

## HOMEOPATHY AND “THE PROGRESS OF SCIENCE”

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### BACKGROUND

In 1790, after he had turned his back on medicine and looked to translation to earn a living, a German doctor summarized the state of therapeutics in an annotation to the *Treatise of materia medica* of William Cullen (1710–90), the eminent Edinburgh physician:

Blood-letting, fever remedies, tepid baths, lowering drinks, weakening diet, blood cleansing and everlasting aperients and clysters [enemas] form the circle in which the ordinary German physician turns round unceasingly.<sup>1</sup>

Cullen’s despairing translator and annotator was Friedrich Christian Samuel Hahnemann (1755–1843). Born in Meissen, he became a physician, chemist and linguist, studying medicine in Leipzig and Vienna, and finally graduating from Erlangen in 1779. After 1790, for the remaining five decades of his long life, he mounted a sustained attack on blood-letting, purging, blistering, polypharmacy, massive doses and the abusive treatment of the mentally ill, that aligned him with Roger Bacon, Paracelsus, J. B. Van Helmont and G. E. Stahl, who had all addressed the same issues, frequently in the same terms. Before involving himself with therapeutic reform, he had achieved prominence and respect from his peers in each of his chosen professional fields. Christoph Hufeland (1762–1836) is often cited as the greatest German clinician of the late eighteenth century, and he described Hahnemann as “one of the most distinguished of German physicians ... a practical physician of matured experience and reflection”.<sup>2</sup> A quantitative survey of peer citations found in Lorenz Crell’s *Chemische Annalen* in the years 1784–89 ranks Hahnemann in the first fifteen German chemists.<sup>3</sup> Translations of scientific, medical, and literary works into German from English, French, Latin and Italian were highly regarded enough to earn him awards and many commissions for further translations and also original textbooks. A review of his translation of the influential *Wholesale manufacture of chemicals* by J. F. Demachy considered it to be an improvement on the French original, because of Hahnemann’s many critical annotations and amplifications.<sup>4</sup> His own *Apotheker Lexikon* treated every aspect of best practice in pharmacy so definitively and comprehensively that it constituted a major reform, superseding its competitors in the opinion of reviewers.<sup>5</sup>

At the same time, he advocated positive public health measures as progressive as anything to be found in Rickmann or Frank, though without the latter’s statist intentions: his programme encompassed improved diet and housing for the

working people, reform of prisons, strict control of trades such as rag-picking and papermaking that harboured and spread contagious disease, and compulsory isolation of infectious patients.<sup>6</sup> Developing from this, in the two decades after 1790, Hahnemann created a new pharmacotherapeutic system he believed to be more humane and effective than any known before that time, and which he eventually named homeopathy. In spite of a seemingly secure polymathic foundation, Hahnemann was vilified like his iconoclastic predecessors, and his proposed solution to the therapeutic anarchy of the day earned him even more notoriety than his critique. Typically, he was portrayed as a quack unable to earn a living from orthodox medicine,<sup>7</sup> dishonest or insane,<sup>8</sup> and, in a dismissal extending to all who followed his precepts, as “too weak mentally to practise medicine or even to take care of himself”.<sup>9</sup>

Here I make no attempt to give more than the briefest mention of the philosophical and scientific basis of Hahnemann’s attack on traditional therapeutics. Neither will I give an account of the sources and precursors Hahnemann drew on in designing his system, or of his influence on nineteenth-century therapeutics and pharmacology.<sup>10</sup> I would like simply to examine some of the ways in which Hahnemann tried to position homeopathy in German medical life at the beginning of the nineteenth century, and some of the difficulties inherent in his rhetorical and practical engagement with a theoretical academic discourse which started with a fundamentally different assumption from his about the place of therapeutics in medicine, a discourse which later abandoned therapeutics in the interests of ‘science’. I try to show that homeopathy’s eventual exclusion from biomedicine may be more plausibly accounted for at this level, rather than by the notorious “infinitesimal” doses usually advanced as the self-evident explanation.

#### PHILOSOPHY, MEDICINE AND THE *AUFKLÄRUNG*

Hahnemann was not alone in his dissatisfaction with medicine’s failure to fulfil the ideals of the German Enlightenment or *Aufklärung*. During the 1790s many German physicians supported the call for a reconstituted medicine, based on the critical philosophy of Immanuel Kant (1724–1804), to match the certainties of the physical sciences. In 1784 a Berlin journal had asked several leading thinkers to contribute an answer to the question, What is Enlightenment? Kant’s essay famously opens:<sup>11</sup> “*Enlightenment is man’s emergence from his self-incurred immaturity*” [original emphasis]. And in 1798 the doctor Johann Karl Osterhausen paid direct homage to Kant in an essay “On medical enlightenment”, which he defined as: “Man’s emergence from his dependence in matters concerning his physical wellbeing.”<sup>12</sup>

The conceptual gulf separating the lowly craft of medicine from the established sciences was spelled out by Kant in a letter of 1799: doctors were currently fighting symptoms, whereas in Brown’s system “the disease was like an X equation”.<sup>13</sup> Kant was promoting his doctrine that scientific knowledge was necessarily quantitative by referring to the system of John Brown (1735–88), the Scottish student of

Cullen who had reduced all disease to a single fundamental category: variation in 'excitement', or degree of vitality.<sup>14</sup> The health of any organism consisted in maintaining a balance between its 'excitability', or predisposition to excitement, and internal and external 'stimuli' — food, drugs, emotions, for example — which constantly impinged on excitability: increase in excitement led to 'sthenic' disease, and decrease to 'asthenic' disease. Conventional disease labels, such as 'jaundice', 'dropsy' or 'fever', were assigned points between two extremes on a graduated scale similar to that of a thermometer, and treatment was correspondingly simple: "The indication for the cure of sthenic diathesis is to diminish, that for the cure of asthenic diathesis is to encrease the excitement, and to continue to encrease it."<sup>15</sup>

In practice, debilitating treatments such as blood-letting or opium, and stimulants such as alcohol, answered every clinical need. Brown's revival of early Greek Methodism is the best-known and most influential example of the rationalist trend in late eighteenth-century medicine. German interest in the Brunonian system, as it was called, was such that medical students and faculty fought in the streets of Göttingen in 1802 for several days to decide the truth of the doctrine, until the cavalry were sent in.<sup>16</sup> In complete contrast to the better known French attempts to reconstitute medicine as an inductive science based on Linnaean nosological categories and the search for the lesion, the German task was to look for first principles which would underlie nosology and therapeutics, and so elevate rationalism to new heights.

