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

TEXT without figures

3. IS HOMEOPATHY EFFECTIVE?

There still exists a great deal of skepticism in the field of conventional medicine as to the real efficacy of homeopathy, which is largely judged to be a kind of placebo treatment, or as a form of treatment which is, in any event, harmless. This skepticism is not entirely unjustified, inasmuch as it is due, on the one hand, to a lack of information about the problem, as already mentioned above in the Introduction, and, on the other, to an “epistemological” difficulty regarding the philosophical outlook and methodological approach apparently emerging from the mechanistic and reductive way of reasoning upon which medical thinking has been based for centuries (see Chapter 4, Section 5).

We have no intention here of claiming that there is not a placebo effect in homeopathy. This phenomenon is well known even with conventional treatments and is one of the main problems in research in the field of clinical pharmacology. In the particular homeopathic methodology, where the physician pays the utmost attention to the symptoms the patient complains of and to the patient's personal and family medical history, where a very profound relationship is set up between patient and doctor, and where numerous socio-cultural factors come into play (renewed interest in the health of the mind-body, concern for ecology, fear of drug toxicity, lack of confidence in the health system, and similar factors), the efficacy of therapy is obviously strongly influenced by subjective elements. There are, however, many signs that the placebo effect is not the only possible explanation for the action of homeopathic drugs. These signs are illustrated here below, according to two distinct lines of approach, one based on empirical evidence (Chapter 3, Section 1) and the other on clinical studies conducted in groups of patients (Chapter 3, Section 2).

3.1. Empirical evidence

An initial type of evidence of the efficacy of homeopathy is based on a series of data and experiences figuring in the tradition and reported in the homeopathic literature, which are not presented in the form of controlled clinical trials, but which may, all the same, be regarded as worthy of serious reflection and discussion. As emphasized elsewhere, the homeopathic tradition, though being the result essentially of an experimental approach, later came to devote little effort to conducting serious, well-documented clinical research. Much of the literature (materia medicas and repertories) was compiled by particularly gifted homeopathic physicians, who compared the fruits of their many years of experience with the previous tradition and updated the growing store of homeopathic knowledge and remedies. These procedures owe

their existence mainly to Hahnemann's early followers, and clearly one could not expect people in those days to adopt methodologies which were to become part and parcel of the heritage of medicine only many decades later. It is by no means an easy matter even to gain access today to the bibliographical sources so as to check on the type of documentation gathered in the construction of the vast homeopathic pharmacopoeia. Various authoritative modern homeopaths have embarked upon an updating of the homeopathic pharmacopoeia by *re-proving* many of the remedies it contains [Fuller Royal, 1991; Walach, 1993], using more modern methods.

In any event, we must refute the commonplace conviction that there is no extant documentation at all on these old homeopathic pharmacopoeias. As has been clearly shown by historical studies [Aulas and Chefdeville, 1984], at least 20 works by Hahnemann have been published, many of which in various editions updated on the basis of new experience, as well as dozens of articles and books by other experimenters who were either his coworkers or his contemporaries. The building of the edifice of homeopathy consisted in the progressive sedimentation, layer upon layer, of a vast number of contributions in the course of the nineteenth and early twentieth centuries, which, every so often, needed to be condensed by the founders of the various schools, such as Hering, Allen, Clarke, Jahr, Kent, and Vannier.

An innumerable series of articles, mostly reporting on the *provings* of new remedies or the effects of particular remedies in individual cases, were published in journals such as *Allgemeine Homöopathische Zeitung*, *Hygea*, *Biologische Medizin*, *Homotoxin Journal*, *Homöopathische Vierteljahrschrift*, *Proceedings of the American Institute of Homeopathy*, *American Homeopathic Review*, *Homeopathy*, *British Homeopathic Journal*, *Journal de la Société Gallicane de Médecine Homéopathique*, *Annales Homéopathiques Françaises*, *Homéopathie Française*, *Cahiers de Biothérapie*, and many others with a more local readership.

Though not in themselves conclusive proof, two elements bearing witness to the essential soundness of the homeopathic approach are its longevity and its widespread use throughout the world. From a reading of various works on the subject it can be inferred, at least as regards the more commonly adopted remedies, that the *materia medicas* have undergone a “filtering” process on the basis of such a wealth of experience over so many years that any gross errors of indication or prescription would have been eliminated. It is hard to believe that certain remedies have continued throughout two centuries to be independently reported as being effective for certain disease situations by different schools of homeopathy in different continents. It is hard to imagine that even today fully qualified and practicing doctors with a modern university background, who are often specialists and are certainly not unaware of the existence of a placebo effect [Zala, 1994], would still continue to use a number of such remedies for certain diseases, unless they personally had found them to have a positive effect on their patients.

The use of placebo is also a current practice in homeopathy [Vithoukas, 1980]. It is administered in the form of droplets or granules containing the diluent not treated with the active ingredient, in all those cases in which one seeks, after the first few visits, to highlight the changes (or presumed changes) in symptoms related to the patient's emotional susceptibility or to the effect of the relationship with the doctor himself. After a certain period of “treatment” with placebo, the patient is administered the remedy chosen on the basis of homeopathic principles and his or her reactions are observed. If the effects of drug and placebo were equivalent, on the basis of these procedures any homeopathic physician with a little experience should realize this.

