolated cellular models have been used to study homeopathic preparations. The most important have come from the Inserm Unit 200, Université Paris-Sud, France. They first claimed ⁽¹⁹⁾ that very high oral homeopathic dilutions of silica produced highly significant effects upon isolated mouse peritoneal macrophages, increasing their production of paf-acether, a well-recognised marker of macrophage stimulation. This has been followed by the more recent paper published in **Nature** ⁽¹⁷⁾, in which degranulation of human basophils was

claimed to be triggered by antiserum against IgE, in dilutions ranging from 1×10^2 to 1×10^{120} . A striking periodicity of activity was demonstrated in the published figures. Although its publication in such a prestigious journal, albeit with a sceptical editorial comment, caused great excitement, what followed has taken on the form of melodrama, in which neither side, unfortunately, has emerged with credit.

Homeopathic practitioners who should have known better immediately claimed vindication for their claims, dancing like Rumpelstiltskin, at the premature anticipation of total victory. Opponents in the conventional camp simply reaffirmed their disbelief on theoretical grounds. More constructive sceptics began to raise important questions of a fundamental nature on the experimental details, some of which were not sufficiently described in the original paper. Perhaps the most astonishing intervention was by a team of three investigators, including the editor of **Nature** and a magician, who visited the Inserm laboratory and claimed to find serious flaws in experimental procedure which cast doubts on the validity of the data. These flaws included arbitrary data selection and omission, as well as problems of definition of the cell population being studied, and raise the question as to how efficient had been the original refereeing process of the papers before acceptance for publication.

The inclusion of a magician in the visiting team has been the subject of hilarity on the one hand and criticism and resentment on another, but I have some degree of sympathy with it. Let us picture a scenario. A man in the street tells me he has seen Terry Wogan levitating three feet above the ground outside Oxford Circus station. I dismiss the story immediately and think no more about it. On the other hand, you tell me that you have seen it, and that Wogan is still levitating. I must, of course, now take it seriously, but having seen such a demonstration at a Paul Daniels show, I would ask a professional magician to join me to exclude, or explain, the phenomenon for which I can imagine no other explanation. You may say that the two phenomena, efficacy of homeopathic dilutions and levitation, are quite unrelated and that the analogy is false. I would not agree, for the claims of the **Nature** paper are as inexplicable and unacceptable in terms of modern science as would be those of levitation, even though many homeopathic practitioners seem unaware of this and do not appear to understand what all the fuss is about.

The problems

For many people, the conflict between modern scientific theory and homeopathy is such that they cannot accept that any degree of open-mindedness in research on homeopathy is possible. For those of us who wish to collaborate in such research, however, there are still great problems which have to be addressed. Even when rigorous technical standards in experimental design and execution are assured, a major problem remains, namely the quality control of the high dilutions used. Pharmacopoeial standards for conventional medicines involve analytical testing of drugs and preparations in their final form as dispensed to the patient. Such standards are, by their very nature, impossible to apply to homeopathic medicines, and most of the homeopathic pharmacopoeias that I have seen have until very recently, relied on process standards, with analytical control limited to some, but not all, of the starting materials. No good standards of mother tinctures of biological products appear to have existed, and it is therefore difficult, perhaps impossible, to envisage tight control on the final product after high homeopathic dilutions of the kind described, for example, in the studies on Rhus toxicodendron or mixed grass pollens. If it is claimed that the actual dilution used is important, then trials of such dilutions in different patients in different research centres would be very difficult to organise, because of the problem of assurance of standardisation of the final product used. I was, however, pleased to see the 6th Supplement

to the French Pharmacopoeia, to become operative in 1989, in which all mother tinctures appear to be controlled by a description, characters, and identification tests, and for some there are chromatographic tests for detailed qualitative identification of some constituents. Quantitative control seems, however, to be generally still lacking.

We have already discussed the importance in homeopathic practice of individualisation of treatment to a particular patient. This has been seen as a stumbling block to clinical trials of homeopathic medicines using the type of trial design developed for conventional medicines in which large groups of patients are used, all of whom fulfil certain clearly defined diagnostic criteria. The trials of homeopathic medicines which we have briefly reviewed have attempted to overcome this problem, some by using patients as their own control and comparing two or more treatments within the same individual, others by studying a condition such as hay fever which is relatively easy to define and in which there should be little, if any, disagreement about treatment. The problem still exists, however, for that broad category of patient caught by the vague diagnosis of “undifferentiated illness”⁽²⁰⁾, who occupies much of the time of the alternative or complementary therapists. The design of trials to assess objectively the true value of various forms of treatment in such patients is a major challenge to collaboration between conventional and other therapists.