Andreas Roeschlaub (1768–1835), professor of medicine at Bamberg University, was one of the initiators of the German trend. As the leading German Brunonian, Roeschlaub had developed Brown's simple irritation 'equation' by adding a vital principle with which irritation came into conflict. In touch with the latest developments in other fields, he also attempted to reconcile Brunonianism with Lavoisierian chemistry and accounted for the disease polarities in terms of oxidation and disoxidation.<sup>17</sup> His interest in chemical explanations of disease was paralleled elsewhere. For instance, J.-B.-T. Baumes (1756–1828), professor at Montpellier, proposed a division of diseases based on deficiencies of hydrogen, azoth (nitrogen), caloric (Lavoisier's elastic fluid from which heat derived), phosphorus or oxygen.<sup>18</sup> Roeschlaub's main ambition, though, was to provide the conceptual illumination for a formal deductive "science" of medicine, and in an important article of 1799 he constructed a hierarchical framework to support the practice and teaching of such a system.<sup>19</sup>

The preliminary phase of the operation required the creation of a standard terminology to allow unambiguous description of theory and practice. Among other things, this involved clarification of the terms *Heilkunde* and *Heilkunst*, about which it seems there had been some confusion. Etymologically, both are based on the root *Heil* — cure, heal. The suffix *-kunde* indicates knowledge and theory, and turns an entity or activity into a subject or discipline: *Heilkunde* is medicine in the same way that *Erdkunde* is geography. The noun *Kunst* means art or skill, and was added to many terms during the eighteenth century to indicate a craft or professional

activity employing an organized body of knowledge or *Wissenschaft*. According to Roeschlaub, *Medizin* — medicine — contains two fundamental divisions: *Heilkunde* — theoretical, scientific; and *Heilkunst* — technical, practical. It is important to realize that *Heilkunde* is concerned solely with ridding patients of diseases. It does not include background fields such as chemistry, anatomy and physiology, nor does it encroach on the areas occupied by hygiene and health maintenance. *Heilkunde* is further subdivided into general and applied sections, dealing with the laws of health and disease, their manifestations in pathology and classified nosology, and pharmacology. *Heilkunst* meanwhile consists of what doctors do in practice to realize this theoretical knowledge, and includes diagnostics, prognostics and therapeutics. The word was in fact the eighteenth-century German equivalent of the Hippocratic *techne iatrike* (Latin *ars medendi*), and a down-to-earth definition from 1803 helps to clarify its essentially practical objective: *Heilkunst* could be “implemented internally in various forms, or externally, as with salves”.<sup>20</sup>

Roeschlaub was explicit that his variant of Brunonianism sat at the apex of the new Kantian medical ‘science’, and would provide the *a priori* guidelines for successful therapeutics. His ideas were highly influential, and stimulated the philosopher Friedrich Schelling (1775–1854) — whose medical degree from Landshut (1802) was purely honorary — to articulate an even more ambitious programme for the realization of a medical ‘science’ that would transcend Brunonianism and embody the highest ideals of post-Kantian *Naturphilosophie*. Man was coincident with the universe, but had lost touch with this essential oneness. Not until he had learned to understand external nature, through contemplation of his own innermost reality, could he hope to formulate laws of existence. From this certain knowledge would come insight into health and disease, thus allowing a rational therapeutics to be deduced from metaphysical principles without the need for empirical testing.<sup>21</sup>

Nevertheless, German attempts to create a deductive medico-philosophic ‘science’ and the better-known French attempts to reformulate medicine on inductive clinical lines were therapeutically unproductive, in the lifetime of their patients at least. By the end of the nineteenth century, in spite of enormous advances in descriptive pathology, normal and abnormal physiology, surgery, and public health, the internal medicine of the end of the eighteenth century had advanced scarcely at all:

Blood-letting gradually lost favour, but ... the pharmacopoeia was a bag of blanks ... the few medicines that were effective included mercury for syphilis and ringworm, digitalis to strengthen the heart, amyl nitrite to dilate the arteries in angina, quinine for malaria, colchicum for gout — and little else....<sup>22</sup>

If safety had been a criterion of use as well as efficacy, the list would have been even shorter.

## CONCEPTUAL FOUNDATION OF HOMEOPATHY

*Praktische Arzneykunde* was another expression for *Heilkunst*, at a time when German technical terminology was in state of creative flux, and Christoph Hufeland's *Journal* of that name was programmatically opposed to the theoretical turn in academic medicine. Hahnemann chose to announce his "new principle for ascertaining the curative powers of drugs" there in 1796.<sup>23</sup> Treatment under the new system differed from current medical practice in consisting of single pure drugs that had been subject to thorough experimental testing on healthy volunteers (in moderately small doses) before being given in smaller, and hence safer, doses to the sick. These pathogenetic trials (*Prüfungen*, tests, anglicized as 'provings') indicated the therapeutic sphere of influence of each drug, according to the similia principle — *similia similibus curentur*, let likes be cured with likes. Hahnemann later published his first experiments with the greatly attenuated therapeutic doses in 1801 in Hufeland's *Journal*, and several important critical and homeopathic articles followed, which invariably appealed to clinically validated experience as the arbiter of therapeutic efficacy, not theory or tradition.<sup>24</sup>

It is probably on this account that homeopathy has been dismissed as pure empiricism — that is, lacking any explanatory theory<sup>25</sup> — as often as it has been dismissed as a survival of eighteenth-century rationalism — that is, theory unconnected with experimental confirmation.<sup>26</sup> It is often pointed out that since Hippocrates official medicine had tended to oscillate between empirical and rationalist poles.<sup>27</sup> It is also true that Hahnemann favoured the biographical natural-history-of-disease approach of the empirical school, exemplified by Hippocrates and Sydenham, over the ontological claim of rationalists such as Galen and Brown to know the essential nature of disease:

We were never nearer the discovery of the science of medicine than in the time of Hippocrates. This attentive, unsophisticated observer sought nature in nature. He saw and described the diseases before him accurately, without addition, without speculation.<sup>28</sup>