Homeopathic treatment is also regarded as particularly effective and fast-acting in children. It is also true to say that children can be highly impressionable, but such rapid effects as those often observed in pediatric homeopathy on diseases which are not simply of a psychic or psychosomatic nature are hard to explain as being no more than a placebo effect.

Homeopathic remedies are commonly used in veterinary medicine. There are various books on the homeopathic treatment of dogs, cats, horses, and even cows. A number of experimental studies conducted in animals will be dealt with in Chapter 4. Although a certain amount of suggestion is also possible in animals, it seems somewhat unlikely that simple psychological support measures can heal an abscess in a cat, skin disorders in a horse or mastitis in a dairy cow, and that this should be observed not just once in a blue moon, but repeatedly.

As mentioned above, homeopathy became particularly popular in Europe and in the United States as a result of its successes in the course of major epidemics, as shown by newspaper reports at the time and the mortality records of hospitals [Teodonio and Negro, 1988; Haehl, 1989]. If these data are to be believed, it is most unlikely that they may have been the result of a placebo effect, not least because the same placebo effect should also have been produced by the other nonhomeopathic treatments.

Another consideration which is at variance with the placebo effect theory is the fact that when a person with a chronic disease receives a homeopathic drug, one fairly common observation is an exacerbation of the symptoms, i.e. the so-called *healing crisis* or *homeopathic aggravation* [Popova, 1991]. It is a temporary phenomenon, but may also be very intense and, according to homeopathic experience, the physician regards it as a very positive sign, which in no circumstances one should seek to suppress [Vithoulkas, 1980]. Placebo, on the other hand, usually has a symptom-improving effect. Another particularly suggestive phenomenon is the fact that one often observes the return of previously experienced symptoms in the course of homeopathic therapy, as though the therapy consisted in a “reversal” of the patient's disease history.

This phenomenon, which may sometimes be interpreted negatively by the patient, is again a very positive prognostic indicator in the resolution of complicated cases and denotes a return to past levels of disease experienced earlier in the patient's clinical history which has moved on from one form or stage of disease to another almost always of a severer nature. The reappearance of old symptoms (also called *regressive vicariation*) denotes that, under the effect of the homeopathic remedy, the patient is still capable of retracing the “false steps” he or she has taken and getting back to better levels of health. Recognition of such a phenomenon might suggest that the disease history of each individual patient is somehow related to a single pathobiological (or chronopathological) pathway and that there exists some kind of biochemical or neurohormonal “biological memory” persisting in the context of homeostatic system disorders.

3.2. Clinical research

Certainly, all the above-mentioned considerations will hardly suffice to convince people who are used only to placing their trust in statistically significant, reproducible and strictly controlled clinical evidence. In the homeopathic literature, clinical research, as it is understood in modern medicine, has been contemplated only recently. The double-blind method is necessary to guarantee the significance of the results, but its application has often been considered impossible for ethical reasons (you cannot leave a sick person without some form of active treatment) or because it destroys the relationship of trust between doctor and patient, which is very important for the success of any therapy. Both in conventional medicine and even more so in complementary medicine, doctor, patient, and therapy cannot easily be split up into independent variables.

This problem might be overcome by performing the trial without an untreated group and comparing two groups of patients treated with different therapies, for instance conventional therapy and homeopathic therapy. This approach might prove advantageous particularly in those fields in which patients happen to refuse conventional therapies for fear of side effects or for lack of confidence in their success. A second problem arises, however, namely the difficulty in finding physicians who have mastered both types of therapeutic strategy with a sufficient degree of skill to render any comparison reliable and significant.

Another reason (but not a justification) for the relative lack of clinical trials in homeopathy lies in the fact that it was, and is, practiced mainly on an outpatient basis by doctors working singly or in small groups. In addition to the difficulty of obtaining large enough patient samples, there is also the problem that a doctor can hardly afford to divide his patients into age- and sex-matched groups and then administer active treatment to one and placebo to the other; by so doing he could expect to lose at least half his clients (assuming the treatment really is effective). There is therefore an urgent need for double-blind trials conducted in large centers with sizeable patient samples or within the framework of programs agreed upon by groups comprising large numbers of doctors.

The most serious obstacle to clinical research in homeopathy is of a methodological nature, in that drug prescribing is based fundamentally on individual symptomatology and not so much on diagnosis of the actual disease. It is very likely that patients with the same disease, but with different histories, different vegetative reactivities, different types of constitution, and different symptom locations, will require different prescriptions. From the practical standpoint, this makes it very difficult to assess the efficacy of any single remedy for a given disease. Trials of this type, however, have been conducted, but, as we shall see, often with contrasting results.

A new approach appears to be more promising, namely, testing not the drug, but the homeopathic treatment as such. In practice, the homeopathic examination is carried out, the drug suited to each patient is prescribed, and then patients are randomized into two groups, only one of which receives the therapy opted for. By means of this system, the efficacy of the homeopathic method can be assessed in a given disease

condition and one can establish statistically which drugs are often prescribed and prove efficacious in that disease.

At any rate, one point is certain: while the advocates of homeopathic therapies and natural therapies in general are largely convinced of the efficacy of these therapies on the basis of personal experience and their trust in more expert opinion leaders in homeopathy, if we wish to make any meaningful comparison between homeopathic and conventional medicine and achieve official recognition of such therapy, the conduct of methodologically correct clinical trials is absolutely mandatory. It is only in this way that convincing proof of the efficacy of any therapeutic measure, whether conventional or otherwise, can be had. A number of guidelines for clinical trials of this kind have already been suggested [Crapanne, 1985; Hornung, 1991; Haidvogel, 1994].