Perhaps the greatest problem, however, is not technical or methodological, but philosophical. Research can only be carried out, with integrity, by investigators who are prepared to accept the consequences of the observations they make. Conventional practitioners, therefore, who believe that homeopathic dilutions cannot, under any circumstances, possess unique therapeutic properties, should not take part in clinical trials upon them not only on intellectual grounds, but also because they would be exposing their patients to treatment which they believed could not help them, and this would be quite unethical. Similarly, it is undesirable that homeopathic practitioners who are already totally committed to its principles, albeit in the absence of scientific proof, should take part in such studies, for they are unlikely to be prepared to accept a negative result, with all its implications. All too often, unfortunately, research is carried out with the express intention of proving an already held belief. The true purpose of research is to extend our understanding of reality by making observations upon it which are as free from bias as possible. This requires humility, integrity and openness of mind on the part of the investigators, a willingness to accept the implications of the observation made and to modify their understanding of reality accordingly. Unfortunately there are few in either conventional or homeopathic camps with sufficient openness of mind.

Lord Lister, whose views on homeopathic dilutions we have already noted, was an absolute sceptic in this matter. “That intelligent and worthy men can practise on such a system is only intelligible from the extremely complicated nature of the human machine and its disorders, and the very imperfect stock of practical knowledge with which medical men are sometimes equipped when they leave the schools and start in practice”⁽⁶⁾. The disastrous consequences of such an entrenched attitude were displayed by Lister in another context when, as President of The Royal Society, he had become so obsessed with the problems of bacterial contamination that he attributed the cause of scurvy to ptomaine poisoning. As a result, Scott took sterilised rather than vitamin-rich anti-scorbutic foods to the South Pole in 1911⁽²⁰⁾ with the tragic results of which we are all aware.

A healthy scepticism, or agnosticism, is needed; a net whose mesh is wide enough to admit new concepts based on new, or old, observations, but not so credulous that the false and bogus readily become accepted as reality. Perhaps my own attitude is a reaction away from

an extreme fundamentalist upbringing. As a medical student I became interested in extrasensory perception (ESP) and its related phenomena, and indeed carried out some laboratory-based research upon it. From both spontaneous and experimental observations, I have no doubt of the reality of such phenomena, and am aware, therefore, of the existence of forces not explained by contemporary science. Having demonstrated its existence to myself, however, I was at a loss to know how to proceed further to elucidate its nature for my contemporary scientific training provided me with no equipment for measuring or exploring this unknown system; and this is how I now feel about homeopathy.

What next?

The events of the past few months have set back the improvement in the relationship which had been developing in recent years between some conventional and some alternative practitioners as a result, for example, of the Colloquia ⁽²⁰⁾ held at The Royal Society of Medicine with the encouragement of HRH Prince of Wales. Inevitably some of the published reports, to which we have already referred, which appeared to demonstrate significant effects of homeopathic preparations on *in vitro* systems, will have to be re-evaluated in the light of the criticisms made on the paper by Davenas et al ⁽¹⁷⁾. However, some of the clinical trials which we have discussed have shown statistically significant results under rigorously controlled conditions, and in the absence of fraud this must, I admit, be considered sufficient evidence to require further collaborative studies to be carried out.

There is a danger, however, of premature elaboration of pseudoscientific or philosophical theories to account for the relatively sparse trustworthy data at present available. It does the homeopathic cause no good to “beat the drum” of Hahnemann philosophy to explain what, at the moment, does not amount to very much. Perhaps I could suggest, as an analogy, the situation of a man blind from birth being introduced by touch to the trunk of an elephant. With such a limited experience it would be foolish for him to attempt at that stage to hazard a guess at elephantine size and shape. They are meaningless to him, until he is able to explore the rest of its anatomy. In the same way, I believe, we are only just beginning to explore the true nature of homeopathy. What is the extent of its phenomena? In what conditions is it really effective, and in what dilutions? What are its limitations? Is it limited to “undifferentiated illness”, to chronic low grade troublesome conditions, to low grade immunological disorders? Are there valid, trustworthy animal or isolated tissue or cellular models which respond consistently to homeopathic preparations? What patient factors, genetic, somatic, environmental, psychological, influence patient response? Are there particular properties which characterise successful homeopathic practitioners?

In other words, we need to define the shape and size of homeopathy in confirmable observational terms, generating data to which statistical methods, which are surely applicable to all physical reality, conventional and otherwise, can be applied. Only then can we expect to be able to put forward credible hypotheses to explain its mechanisms.