Because of this, recent historians have tended to see homeopathy as an empirical discipline, in conflict with rationalism.<sup>29</sup> Admittedly, Hahnemann demolished Brown's *Elements of medicine* in his review of 1801, regardless of Roeschlaub's advocacy;<sup>30</sup> and as early as 1808 Hahnemann wondered whether satire or elegy would be the most appropriate vehicle to commemorate the self-spun "gossamer" fabrications of Schelling and his emulators.<sup>31</sup> Even chemical nosologies such as Roeschlaub's and Baumes's were new flasks for some very old ideas,<sup>32</sup> and Hahnemann, the chemist, believed rudimentary chemistry was being used as a medical figleaf.<sup>33</sup> However, recalling Bacon's observation that empirical ants were no more effective than rationalist spiders,<sup>34</sup> Hahnemann also made searching criticisms of empirical treatments aimed at ill-defined 'diseases' that were hardly more than a vague symptom or two — such as 'rheumatism' and 'dropsy' — and not just the sorts of cause that rationalism claimed to know.<sup>35</sup> He pointed out that

the empiricists had known how to observe but not how to cure, hence their reliance on diet and the “healing power of nature” above all. He also criticized the random nature of testing one substance after another in each disease: the tiny number of known specifics — scarcely more than mercury for syphilis, cinchona bark for malaria and sulphur for skin eruptions in the 1500 years since Galen — had been discovered by the empiricists as if by chance, or appropriated from folk medicine.<sup>36</sup> And he was not alone in wondering how the specifics worked. As Kant’s successor G. W. F. Hegel (1770–1831) pointed out contemporaneously in his review of biology and medicine:

The *materia medica* has not yet uttered a single rational word on the connection between a disease and its remedy; experience alone is supposed to decide the matter. Experience with chicken droppings is therefore as valuable as that with the various officinal plants, for human urine and the droppings of chickens and peacocks were formerly used medicinally, in order to produce nausea.<sup>37</sup>

Homeopathy’s resistance to simple binary classification was addressed to some extent by Otto Guttentag, who developed the rational–empirical oscillation further in the time dimension by representing medical history since Hippocrates as a spiral.<sup>38</sup> He located Hahnemann at a cusp point midway between the two poles of the spiral, along with other late eighteenth-century figures such as Withering and Jenner. Guttentag did not analyse further the scientific basis of homeopathy, except to say that it was an empirical clinical discipline, not an explanatory biological hypothesis.

In fact, the technical term with the closest epistemological fit for Hahnemann’s conceptual innovation is abduction (or retroduction), introduced at the end of the nineteenth century by the philosopher C. S. Peirce. This was his translation of *apagoge*, Aristotle’s third form of inference — along with induction and deduction — which had hitherto been translated as reduction (and is often referred to now as “inference to best explanation”):

The form of inference, therefore, is this: The surprising fact, *C*, is observed. But if *A* were true, *C* would be a matter of course. Hence, there is reason to suspect that *A* is true. Thus, *A* cannot be abductively inferred, or if you prefer the expression, cannot be abductively conjectured until its entire content is already present in the premiss, “If *A* were true, *C* would follow as a matter of course.”<sup>39</sup>

According to Hanson, abduction is not synonymous with the better-known hypothetico-deductive model, associated with the theorists Whewell and Popper, although Hanson’s main example of abduction — Kepler’s reconceptualization of the Copernican circular planetary orbits — has for some reason left many unconvinced that the two forms of inference can be distinguished.<sup>40</sup> Hahnemann’s “surprising facts” were the inexplicable empirical specifics, long an embarrassment to rationalism, such as cinchona, mercury and sulphur. The mercurial disease was often confused with syphilis, sulphur workers produced itching rashes, so, suspecting

a hitherto unnoticed relationship between the medicinal action and toxicological symptoms of cinchona, Hahnemann had taken in 1790,

by way of experiment, for several days 3 drachms of good bark twice a day. My feet, finger-ends, &c., first became cold, and I felt tired and sleepy, then my heart began to beat, and my pulse became hard and quick; I got an insufferable feeling of uneasiness, a trembling (but without rigor). A weariness in all my limbs; then a beating in my head, redness of the cheeks, thirst, ... in short, all the old symptoms with which I was familiar in ague [malaria] appeared one after another, yet without any actual chill or rigor. In brief, even those particularly characteristic symptoms which I was wont to observe in agues ... obtuseness of the senses, a kind of rigidity in limbs, but especially that numb disagreeable feeling which seems to have its seat in the periosteum of all the bones of the body ... all put in an appearance. This paroxysm lasted each time 2 or 3 hours, and came on afresh whenever I repeated the dose, but not otherwise. I left off, and was quite well.<sup>41</sup>

Hahnemann, it turns out, illustrates Hanson's distinction as well as Kepler. Aristotelian abduction originated as a logical description and justification of the process of inference from disparate biological species to the genera which contain them. In other words it seeks higher level ontological groupings which subsume lower level data — synthetic *a priori* insights, in Kantian terms. The specifics were doubly surprising, because they showed a paradoxical ability to produce the very symptoms they were reputed to cure. Hahnemann's explanatory hypothesis and conceptual definition was the similia principle, or homeopathicity, which subsumed known treatments of vastly different appearance and qualities for diseases that were themselves unrelated.

And as Atran points out, *apagoge* has not only this dual function for Aristotle — to provide an intuitive hypothesis and then a concept or definition which figures as the major premiss in syllogistic demonstration — but most importantly is required to “factor out ... the truly essential from the natural incidents of the common-sense type”. The similia hypothesis allowed Hahnemann to reject the plausible explanations of his contemporaries, such as Cullen's entirely orthodox claim that cinchona cured malaria because its bitter taste had a tonic effect on the stomach. Fulfilling Peirce's requirement that the abductive hypothesis be subject to experimental validation, Hahnemann's tests from 1790 onwards involved making careful records of what happened when he gave different drugs first to himself and then to other healthy volunteers, and what happened when he treated the sick with the same drugs capable of producing their signs and symptoms.<sup>44</sup>

#### THE APPEARANCE OF THE *ORGANON*

Hahnemann's textbook of homeopathy, first published in 1810, provides theoretical and practical instructions for the new approach to therapy he had created in the previous twenty years, and integrates his similia hypothesis with a Hippocratic

natural-history approach to nosology, Stahl's homeostatic vitalism, Plenciz's germ theory, John Hunter's theory of medicinal counter-irritants, placebo controls, and many other disparate and previously unrelated influences.<sup>45</sup> It went through five editions in his lifetime, and has been in print continuously since then in many languages. Before examining the internal structure of his programme as laid out in the book, it is worth trying to estimate the impact Hahnemann wished the book to have, judging by the way he presented it.