Although many clinical trials published to date are of low methodological quality, as acknowledged also by authoritative exponents of homeopathy [Hornung and Vogler, 1990; Hornung and Griebel, 1991], there is still a small but significant body of work reporting positive evidence in favor of the efficacy of homeopathic treatment in a number of conditions. As mentioned in the Introduction, a Dutch group [Kleijnen *et al.*, 1991] have produced a review of 107 clinical trials in homeopathy on the basis of rigid assessment criteria of the type used for trials in the field of allopathic medicine: every trial was assigned a score resulting from the quality of the description of the patient characteristics, the number of patients included in the study population, the type of randomization implemented, the degree of clarity of the description of the methods, the adoption or otherwise of double-blindness, and the quality of the description of the results. On the basis of these criteria, only 22 publications were judged to be of good quality (scores > 55/100). Fifteen of these reported positive results in favor of a homeopathic effect, in the sense that they revealed significant differences between treated and untreated (or placebo-treated) patients, whereas the other 7 yielded negative findings. In all, of the 105 trials whose results could be interpreted, 81 yielded positive results, while the remainder showed no significant difference in effect between homeopathic drugs and placebo.

Though Kleijnen *et al.*'s review is not comprehensive of all the studies conducted, the fact that it was published in a very authoritative journal with a very large readership prompts us to make reference to it here, indicating the scores assigned (out of a hundred) to the various studies referred to here below. An overview of the fields in which clinical trials in homeopathy have been conducted is provided in Table 1, which has been drawn up on the basis of the data reported in the above-mentioned review by Kleijnen.

Table 1. *Clinical trials in homeopathy* [cited by Kleijnen *et al.*, 1991]

Diseases	Number of trials	Positive results/total
Cardiovascular disease	9	4/9
Respiratory infections	19	13/19
Other infections	7	6/7
Diseases of the gastro-intestinal system	7	5/7
Post-surgical ileus	7	5/7
Hay fever	5	5/5
Rheumatic disease	6	4/6
Trauma and/or pain	20	18/20

Psychological or mental problems	10	8/10
Other diagnoses	15	13/15

This series of data leads the authors of the meta-analysis to suggest that “The evidence presented in this review would probably be sufficient for establishing homeopathy as a regular treatment for certain indications” [Kleijnen *et al.*, 1991, p. 321].

Table 1 furnishes an estimate of the main indications and results of homeopathic therapy or at least of which sectors the investigators regard as the easiest for performing trials and obtaining significant results. We also give details here of some of the more important studies, by way of examples, rather than attempting a complete review. We shall also refer to other studies not reviewed by Kleijnen *et al.* which are of historical interest or serve for later discussion as to the possible action mechanism of homeopathic remedies.

One of the first studies reported in the homeopathic literature was sponsored by the British government during World War II [Paterson, 1944; Scofield, 1984; score 41/100]. It was conducted in volunteers in whom skin burns were produced using azotized mustard gas and showed a significant improvement in subjects receiving *Mustard gas* 30c as prophylaxis (an example of isopathic treatment) or *Rhus tox* 30c (poison ivy) and *Kali bichromicum* 30c (bichromate of potash) as therapy. The study was conducted independently in two different centers (London and Glasgow) with similar results, and a double-blind placebo-controlled trial design was used.

A Scottish group [Gibson *et al.*, 1980] published a study in the *British Journal of Clinical Pharmacology* on the homeopathic treatment of rheumatoid arthritis (score 40/100) conducted at the Glasgow Homeopathic Hospital. Each patient received his or her own prescribed remedy, but half of them were treated with placebo. The results showed improvement of symptoms in 82 percent of patients treated, as against only 21 percent of those on placebo. The improvements were in terms of pain, articular index, and stiffness.

The field of rheumatic disease gives us an opportunity to see what types of controversies can be triggered by homeopathic research. For instance, a double-blind trial was conducted in patients suffering from fibrositis [Fisher, 1986; score 38/100]. The doctor had a choice between the three homeopathic drugs likely to be active in this condition (*Arnica* (mountain daisy), *Rhus tox* (poison ivy), and *Bryonia* (wild hops)). No difference was found between the groups treated with the remedy and those treated with placebo. However, the results were examined by a panel of expert homeopathic physicians who assessed the accuracy of the prescription, analyzing the match between the individual symptoms and the remedy received. On considering only the patients in this study population who had received the correct remedy according to homeopathic principles (see Chapter 2, Section 1), these showed a significant improvement compared to controls. A similar trial in fibrositis (primary fibromyalgia) was conducted in the Department of Rheumatology of St. Bartholomew's Hospital in London [Fisher *et al.*, 1989; score 45/100] and, amongst other things because it was published by the *British Medical Journal*, represents an interesting attempt to reconcile the need for a scientifically flawless protocol with the particular homeopathic methodology. The diagnosis was reached on the basis of the conventional diagnostic criteria defined by Yunus; the patients were then submitted to a homeopathic history taking and those for whom the remedy *Rhus toxicodendron* 6c (poison ivy) was indicated were included in the trial (this remedy is one of those most often prescribed for this type of disease). The trial was conducted double-blind versus placebo and with a cross-over design. After entry to the trial there was no contact between homeopath and patient. The results were positive in favor of the homeopathic treatment which brought about a reduction in pain symptoms.