Homeopathic physicians have sometimes said to me, after the publication of a clinical trial claiming to demonstrate the effectiveness of a homeopathic preparation, “Why is it not accepted at its face value? It would be if it was a conventional medicine”. Bishop Richard Holloway recently wrote of religious experience, “The burden of proof will always be with those who are making the unusual claim” ⁽²¹⁾, and this is just as it should be in any area of experience. Isolated clinical trial reports do not necessarily reveal truth, as an examination of clinical scientific literature will amply confirm. The burden of proof is with the homeopathic community, but there are some, regrettably not many, among conventional clinicians, who

will collaborate with them to continue to define the shape and size of the homeopathic phenomenon.

Is there a bridge between homeopathy and conventional medicine? This questions suggests that the two are quite separate in their nature and origin, but is that really so? It might be better, more constructive, that we rather ask, "Is there a tunnel between them?" If homeopathy truly exists, then it is, like ESP, a part of physical reality, whether or not conventional science recognises this. Homeopathy and conventional medicine are, therefore, to be seen as expressions of that reality which is the basis, the foundation, of both. It is by experimentally tunnelling down together into that reality, moving towards each other through that reality, that we will eventually understand the true nature of disorders that we all seek to treat, and the mechanisms of action of our various forms of therapy.

References

1. Gray, S.F.: Pharmacology. Underwood, London, 1824.
2. Chamberlain, D.A., Turner, P., Sneddon, J.M.: Effects of atrophine on heart-rate in healthy man. *Lancet*, 1967; 2: 12-15.
3. Frisk-Holmberg, M., Paalzow, L., Wibell, L.: Relationship between the cardiovascular effects and steady-state kinetics of clonidine in hypertension. *Eur. J. Clin. Pharmacol.* 1984; 26: 309-313.
4. Turner, P.: Clinical pharmacology in criminal cases: discussion paper. *J. Roy. Soc. Med.* 1987; 80: 438-440.
5. Jouanny, J.: The essential of homeopathic therapeutics. Laboratories Boiron, Lyons, 1980.
6. Turner, P.: Clinical trials of homeopathic remedies. *Br. J. Clin. Pharmac.* 1980; 9: 443-444.
7. Coulter, H.L.: Homeopathic science and modern medicine. North Atlantic Books, California. 1980.
8. Gibson, R.G., Gibson, S.L.M., MacNeill, A.D., Gray, G.H., Dick, W.C., Buchanan, W.W.: Salicylates and homeopathy in rheumatoid arthritis: preliminary observations. *Br. J. Clin. Pharmac.* 1978; 6: 391-395.
9. Gibson, R.G., Gibson, S.L.M., MacNeill, A.D., Buchanan, W.W.: Homeopathic therapy in rheumatoid arthritis: evaluation by a double blind clinical trial. *Br. J. Clin. Pharmac.* 1980; 9: 453-459.
10. Shipley, M., Berry, H., Broster, G., Jenkins, M., Clover, A.L., Williams, I.: Controlled trial of homeopathic treatment of arthritis. *Lancet*, 1983; 1: 98-98.
11. Fisher, P., Greenwood, A., Huskisson, E.C., Turner, P., Belong, P.: Homeopathic treatment of fibrositis. Submitted for publication.
12. Reilly, D., Taylor, M., McShany, C., Aitchison, T.: Is homeopathy a placebo response? Controlled trial of homeopathic potency, with pollen in hayfever as model. *Lancet*, 1986; 2: 881-885.
13. Turner, P.: Homeopathic medicines and antidotes; some controlled investigations. *Human Toxicol.* 1987; 6: 267-268.
14. Fisher, P.: The treatment of lead intoxication in rats by plumbum metallicum and penicilliamine. *Proc. 35th Congress Lig. Homeopath. Internat.* 1982; pp 320-332.
15. Fisher, P., House, I., Belon, P., Turner, P.: The influence of homeopathic remedy plumbum metallicum on the excretion kinetics of lead in rates. *Human Tox.* 1987; 6: 321-324.
16. Cazin, J.C., Cazin, M., Gaborit, J.L., Chaoui, A., Boiron, J., Belon, P., Cherruault, Y., Papapanayotou, C.: A Study of the effect of decimal and centesimal dilutions

- of arsenic on the retention and mobilisation of arsenic in the rat. *Human Tox.* 1987; 6: 315-320.
17. Davenas, E., Beauvais, F., Amara, J., et al: Human basophil degranulation triggered by very dilute antiserum against IgE. *Nature*, 1988; 334: 285-286.
 18. Lasters, I., Bardiaux, M.: Explanation of Benveniste. *Nature*, 1988; 334: 385-386.
 19. Davenbas, E., Poitevin, B., Benveniste, J.: Effect on mouse peritoneal macrophages of orally administered very high dilutions of silica. *Eur. J. Pharmacol.* 1987; 135: 313-319.
 20. Watt, J. (Ed): *Talking Health*. Royal Society of Medicine, London, 1988.
 21. Holloway, R.: *Crossfire*. Collins, London, 1988, p.36.