Although the bones of the system had first been presented in Hufeland's *Journal* under the title *Heilkunde der Erfahrung* (*The medicine of experience*) in 1805,<sup>46</sup> the change of title to the more imposing *Organon der rationellen Heilkunde* indicates that Hahnemann believed that appeals to experience were unlikely to sway a medical establishment wedded to *a priori* theories of disease and how medical knowledge was to be structured. The term *Organon*, which can be a conceptual tool, systematic treatise or physical instrument,<sup>47</sup> echoes the collective title traditionally given to Aristotle's treatises on logic, and Francis Bacon's *Novum organum* of 1620. Apart from Aristotle's and Bacon's, there had been remarkably few *Organons* before Hahnemann, although the word had achieved some currency in Germany following the appearance of J. H. Lambert's *Neues Organon* in 1764.<sup>48</sup> Hahnemann might conceivably have read this epistemological treatise — which contains the first use of the word 'phenomenology' — by the most important German philosopher of the generation immediately before Kant.

The meaning of the rest of Hahnemann's title has become obscure, because the implications of *Heilkunde* at this date — medical theory — are unfamiliar in modern German. *Heilkunde* now inclusively means medicine, or medical science in the broadest sense, in which theory and practice are held to be integrated, or therapeutics. And unsurprisingly, the Terminology Office of the European Commission in Luxembourg defines *Heilkunst* — ID Number 3102196 in the Medicine Collection (RLM76) — as just "another word for *Heilkunde*". The *rationell* of the first edition is equally remote. *Rationell*, signifying 'technical', 'scientific', 'validated by empirical reason', had been introduced in 1798 by Goethe from French. It was distinct from the existing but rarely used *rational*, a term with traditional philosophical overtones, and filled an important gap left unoccupied by *Wissenschaft*. Hahnemann's employment of the term in a medical context seems intended to occupy a rhetorical high ground similar to that enjoyed by 'evidence-based' in present-day clinical discourse, while prefiguring Jakob Henle's later use of *rationell* in a book title to draw a line between his empirical research and the speculative physiology that *Naturphilosophie* was famous for.<sup>49</sup> Once again, the word's original sense has faded.<sup>50</sup> Nowadays it simply means rational, although a secondary meaning of 'economically efficient' was introduced in the 1930s (equivalent to one of the meanings of 'rationalized' in English) reconnecting the word to its 'empirically-proven' origin. Nevertheless, the original title called attention to itself as constituting the architectonic 'science' the Kantians, Brunonians and *Naturphilosophen* aspired towards.



The title page was adorned with the quintessentially Enlightenment verse of C.F. Gellert (1715–69):

The truth we humans need  
Us blest to make and keep,  
A wise hand lightly covered o'er,  
But did not bury deep.<sup>51</sup>

We may guess from this that the book will not advance any theory of the occult essence or origins of disease. This is confirmed by the preface which informs us that “no occupation is more unanimously declared to be a conjectural art than medicine”, but that the author’s researches had led him “very far from the common highway of medical routine ... away from the old edifice, which, being built up of opinions, was only maintained by opinions”.

Interestingly, the term ‘homeopathy’ is absent from the title page. An unpaginated half-title, between the Introduction and the main text, is a partial exception: *Organon der rationellen Heilkunde nach homöopathischen Gesetzen* is found in the first edition, but not in any of the five later editions Hahnemann prepared for the press. A legitimate translation would be: “Treatise of scientific medical theory according to homeopathic laws”. Hahnemann had coined *Homöopathie* (Greek *homoios*, similar + *pathos*, suffering) together with the pejorative *Allöopathie* to describe unsystematic treatment (*alloios*, other, dissimilar) in 1807 in a scholarly literature review that became the Introduction to the *Organon*.<sup>52</sup> It contains nearly 250 examples of the mostly unconscious use of the similia principle by 440 named physicians, past and present, as evidence for the method elaborated in the rest of the book.

The main body of the *Organon* is laid out as 271 numbered sections containing propositions and arguments, grouped thematically, like the aphorisms of the *Novum organum*, emphasizing the book’s critical philosophical intent. They vary in length from single sentences to extensively footnoted paragraphs spanning several pages. The first two aphorisms set the tone:

The physician has no higher aim than to make sick people well, to heal as it is known.

The highest ideal of cure is the speedy, gentle and enduring restoration of health, or the removal and annihilation of disease in its entirety, by the quickest, most trustworthy, and least harmful way, according to *principles* that can be readily understood.

#### THE STRUCTURE OF THE *ORGANON*

To understand the structure of Hahnemann’s medical programme as formalized for the first time, Roeschlaub makes a convenient point of reference. As noted, the *Organon* was ostensibly concerned with *rationelle Heilkunde*, which to a Roeschlaub implied *a priori* knowledge of the causes of disease. Hahnemann

TABLE 1. Correspondence of the internal structure of the 1810 *Organon* to Roeschlaub's deductive schema.<sup>56</sup>

		Roeschlaub	Hahnemann
1. <i>Heilkunde</i> or Theoretical medicine	General	Disease concept and causation	Disease concept; theory of cure by similars (§§ 1–38)
	Applied	Pathology Nosology Pharmacology	i. Case-taking (§§ 39–82) ii. Pathogeneses (§§ 83–125)
2. <i>Heilkunst</i> or Technical medicine		Diagnostics Prognostics Therapeutics	iii. Medicine selection (§§ 126–99), dosage, case-management (§§ 200–71)

believed history had shown this was an unprofitable line of inquiry,<sup>53</sup> but a hierarchic presentation of his therapeutic posed difficulties because the similia principle ran counter to the causal model required by Western science. In the essay of 1805 which was expanded to become the *Organon*, Hahnemann had written:

Medicine is a science of experience; its object is to eradicate diseases by means of remedies. The knowledge of diseases, the knowledge of remedies, and the knowledge of their employment constitute medicine.<sup>54</sup>

This tripartite division lacks any overarching theory of disease causation, and, although Hahnemann was a contagionist, and the influence of Plenciz's germ theory can be found in his writings from 1801 onwards,<sup>55</sup> he recognized that most diseases could not be so easily explained. The components of the homeopathic method differ radically from its rationalist (not to mention empiricist) counterparts, and Hahnemann was obliged to create a theoretical justification to give the appearance that the rest of the book had been deduced *a priori*. Accordingly, the similia principle is placed at the apex of the system, and incorporated into the Roeschlaubian hierarchy as far as possible by dividing the *Organon* proper into four sections dealing successively with:

1. disease as response to disturbance of homeostasis; theory of specific medicinal counter-forces, i.e. the similia principle;
2. individual case-taking;
3. conduct of collective pathogeneses;
4. practicalities of medicine selection, case-management and pharmacy.