A trial characterized by thoroughly negative results was conducted in osteoarthritis [Shiple *et al.*, 1983; score 50/100]. Patients suffering from this rheumatic disease were divided into three groups, one of which received *Rhus tox* 6x, one fenoprofen, and the third placebo. The results (published in *Lancet*) showed that only the group on fenoprofen had a significant improvement in symptoms as compared to the placebo-treated patients. Homeopathic physicians have responded to this experiment by pointing out that the strategy adopted was incorrect: using only one remedy for a disease instead of individualizing treatment according to the totality of the symptoms can be effective only in few conditions, and osteoarthritis is not one of them,

also in view of the fact that *Rhus tox* is often prescribed in rheumatoid arthritis, but not in osteoarthritis [Ullman, 1991a]. Another objection is that it is inappropriate to compare a fast-acting drug (the antiinflammatory analgesic) and a slow-acting agent (the homeopathic medicine) [Ghosh, 1983; Scofield, 1984] over such a short time period.

Similar objections have also been made in relation to other trials [Savage and Roe, 1977 and 1978; scores 55/100 and 53/100, respectively]. These authors used a double-blind protocol to test the effect of *Arnica* 30c and *Arnica* 1M (mountain daisy) in stroke, but found no significant benefit from the treatment. However, an analysis of the results in a highly critical and objective review of homeopathic research [Scofield, 1984] showed that of the 40 patients entered into the 1977 study only three had the typical homeopathic symptom picture of *Arnica*, and these three showed good progress during homeopathic therapy. In the 1978 trial, only one patient presented typical *Arnica* symptoms and was included in the placebo group!

A double-blind study of the treatment of patients with hay fever was published in *Lancet* in 1986 [Taylor Reilly *et al.*, 1986; score 90/100]. The study compared the effects of a homeopathic preparation of 12 mixed pollens in the 30c dose with those of a placebo. The results were positive, in the sense that the patients on the homeopathic treatment had significantly fewer symptoms and used only half the amount of antihistamines compared to controls over the same period. The subject of this research was a typical example of *isopathy* (homeopathized pollens in hay fever). The report stirred up considerable controversy, not least because of the prestigious journal in which it was published.

The same group of researchers, in collaboration with statisticians and allopathic physicians, have published the findings of a study in 28 patients with severe atopic asthma (requiring daily administration of bronchodilators, steroid treatment also being needed in 21/28 cases) [Campbell *et al.*, 1990; Taylor Reilly and Taylor Reilly, 1990]. Without changing the basic therapy, the patients received a placebo for 4 weeks and were then randomized into two groups, one of which continuing with placebo, while the other was treated with a homeopathic preparation of the main allergen to which each patient had proven sensitive. The patients recorded the intensity of the symptoms daily on a visual analogue scale. After another 4 weeks the data for the two groups were analyzed and active treatment was found to be superior to placebo, the difference being statistically significant.

The same group of researchers, in collaboration with statisticians and allopathic physicians, have published in the *Lancet* the findings of a study in 28 patients with severe atopic asthma (requiring daily administration of bronchodilators, steroid treatment also being needed in 21/28 cases) [Reilly *et al.*, 1994]. Without changing the basic therapy, the patients received a placebo for 4 weeks and were then randomized into two groups, one of which continuing with placebo, while the other was treated with a homeopathic preparation of the main allergen to which each patient had proven to be sensitive (most often, house dust mite). The patients recorded the intensity of the symptoms daily on a visual analogue scale. After another 4-weeks the data for the two groups were analyzed and active treatment was found to be superior than placebo, the difference being statistically significant.

A daily visual scale of symptom intensity was the outcome measure, which revealed a favourable effect of homeopathic treatment ($p=0.003$). There were similar trends in the respiratory function and bronchial reactivity tests. A meta-analysis of all three trials conducted by the Reilly's group during many years of experience strengthened the evidence that homeopathy does more than a placebo ($p=0.0004$).

Homeopathic treatment of hay fever has also been the subject of reports by other investigators [Wiesenaue *et al.*, 1983; Wiesenaue and Gaus, 1985; scores 75/100 and 85/100, respectively]. In these cases, the type of treatment was very different: a low dilution (4x or 6x) of an extract of the plant *Galphimia glauca* was used. The results were assessed double-blind and were positive in favor of the homeopathic therapy.

The study by Wiesenaue and Gaus is also particularly interesting for another reason: this study compares *Galphimia glauca* 6x not only versus placebo but also versus *Galphimia glauca* 10^{-6} , i.e. an equivalent dose of the same drug prepared with simple dilution and not according to the homeopathic methodology. The simple dilution exhibits no activity, and, in any event, yields results no different to placebo. This observation, if confirmed (unfortunately, there are very few studies in which the problem has been tackled), would testify to the fact that by means of the particular preparation procedure used in homeopathy the drugs acquire therapeutic properties which are not attributable merely to the dose of active ingredient they contain.

Pain therapy of various kinds is one of the main fields of application of homeopathy. Among the more important trials we should mention those conducted by Brigo and coworkers in migraine [Brigo, 1987; Brigo

and Serpelloni, 1991; score 68/100]. Slightly more than 100 patients with migraine underwent a classic homeopathic history taking. Sixty patients were then selected who, in the authors' opinion, offered greater guarantees of a correct choice of remedy, in other words those in whom they could be more confident that the *simillimum* had been found according to the rules of homeopathy. At that point, the patients were randomized double-blind, 30 to treatment with the homeopathic remedy (drugs such as *Belladonna* (deadly nightshade), *Gelsemium* (yellow jasmine), *Ignatia* (St. Ignatius' bean), *Cyclamen* (sowbread), *Lachesis* (venom of the bushmaster snake), *Natrum muriaticum* (sodium chloride), *Silicea* (silica), and *Sulphur* at the potency of 30c) and the other 30 to placebo. The patients periodically filled in a questionnaire on the frequency, intensity and characteristics of the pain symptoms. After the treatment, which lasted for a few months, results were compared and were found to be distinctly and significantly better in the group receiving the homeopathic remedies. On account of its precise methodology, this study has been much appreciated both by the homeopathic [Hornung, 1991; Hornung and Griebel, 1991] and nonhomeopathic communities.

A double-blind study was conducted in patients with dental neuralgic pain following tooth extraction [Albertini and Goldberg, 1986; score 38/100]. In cases such as these, where the lesion is acute and well localized it is more likely that a single treatment based mainly on local symptoms will be effective. Thirty patients were given *Arnica 7c* (mountain daisy) and *Hypericum 15c* (St. John's wort) prescribed alternately at 4 hour intervals, while 30 others were given a placebo. As many as 76 percent of the patients treated with the homeopathic remedies experienced pain relief as against only 40 percent of those on placebo.

The pain caused by a sprained ankle is significantly relieved and shortened by homeopathic treatment, administered in the form of therapy of the homotoxicological type (*Traumeel* ointment: a combination of 14 different substances in 2x-6x dilutions), according to one report in the literature [Zell *et al.*, 1988; score 80/100]. Of 33 patients treated, 24 were pain-free on treatment day 10, whereas on the same day only 13/36 on placebo had no pain. The same drug (*Traumeel*, also called *Arnica compositum* today in other pharmacopoeias) has also been experimented with in a more recent trial [Thiel and Bohro, 1991]. The authors demonstrated that the intra-articular injection of the homeopathic remedy in patients with traumatic hemarthrosis significantly reduced healing time (as compared to the group treated with placebo), assessed on the basis of objective parameters (presence of blood in synovial fluid, articular circumference, motility).

Homeopathy has also been used in the preparation for childbirth in a study by Dorfman and coworkers [Dorfman *et al.*, 1987; score 80/110]. A combination of *Caulophyllum* (blue cohosh), *Arnica* (mountain daisy), *Actea racemosa* (black snakeroot), *Pulsatilla* (windflower), and *Gelsemium* (yellow jasmine) (all 5c remedies, twice daily throughout the ninth month of pregnancy) was compared with a placebo in a double-blind study. The efficacy of the homeopathic treatment clearly emerged from the fact that the duration of labor was reduced (5.1 vs. 8.5 hours, $p < 0.001$), as was the percentage of dystocia (11.3 vs. 40%, $p < 0.01$).

In another study, *Caulophyllum 7c* was administered during the active phase of the labor in a group of healthy mothers (5 granules per hour repeated for a maximum of 4 hours). The duration of the labor (period of cervical dilatation) was significantly reduced in treated women (227 minutes versus 314 minutes) as compared to a group of labors retrospectively selected by the same criteria [Eid *et al.*, 1993]. The same result was confirmed more recently in a double-blind trial [Eid *et al.*, 1994].

As regards the action of *Arnica*, which is a remedy much used in homeopathy, there is an interesting study conducted by the Institute of Surgical Pathology of the University of Catania, which is worthy of mention [Amodeo *et al.*, 1988]. *Arnica montana 5c* was administered to patients subjected to prolonged venous perfusion, a condition which easily leads to phlebitis in the veins used. This study, which used the double-blind, placebo-controlled method, showed that *Arnica* reduced the pain symptoms, the inflammatory manifestations (hyperaemia and edema), and also the formation of hematomas. Furthermore, an improvement in blood flow (as measured by Doppler flowmetry) was also observed in the treated patients as well as a slight increase in a number of coagulation factors and in platelet aggregation.

A series of studies have revealed a positive effect of homeopathic treatment, based essentially on the use of *Opium* and *Raphanus sativus* (common radish), in shortening the time to resumption of intestinal transit postoperatively [Chevrel *et al.*, 1984; Aulagnier, 1985; scores 50/100 and 75/100, respectively]. In the wake of these reports, a multicenter study was conducted with the collaboration of homeopathic and nonhomeopathic physicians, epidemiologists, surgeons, and the French Laboratoire National de la Santé [Mayaux *et al.*, 1988; score 90/100; GRECHO, 1989]. This trial conducted in a population of 600 patients yielded negative results and led the authors to conclude that the postoperative resumption of intestinal transit should not to be regarded as an indication either for *Opium* or for *Raphanus* (used in this study at the 15c dilution).

As far as homeopathy in general is concerned, one interesting aspect is the issue raised in the Discussion regarding the individualization of the treatment; clearly, as the same two drugs were used in all cases, the classic procedure of homeopathy was not adhered to, though from the point of view of the local symptoms (gastrointestinal) the treatment was in conformity with the law of similars, inasmuch as *Opium* at high doses causes an intestinal atonia in healthy subjects and *Raphanus* a painful abdominal flatulence due to gas retention.