Hahnemann's original tripartite division corresponds to Sections 2–4, and the way in which it can be superimposed (numbered i–iii, as in the *Organon* § 38) on Roeschlaub's categories is shown in Table 1. In complete contrast to the determinist chain of cause, classified nosologies, their attached treatments, and pigeon-holed patients, Hahnemann's system is essentially circular, despite the superficial resemblance in the way the material is ordered. Its justification — the similia principle — lies at its heart, not at its head. The impression of seamless

continuity is reinforced by the absence of conventional section headings or chapters: the paragraphs run uninterruptedly, and Sections i–iii are mentioned only in the text.

In contrast to systems emerging to take the place of humoralism, such as the chemical nosologies of Roeschlaub and Baumes, or the diathesis construct,<sup>57</sup> disease is not to be viewed as purely idiopathic or essential. Yet, although disease is occasioned by external causes, and there are even ‘fixed’ contagious diseases, these causes have no independent disease-existence apart from their effects on the organism: “The invisible disease-producing alteration in the inward man together with the visible alteration in health (the sum of the symptoms) make up that which is called disease; both together actually constitute the disease.”<sup>58</sup> Viruses, miasmas, poisons and drugs all have the ability to alter health, for better or worse, and the homeopathic principle demands that their pathogenetic capacity be correlated with the symptoms of the patient:

a few berries of belladonna are just as much disease-producing forces as inoculated vaccine-matter, or a viper-bite, or a great shock, and every one of these influences, just because it has the power to produce disease, can become a remedy and a force to counteract disease, as soon as it is opposed to a similar disorder already existing in the body.<sup>59</sup>

Disease, nevertheless, must be viewed holistically, since

the oneness of life forbids the idea that any bodily disease can remain completely and absolutely local so long as it is not confined to a part of the body entirely shut off from all the rest. The remainder of the system simultaneously suffers more or less, and betrays its suffering in this or that symptom.<sup>60</sup>

Moreover, diagnosis does not involve matching patients to the static nosologies of Sydenham, Cullen and Pinel, which

even if it could be accomplished with tolerable accuracy and completeness, would serve the physician only as a natural historian, in the way that the classification of other natural phenomena and natural objects is of value in general natural history. In other words, it would aid his historical perception by means of a tabulated and ordered survey. But for the physician as a practitioner of the art of medicine it would be of no value whatever,<sup>61</sup>

because each disease, properly examined, has never been seen before.

Pathology (Subdivision i) therefore must be discovered in a process of unbiased phenomenological inquiry, in which the patient’s experience is not merely a pointer to an explanatory or reductive diagnosis. The therapist notes the observable manifestations of illness and records the account of physical and psychological suffering related by the patient and his carers, “using their exact expressions” without translation into transient medical codes, and paying particular attention to qualities, modalities and concomitants of symptoms, as well as general disturbances of function.<sup>62</sup> The extensive and detailed anamnesis does not provide a mere

collection of symptoms, however, but must be integrated in the therapist's mind as a unified *Symptomeninbegriff*. This is a term of art for Hahnemann, who exploits *Inbegriff's* dual meanings of totality and epitome. The same procedure is adopted in collective diseases, such as epidemics: a symptom-complex is built up from the partial manifestations of the disease seen in each individual, allowing a valid collective remedy to be synthesized.<sup>63</sup>

A similar form of meticulous case-taking is used in the pathogenetic drug tests which constitute homeopathy's nosology (Subdivision ii). This spans the *Organon*, where the detailed instructions for conducting provings are given, and the *materia medica* where the results of systematic drug tests are listed — again using the provers' own expressions.<sup>64</sup> The aim was the creation of a *materia medica* in which nothing was “conjectured, asserted without proof, imagined, invented; but all is the pure reply of Nature to careful questioning”.<sup>65</sup>

In the investigation of these drug-symptoms all suggestion must be as rigidly avoided as in the examination of the symptoms of disease. The greater part of what is recorded as the genuine result of experiment must be the voluntary statements of the prover; nothing must be conjectural, nothing guessed at, and as little as possible should consist of answers to formal questions; least of all should the record contain expressions relating to sensations with which the prover has previously been prompted, or the results of questions that suggest the answers ‘Yes’ or ‘No’.<sup>66</sup>

In a footnote to § 122, Hahnemann called on others to carry forward his investigations of the previous twenty years:

When thousands of exact and tireless observers, instead of one as hitherto, have laboured at the discovery of these first elements of a scientific *Materia Medica*, what will it not be possible to effect in the whole extent of the endless kingdom of disease! Then the art of medicine will no longer be mocked as an art of conjecture lacking all foundation.

The practical details of prescription, case-management and pharmacy (Subdivision iii) correspond to *Heilkunst*, therapeutics, where many instructions are given for the selection of the remedy in individual cases. The defining aspect of homeopathic diagnosis-prescription is an individualization based on the unique, as opposed to common, aspects of the patient's symptoms:

In this search for a specific homoeopathic remedy, that is, in this comparison of the totality of the symptoms of the natural disease with the symptom-lists of available medicines, the more striking and unusual of the characteristic symptoms of the disease should especially be kept in view; for it is precisely to these symptoms that analogues must be found among the disease-symptoms of the drug which is to be the most suitable remedy. On the other hand the general signs, like loss of appetite, weariness, discomfort, disturbed sleep, and so forth, are of little significance when unaccompanied by more precise

indications, because they are found in the symptomatology of most drugs as of most diseases.<sup>67</sup>

In other words, the subtle variations of symptoms experienced in relation to time, position, temperature, weather and so on — the so-called modalities — are of greater importance than the same undifferentiated symptoms or nosological category. It is also here, rather than under nosology, that the usual distinction made between mental and physical illness is declared to be purely conventional:

Indeed, [mental diseases] are in no wise really an exceptional class of disease, though often sharply separated off from others in classification. For in every other kind of disease the condition of the mind and of the disposition is invariably altered in some way, and the disposition and mental characteristics of the patient form symptoms of prime importance in all cases which the physician has to treat.<sup>68</sup>

We shall, therefore, never learn to cure scientifically or homeopathically, unless we consider in every case of disease these alterations in mind and disposition, and choose as a counter-force the remedy which is capable of causing similar alterations.<sup>69</sup>

In practical terms:

*Aconite* will never bring about a speedy or lasting cure in a patient of quiet, equable disposition; *Nux vomica* is as little serviceable to gentle phlegmatic patients, *Pulsatilla* as little to the gay and happy, *Ignatia* as little to those who are imperturbable and disinclined either to fear or to vexation,

since each of those had shown itself capable of producing the opposite disturbances of mind in the healthy.