In conclusion, then, this report was certainly an object lesson for homeopaths: clearly, to the best of our current knowledge, inexplicable effects can be accepted only on the basis of trials conducted with impeccable methodology, using methods which, above all, are repeatable in several different independent centers. We still have a long way to go in clinical research in homeopathy, and anyone who is interested in this topic must resign himself to seeing both negative and positive studies published, as in any other field in which research is done seriously. In the case of homeopathy, particularly when the subject of the research is not homeopathic treatment as such, but a certain drug or group of drugs in a certain disease condition, the results will always be affected by variables related to the doses, administration modalities, individual sensitivities, types of pharmacopoeia. If the present tendency towards an increase in number and quality of publications is confirmed, the patient and methodical evaluation of the results, even when negative, cannot help but prove beneficial in the long run for the practice of homeopathy, if for no other reason than to avoid errors at the expense of the patients.

A randomized double-blind trial comparing homeopathic medicine with placebo in the treatment of acute childhood diarrhea was conducted in Nicaragua [Jacobs *et al.*, 1994]. An individualized homeopathic medicine (or placebo in the control group) was prescribed for each child in addition to the standard oral rehydration treatment. Eighteen different medicines (30c potency) were prescribed, the most common being *Podophyllum*, *Chamomilla*, *Arsenicum album*, *Calcarea carbonica*, and *Sulphur*. The results indicated that the treatment group (43 cases) had a statistically significant ($p < 0.05$) decrease in duration and intensity of diarrhea with respect to the control group (44 cases).

Respiratory tract infections are another sector in which homeopathic products are extensively used, and various studies have demonstrated their efficacy. One of the first was the study by Gassinger and coworkers [Gassinger *et al.*, 1981; score 58/100], which also represents a curious variant of experimental methodology. The authors compare the effect of *Eupatorium perfoliatum* 2x (boneset) with that of acetylsalicylic acid (ASA) in the common cold. Neither the subjective symptoms, nor body temperature, nor laboratory data showed any significant differences in the two groups, which led the authors to conclude that the homeopathic treatment was as effective as the allopathic treatment. Unfortunately, there was no placebo group in the study, which would have lent greater weight to the conclusions drawn.

Results similar to those obtained in this study were reported by researchers from the Medical Clinic of the University of Würzburg and from the Institute of Biometry of the University of Tübingen [Maiwald *et al.*, 1988; score 65/100]. In a simple blind randomized trial in 170 soldiers in the Germany army suffering from influenza and treated with ASA (500 mg x 3/day for the first 4 days and then once daily) or with a complex homeopathic preparation called *Grippheel* (*Aconitum* 4x (monkshood), *Bryonia* 4x (wild hops), *Lachesis* 12x (venom of the bushmaster snake), *Eupatorium perfoliatum* (boneset) 3x, *Phosphorus* 5x in tablet form x 3/day), comparison between the changes in clinical status and in subjective disorders on days 4 and 10 and between the duration of the periods off work in the two groups revealed no significant differences, leading to the conclusion that the two drugs are equieffective.

For the purposes of illustrating a typical example of the reasoning underlying combination homeopathy (or homotoxicology), we quote the conclusions of the study by Maiwald and coworkers [Maiwald *et al.*, 1988] in the part where they discuss the reasons prompting one to prefer the use of a particular homeopathic preparation for the cure of influenza (for the sake of brevity, any quotations in the text have been omitted): "The efficacy of ASA is due to its symptomatic, analgesic and antipyretic action, and to nonspecific inhibition of inflammation via blockade of prostaglandin synthesis. The use of an antipyretic in cases of influenza may also have negative effects, since the increase in body temperature inhibits proliferation of the virus. Against this antagonistic, suppressive therapy with ASA is set regulatory therapy with *Grippheel*, which stimulates the self-regulation mechanisms of the body in order to normalize the impaired functions. The prerequisite for this is therefore an intact reactivity on the part of the body. The regulatory therapy introduces, amongst other things, a para-immunity, that is to say, within a few hours it produces an increase in the nonspecific defenses which may last for a number of weeks. There is, above all, an increase in the phagocytosis index. In addition, there is stimulation of humoral factors, cell enzymes, the lymphopoietic

system (especially T lymphocytes), cell-mediated cytotoxicity, monocyte lytic activity, and production or release of interferon. This activation does not leave any specific memory when the physiological functions return to normal. The use of a homeopathic preparation, which ensures such substantial efficacy with very low concentrations of active ingredients, is undoubtedly to be preferred to an antipyretic and its suppressive effects - all the more so if the effects of the homeopathic preparation and the synthetic drug prove to be of comparable efficacy in influenza" [Maiwald *et al.*, 1988, p. 581].

Ferley and coworkers [Ferley *et al.*, 1987; score 68/100; Ferley *et al.*, 1989; score 88/100] have also used homeopathic complexes in the treatment of influenza. The first of their two studies evaluated a treatment based on the methods of low-dilution combination pharmacology (a combination of 10 substances at dilutions of 1x-6x). The incidence and duration of the symptoms were no different in the group of 599 patients treated with the complex compared to 594 patients treated with placebo. The second study, on the other hand, used a unique homeopathic preparation, which, however, is very widely used, particularly in France, called *Oscillocochinum*, consisting essentially of a high Korsakovian dilution (200K) of *Anas barbariae* (duck) liver and heart extract. However strange it may seem, the study demonstrated a positive effect of the active drug treatment, in that it significantly increased the number of cures within 48 hours of diagnosis. Even more singular is the fact that the paper was published by an important nonhomeopathic journal. Probably, the soundness of the methodology and the large size of the patient sample (237 patients treated with *Oscillocochinum*, 241 with placebo) made it very hard to contest the authors' findings.

This study is a typical example of a scientific publication confirming an empirical observation (as borne out by the extraordinary popularity of the remedy), without, however, being able to provide even the slightest logical explanation of the findings. Needless to say, this is one of the most significant examples of the paradoxes offered by homeopathy, and has implications which are not merely scientific, if we think that this extensively used drug is sold at a by no means negligible price, despite containing few or no molecules of the original substance. Despite the paradoxical nature of this result, modern epidemiological research appears to offer a number of rational arguments in support of its possible efficacy. Many birds today, particularly aquatic ones, are known to present asymptomatic infections due to influenza virus A, conveyed by the waters of lakes and pools in which the virus can remain viable for days or weeks. In particular, wild and domesticated ducks appear to be the natural reservoir of the virus, which is then transmitted to humans via the pig [Fields and Knipe, 1990]. It has yet to be established whether or not the liver may be a point which is certain to be infected by the virus, though this is likely in view of the intestinal site of the infection. In any event, the analogy between homeopathic empiricism and modern virological research suggests the existence of possible points of contact between the two approaches and pathways for future research.

Clinical trials are more likely to be published when they are positive than when they are negative (this is true both of homeopathic and allopathic therapies). Nevertheless, even negative results have their own intrinsic importance, both in practical terms (they inhibit the use of drugs which have been shown to be ineffective) and on the conceptual plane (they oblige researchers to revise their theories). In the homeopathic field, too, this idea is now rightly beginning to gain ground [Fisher, 1990], and, where applied, bears witness to the seriousness of the researchers concerned. For example, in the influenza sector, we feel we should mention the work of Lewith and coworkers [LeWITH *et al.*, 1989; score 55/100], who unsuccessfully attempted an approach to influenza therapy based on homeopathic dilutions of the influenza vaccine, and that of Wiesenauer and coworkers [Wiesenauer *et al.*, 1989; score 60/100], who demonstrated the inefficacy, in the therapy of sinusitis, of a number of remedies prepared from various combinations of *Luffa opercolata* (dishcloth gourd), *Kalium bichromicum* (bichromate of potash), and *Cinnabaris* (cinnabar) (in 3x-4x dilutions).

Lastly, to remain in the field of respiratory tract infections, we should cite a French study [Bordes and Dorfman, 1986], which is methodologically sound (score 70/100); the authors treated dry or hacking cough with a syrup based on the plant *Drosera* (sundew) and 9 other substances in 3c dilution, demonstrating an excellent effect of the treatment compared to placebo: after one week's therapy, the symptom was reduced or disappeared in 20 out of 30 patients treated as compared to only 8/30 patients on placebo. This type of therapy of dry cough is another example of how the homeopathic approach has proven capable of changing and breaking down even into very different variants. However much cough in classic homeopathy might constitute an indication for *Drosera*, Hahnemann would have been strongly opposed to a therapy, the express purpose of which was the suppression of a symptom, and above all if it were based on a mixture of many substances to be administered to all patients indiscriminately. The concern of classic homeopathy in this regard is not unfounded: on the one hand, if the aim is to suppress the symptoms, there is a risk of thwarting

the reactions of natural healing (e.g. expectoration to eliminate microbial agents), and, on the other, by administering a complex therapy, one deprives oneself of the possibility of establishing, on the strength of scientifically rigorous criteria, which of the substances used is effectively responsible for any improvement observed.

The reply to these objections is based on arguments of various kinds. From the practical standpoint, if a drug works it is only logical and advantageous to administer it (the dominant criterion in allopathic pharmacology); from the logical and scientific points of view, it is possible and indeed probable that the effect of a complex of substances at low doses will not be attributable to one or more of the individual constituents, but to the synergistic action of many of them. It might also be claimed that, admitting that different patients with the same symptom (e.g. cough) need different homeopathic remedies, if we use a complex of many remedies, the likelihood increases that these will include the right one for each individual patient, whereas the other remedies in the complex will have no effect on account of their low doses.

As far as the homeopathic treatment of tumors is concerned, - a subject obviously of great interest and one upon which major problems of a scientific, economic, and ethical nature hinge, - the homeopathic literature is very cautious and, above all, presents a distinct shortage of truly significant data. The homeopathic literature in this field undeniably finds itself in considerable difficulty: on the one hand, it is claimed that homeopathic therapy, being aimed at the individual as a whole, may offer a complex of back-up measures in support of conventional therapy; on the other, criticism is often voiced particularly with regard to the use of radio- and chemotherapy, accused of being excessively toxic and thus of exerting a destructive effect on the "vital force." It frequently happens, in fact, that cancer patients, often at the terminal stage, where they have abandoned all hope or trust in conventional therapies, turn to the homeopath as the last resort. Needless to say, in such cases, in addition to the obvious ethical problems related to the administration of empirical therapies to these patients, it is liable to be difficult or even impossible to interpret the results outside the framework of evaluation in very large patient series.