The *Organon* does not contain worked examples of the method, but these were published soon after.<sup>70</sup> For instance, to illustrate the process of conceptualizing the symptoms and matching them with the materia medica, Hahnemann presents the simple case of Frau Sch—, a middle-aged laundress with a troublesome condition that had kept her from work for three weeks. The unique symptoms she presented with on 1 September 1815 were:

(1) Any movement, especially on stepping, and worst on making a false step, leads to shooting pain in the epigastric region coming every time from the left side. (2) Complete relief on lying down, no pain anywhere, neither in the side nor in the epigastrium. (3) Sleepless after 3 a.m. (4) Enjoys her food, but feels nauseous after eating only a little. (5) This leads to increased salivation which runs from her mouth, like water-brash. (6) Frequent empty eructations after each meal. (7) Passionate temper, disposed to anger. —Covered in perspiration when the pain is severe. —Menses normal two weeks earlier.

Hahnemann details how each symptom of Frau Sch—'s ailment can be found in the pathogeneses contained in the materia medica, and distinguishes between several

medicines for each symptom on the basis of the modalities. To give his working out of the only first symptom:

*Belladonna*, *China* and *Rhus toxicodendron* cause shootings in the epigastrium, but none of them *only on motion*, as is the case here. *Pulsatilla* certainly causes shootings in the epigastrium on making a false step, but only as a rare alternating action, and has neither the same digestive derangements as occur here at (4) compared with (5) and (6), nor the same mental state. *Bryonia* alone has among its chief alternating actions, as the whole list of its symptoms demonstrates, pains *from movement* and especially shooting pains, as also stitches beneath the sternum (in the epigastrium) on raising the arm, and on making a false step it causes shooting in other parts.<sup>71</sup>

The other symptoms are dealt with in the same way, each being compared with medicines which produce the general symptom, then distinguished on the basis of the individualizing modalities. For instance, nausea after eating was common to eight drug pathogeneses, but none so constantly or associated with such enjoyment of food as *Bryonia*. Frau Sch—'s psychological state was an important factor in differentiation, and again *Bryonia* was preeminent.<sup>72</sup>

Hahnemann points out that the individualization of simple cases is carried out as a rapid mental operation once the materia medica is memorized or the practitioner knows where to find the symptoms, but giving all the reasons for and against each stage of the process in writing leads to "tedious prolixity". Since each disease is a unique process, not a fixed entity, case-taking merges with prescription and case-management:

Now we can neither enumerate all possible aggregates of symptoms of all concrete cases of disease, nor indicate *a priori* the homeopathic medicines for these (*a priori* undefinable) possibilities. For every individual given case (and every case is an individuality, differing from all others) the homeopathist must himself find them.<sup>73</sup>

And because the treatment is a unique analogue of the patient's symptom-complex, the distinction between theory and therapeutics is blurred and circles back to the similia principle, or general *Heilkunde*.

#### HAHNEMANN AND THE ACADEMY

Homeopathy might have been the product of a controversial iconoclast, but it was regarded as part of orthodox medicine at first, as Hegel's account of its pharmacological mechanism shows.<sup>74</sup> Nevertheless, it was not aimed at hypothesized proximate or ultimate causes, as in rationalist or symptomatic medicine. Still less did its explicitly holistic individualization of disease states hand doctors a bagful of easy-to-remember empirical specifics, to which more or less plausible justifications could be attached; even the 'fixed' contagious diseases seen in epidemics required different remedies to be calibrated at each

outbreak.<sup>75</sup> The *Organon* pointed in a different direction from its German and French contemporaries, yet it appeared at a time when Hahnemann wished to acquire a secure academic base from which to promote homeopathy and transform therapeutics, and the detailed critique of existing practices, for which its author had become notorious, is notably absent. It would be surprising therefore if it were the sole example of his rhetorical deployment of terminology and structures corresponding to the mindset of German academic medicine. Two years after the appearance of the *Organon*, he presented his *habilitation* thesis at Leipzig University, where university regulations allowed anyone capable of successfully defending a thesis to lecture as an unsalaried *Privatdozent*.<sup>76</sup> His demonstration that the "hellebore" used in Classical Greece, Rome and Islam was none other than the plant known to the moderns as *Veratrum album*, cites more than five hundred sources from Greek, Roman, Arabic, English, French and Italian authors in the original languages, up to the year 1200. An idea of the aloofness of the work can be got from Hahnemann's disdainful prefatory note that he would "leave it to others to give an account of the use of hellebore in modern times". Medical and linguistic historiography that combined "fearsome erudition and minute scholarship, quite divorced from any practical problems in medical practice"<sup>77</sup> was an unusual departure for Hahnemann, given his outspoken rejection of unvalidated historical authority and philosophical theorizing in medicine, and seems to call for explanation absent from the text.

In a discussion of the pecking orders that scientific and scholarly communities create for different disciplines, Nicholas Jardine points out that they are important when we want to find out which disciplines serve as models of procedure and presentation for others.<sup>78</sup> For example, in Renaissance Italian medical training physicians nearly always gained doctorates in philosophy as well as medicine, as part of a process of professional legitimation aimed at raising the status of mere empirics. A similar situation existed in German medical teaching in the first decades of the nineteenth century, and casts much light on Hahnemann's remarkable thesis. As the limitations of Brunonianism became more apparent, medical textbooks became increasingly obsessed with historical precedent, even to the exclusion of current theory and practice. This "history craze" became as characteristic of the Romantic movement in German medicine as *Naturphilosophie*, and led its followers to worship the "record of the manifestations of the original ideas which underlie all sound medical theory and practice".

A reinterpretation of his thesis in this light suggests that, in order to gain the right to lecture at Leipzig, Hahnemann abandoned the well-known practical urgency that enlivens the rest of his considerable output and instead presented the authorities with an academic performance designed to flatter — or flatten — their judgement at that moment in 1812. The strategy worked. His opponents had anticipated a field day demolishing a homeopathic thesis, but in the event Hahnemann was unopposed and obtained his platform.

THE TRANSFORMATIONS OF THE *ORGANON*

This historiographical display had been anticipated in the Introduction to the 1810 *Organon*, albeit grounded in the demands of day-to-day therapy. The German academic world was not won over on its own terms, however, and vitriolic attacks on Hahnemann by Hecker and others followed.<sup>79</sup> At the same time, the attractions of *Naturphilosophie* were beginning to prove irresistible for many. Kieser, the professor of pathology at Jena, published a medical system in 1817 in which less than a fifth of the section on diagnosis mentioned practical observation, the bulk being devoted to speculation about the meaning of various symptoms in relation to Schelling's theories of male–female polarities and positive and negative electrical charges.<sup>80</sup> In the same year Hahnemann reaffirmed his traditional practical stance, declaring that homeopathy stood or fell on the evidence of validly conducted clinical experiments.<sup>81</sup>

The difficulty of fitting a unified acausal methodology into deductive hierarchies such as Roeschlaub's and Kieser's no doubt explains another important change in the second and subsequent editions: a new title, *Organon der Heilkunst*, acknowledged that, in its essential form, homeopathy began and ended in therapeutics. Moreover, for Hahnemann, it was the only therapeutics worth the name. At the same time, Gellert's verse was replaced with a new motto: the Horatian challenge *aude sapere*, dare to know (*Epodes* I, 2, 40). This could be seen as forming yet another connexion with Kant, whose essay “What is Enlightenment?”<sup>82</sup> continues: “The motto of enlightenment is therefore: *sapere aude!* Have courage to use your *own* understanding!” [original emphasis].

Yet Hahnemann was a child of the Enlightenment — literally, after his father had brought him up according to Rousseau's principles<sup>83</sup> — and scarcely needed lessons from Kant. Also in 1784, Hahnemann had written in one of his earliest publications that the true physician “rejects nothing not investigated by himself, nor takes the word of another, and has the courage to think for himself and to treat accordingly”.<sup>84</sup>

The *Organon*'s brief first aphorism acquired a lengthy footnote, burning any academic bridges that might have been under construction. It attacks “learned reveries” about the essence of life and origin of disease, identification of disease with its cause, “unintelligible and pompous expressions” designed to impress, and chairs of “theoretical medicine”, and ended with another call to arms:

It is high time that all those who call themselves physicians should cease to deceive suffering humanity with words that have no meaning, and begin to act — that is to say, to afford relief, and cure the sick in reality.<sup>85</sup>

However, in spite of Hahnemann's efforts to reform therapeutics, many conceptual, scientific, economic, sociological and psychological obstacles stood in his way. Fashions in medical jargon may also have played a small part in homeopathy's struggle for recognition. *Heilkunst* — the working-out at the individual level of medical theory — was being replaced as a term, even in the early 1800s, by



*praktische Heilkunde*, and later by *Therapie*. By the mid-nineteenth century, outside of internal homeopathic literature, *Heilkunst* had been pushed to the margins in terms such as *Wasserheilkunst*, hydrotherapy — in other words, those fields rapidly being shed by the growing body of biomedicine.<sup>86</sup> The Viennese “therapeutic nihilist” Joseph Dietl complained in 1845 that the physician had been for too long a mere *Heilkünstler* — therapist — and should strive to become a *Naturforscher* — scientific researcher.<sup>87</sup> *Heilkunde* itself began to be affected by the same process of semantic displacement and decline: Jütte points out that in the 1880s dissident therapies were dismissed as *Naturheilkunde*, nature-cure, by the practitioners of scientific *Schulmedizin*.<sup>88</sup> Yet Hahnemann maintained he was advancing a scientific therapeutics till the end, as shown by the references to *rationelle Heilkunst* in the later editions of the *Organon*. Increasingly, the expression is used as an ironic reproach to the followers of different medical gods, either those who perpetuated the old abuses, or such as Dietl, whose calls for a new *rationelle Therapie* unconsciously echoed Hahnemann’s rhetorical claim of thirty years before.<sup>89</sup>

Readers of translations not based on historical German usage faced further problems. For instance, the only English translation of the first edition — usefully clear in most respects — conflated the titles of the first and second editions, distorting the German terms at the same time: *rationelle Heilkunde* — scientific medical theory — and *Heilkunst* — therapeutics — became “rational healing art”.<sup>90</sup> Since all doctors believe they act rationally and practise the “healing art”, they could be forgiven for asking what Hahnemann meant.

#### EVALUATION AND REEVALUATION

The tendency of sceptical opponents of homeopathy to base their entire critique on the *a priori* impossibility of infinitesimal doses while ignoring more fundamental components of the therapy, such as drug tests, the similia principle and individualization of prescriptions, was noted by August Bier, the influential Berlin surgeon who critically investigated the subject in the 1920s.<sup>91</sup> Hahnemann is usually excluded from accounts of early pharmacological investigation of the pure effects of drugs in humans, despite the priority and scale of his work, and the sometimes explicit indebtedness of canonical pioneers such as Magendie, Orfila and Purkinje to his methods, because homeopathy is held to “contradict the most elementary scientific knowledge”.<sup>92</sup> Nevertheless, infinitesimal doses were not part of the homeopathic hypothesis, were rarely used in drug tests, and were only gradually introduced into treatment as Hahnemann’s experience with the method increased.<sup>93</sup> They were a refinement and not a requirement of the system. Even though Hahnemann repeatedly claimed that chemistry was as inappropriate to the analysis of his triturated and succussed medicines as it was to detecting the difference between plain and magnetized iron, the fact that they have always been open to clinical testing, regardless of prior beliefs about their plausibility, suggests that explanations of homeopathy’s comprehensive rejection by official medicine should be sought elsewhere.<sup>94</sup>

Philosophy and medicine were explicitly connected in German intellectual life in the period 1790–1840 in a manner not countenanced elsewhere. Later, Romantic medicine came to be seen as a blind alley in the onward march of medical progress, disavowed nowhere more strongly than in Germany, and the era's coincidence with Hahnemann's working life ensured he was tarred with the same brush. Shryock's claim in 1936 that homeopathy "was established in Germany during the last days of the *Naturphilosophie*, and was characterized ... by a monistic pathology and therapeutics" is typical of its period in its inaccuracies of date, intellectual relationships, nosology and treatments.<sup>95</sup> Yet it remains true that the reorientation of medical and scientific historiography in the second half of the twentieth century away from intra-professional triumphalism and 'great men' towards socially-oriented reflexivity has generally left homeopathy's content and methods on one side, in favour of regional studies of its clientele or its political and economic battles with allopathy.<sup>96</sup>

Much therefore remains to be explored in the relationships of homeopathic 'science' to the intellectual environment of its birthplace, and the parallel formation of biomedicine in the nineteenth century. Hahnemann came from a similar Pietist background to Kant, and the enactment of the categorical imperative in a medical context underlay his life's work, long after he had left Pietism behind. Nonetheless, he was not bound to accept Kant's confidence in Brunonian theory. He was just as critical of visionary hyper-Brunonianism such as Schelling's,<sup>97</sup> and maintained — rightly it would appear — that a fallacious association with *Naturphilosophie* and Romantic medicine had retarded the acceptance of homeopathy.<sup>98</sup> Yet, ironically for a philosophy that seems to have had such an influence on Hahnemann's critical outlook, it was a Kantian pronouncement about the legitimate domains of scientific inquiry that hastened the marginalization of homeopathy, more subtly but possibly even more thoroughly than the "infinitesimal" doses that proclaimed a self-evident absurdity.