Nevertheless, the problem of advanced cancer care in most cases is not solved even by conventional therapies, and experimentation with new therapeutic approaches according to precise criteria is not only legitimate but appears necessary and urgently required. For the purposes of initiating the systematic collection of the documentation on homeopathic case series in oncology an international project has been launched under the guidance of the Department of Naturopathy of the University of Berlin [Hornung and Vogler, 1990].

Homeopathy can hardly have as its objective the struggle against tumors and their cells, both as a matter of principle (curing the patient and not the disease) and on account of its therapeutic armamentarium, consisting mostly of drugs at low and very low doses. This does not mean that homeopathy has no role to play in the therapy of tumors. The recent revival of interest of medical science in immunotherapy suggests that directing attention to the host and not just to the disease may prove useful and effective. Moreover, among the drugs introduced into the homeopathic or homotoxicological armamentarium by a number of schools there is *Viscum album* (poison-weed) at low dilutions. This drug has recently been analyzed in both clinical and laboratory research and has been shown to be effective both as an immunostimulant and as an inhibitor of cell proliferation *in vitro* [Anderson and Phillipson, 1982; Koopman *et al.*, 1990]. The problem of conventional and nonconventional therapy of tumors will be dealt with in greater detail in Chapters 5 and 6. We shall confine our attention here to mentioning the few published studies, bearing in mind that these are not controlled clinical trials, but case reports. They are therefore of value as interesting material for discussion regarding future lines of research in this field.

Drossou [Drossou *et al.*, 1990] reports on two cases of leukemia in which, at the patient's strict behest, the only treatment was classic homeopathic therapy (administration of the *simillimum* according to Hahnemann's precepts). One patient suffering from acute myeloblastic leukemia (FAB: M4) was treated with *Thuja* 200c (*arbor vitae*); the therapy was then changed, when indicated, to *Mercurius cyanatus* 200c (cyanide of mercury), *Picric acid* 200c, *Natrum muriaticum* 200c (sodium chloride), *Ceanothus* (New Jersey tea), *Crotalus horridus* (rattlesnake venom), and *Ignatia* (St. Ignatius' bean) 1M. The treatment lasted 22 months, but after as little as 6 months hematocrit had reverted to normal and after one year all examination parameters were within normal limits. The patient suffered no recurrence over the following three years. Equally favorable was the homeopathic treatment of the second patient, who was suffering from chronic lymphatic (B lymphocyte) leukemia. At diagnosis this patient had 64,000 leukocytes/mm³, 86% lymphocytes. He was given *Natrum muriaticum* 200c, and then *Arnica* 30c, *Ignatia* 1M, *Zincum* 200c. Five months after the start of treatment the leukocyte count was 12,000/mm³, 25% lymphocytes. After 9 months

all clinical and laboratory data were normal. The treatment lasted 21 months and no recurrence occurred over the following 3 years. This study is also of interest on account of a number of comments which the authors make in the Discussion: they assert that the homeopathic history taking revealed major psychological problems both on account of the patients' natural emotional sensitivity and owing to the type of reaction to learning the diagnosis. The homeopathic treatment solved these problems in the very first few months, along with other lesser problems such as condylomata acuminata in one patient and gastritis in the other. The authors claim to have treated many patients with leukemia, but they achieved their best results in the two cases reported, who were the only ones who opted solely for homeopathic treatment. Those patients who were receiving concomitant chemo- or radiotherapy were highly debilitated and it was difficult to identify in the symptoms the patient's particular "idiosyncrasy," since this was masked by the effects of the cytotoxic therapy.

A paper published in the journal *Thorax* [Bradley and Clover, 1989] reports on a patient suffering from small-cell lung cancer, which is notoriously a very aggressive tumor with a median survival of 6-17 weeks. The tumor was treated with radiotherapy, and the patient then refused chemotherapy, opting rather for a homeopathic cure. He was given various remedies according to his symptoms (unfortunately not specified in the report) and an extract of *Viscum album* (*Iscador*). He survived for 5 years and 7 months after diagnosis of the cancer. The authors stress the unusually long survival time and the potential importance of natural therapies in these cases, though obviously they could not attribute this result with certainty to classic homeopathic therapy, to the use of *Iscador*, or to any other single factor.

To sum up, then, we can draw the following conclusions from the clinical trials conducted to date:

a) Homeopathic treatment has proven effective in many controlled clinical trials, whereas other studies have yielded negative results, indicating that, from the experimental point of view, homeopathy can be treated exactly like any other form of therapy. In particular, the fields of application and the limits of the homeopathic approach can be indicated.

b) The usefulness of homeopathic treatment has been explored primarily in the therapy of inflammatory and infectious syndromes, traumas, pain in general, and psychological disorders.

c) The double-blind, placebo-controlled study method can be applied and adjusted to the particular demands of homeopathic research (individualization, use of different remedies for the same disease, particular patient-physician relationship). In any case, the research using homeopathic microdoses must be sensitive to the homeopathic methodology (i.e. the law of similars, the individualization of the remedies according to idiosyncratic symptoms).

d) To be able to draw firm conclusions as to the efficacy of a specific treatment in a specific disease, the main clinical trials published to date would need to be repeated by independent groups. This process to some extent is already under way, at least as regards the trials on migraine [Gaus *et al.*, 1992].