As noted, Hahnemann emphasized the individuality of each sick person, and the crucial importance of emotional and cognitive states in determining the *simillimum* — the most similar and thus most suitable medicine:

It is not too much to say that the mental symptoms of a patient often form the determining factor in the choice of the medicinal counter-force. They are the characteristics which the observant physician can least of all afford to overlook.<sup>99</sup>

Kant had said that the contents of the mind could not be studied scientifically, on the interesting grounds that they exist in time but not in space, and are hence unamenable to mathematical description. This orientation helped to underwrite the tendency towards identification of disease processes with their lesional endstates that came to characterize 'hospital' and 'laboratory' definitions of illness,<sup>100</sup> the assumption being that the classification and diagnosis of any disease should indicate essential organic and biochemical characteristics common to all patients who

present with it, and that any symptomatic or causal treatment ought ideally to be valid at all times, in all places, for everybody. The search for the single apodictic answer to each species of disease came to the fore in the milieu that proclaimed their devotion to empirical fact most loudly; but was linked, not just with the now-familiar disappearance of the patient narrative, but, moreover, with an explicit and institutionalized disbelief in what the patient or experimental 'subject' might have to report.<sup>101</sup> Since that time, many trained in what became the dominant medical model, including the practical majority who were uninterested in nosology, have had difficulty comprehending a therapy that side-stepped causation and elevated the individual's 'claims' to subjective experience above her common mammalian reactions.<sup>102</sup>

Another objection to homeopathy's acausal descriptive personalism was the unfalsifiability of its prescription-analogues.<sup>103</sup> Hahnemann rejected the relevance of the Kantian *a priori* to the understanding of disease, but the quest for the simillimum invoked another kind of Kantian *a priori*, one that functions as an ideal exemplar or paradigm (in the traditional, Aristotelian sense of *paradeigma*, pattern). Kant discusses this under the heading "Of the regulative employment of the ideas of pure reason", using geometrical and physical illustrations such as the circle or vacuum:

The most remarkable circumstance connected with these principles is, that they seem to be transcendental, and, although only containing ideas for the guidance of the empirical exercise of reason, and although this empirical employment stands in an asymptotic relation alone ... that is, continually approximate, without ever being able to attain them, they possess, notwithstanding, as *a priori* synthetical propositions, objective though undetermined validity, and are available as rules for possible experience. In the elaboration of our experience, they may also be employed with great advantage, as heuristic principles.<sup>104</sup>

Many drugs might produce symptoms similar to the patient's, but only the one offering the closest fit to the symptom-complex was chosen. It follows that the simillimum remains as an ideal of treatment that can only be approximated in any case of illness, albeit using a teachable heuristic involving an equation of analogous qualities, as in the case of Frau Sch—. Falsifying such an hypothesis poses considerable difficulties, given the astonishing number of variables at play in symptom collection and matching, not to mention evaluation of the clinical results. Are the difficulties therefore evidence of homeopathy's lack of scientific plausibility? Hahnemann believed not, but his warning that valid appraisals had to follow his method of individualizing were usually ignored. And even Hahnemann's care in case-taking could also be held against him: it might have been "in line with the best modern teaching and considerably in advance of the average *practice*" of the next century even, but it was clear that the undeniable therapeutic benefits of homeopathy were a non-specific effect due to patient–practitioner interaction.<sup>106</sup>

The theory's predictive power in the face of new diseases such as cholera or old ones such as pneumonia that defied orthodox treatment might reasonably have been considered a better test of its plausibility,<sup>107</sup> but even there its clinical successes were held against it. J. C. A. Heinroth, professor of psychiatry at Leipzig, prefaced an all-out attack by stating that he was unconcerned with clinical evidence — only with theoretical objections;<sup>108</sup> the *Bulletin général de thérapeutique* said the clinical results of homeopathy were irrelevant, however successful, because the ends could not justify the means.<sup>109</sup> Clinical evidence against homeopathy was welcomed, of course. Shryock boasted that scientific medicine came of age when the therapy was expelled from the body medical on the basis of “exact, critical analyses” by the Paris School, particularly the clinical trials by Gabriel Andral in Paris, 1834, but he cannot have been aware of the depth of Andral's misconceptions about homeopathic practice.<sup>110</sup> Andral believed that Hahnemann chose a single symptom to prescribe on, for example, and read no German at a time when the homeopathic materia medica had not yet been translated into French, as his assistant later admitted.<sup>111</sup> None of the patients of the other Parisian allopaths who attempted to evaluate the new therapy received any homeopathic medicines at all, since placebos were substituted on *a priori* grounds.<sup>112</sup> In fairness, it must be acknowledged that homeopathy was not the only subject to suffer from the low level of ostensibly evaluative debate at the time. The discrediting of Broussais, himself a notorious opponent of homeopathy, seems to have hinged as much on the death of a single celebrity, as on his general mortality rates in cholera.<sup>113</sup>

In Britain, the behaviour of the Medical Council, set up by the President of the Board of Health, Sir Benjamin Hall, to compare results of different treatments in the 1854 London cholera epidemic, exemplifies the difficulties that impartial clinical evaluation of competing therapies posed for the profession at this date. The historic importance of the large-scale trial was apparent to its participants at the time, and has been emphasized more recently as a defining moment in the evolution of the clinical trial.<sup>114</sup> When asked by Hall to explain the suppression of the returns from the London Homoeopathic Hospital, Golden Square, Soho (at the epicentre of the epidemic), the Council tacitly acknowledged the dramatic superiority of the independently evaluated homeopathic results, but agreed unanimously that

by introducing the returns of homoeopathic practitioners, they would not only compromise the value and utility of their averages of cure, as deduced from the operation of known remedies, but they would give an unjustifiable sanction to an empirical practice alike opposed to the maintenance of truth and to the progress of science.<sup>115</sup>

In contrast to homeopathic medicines such as *Camphora*, *Cuprum* and *Veratrum album* chosen because their pathogeneses had mirrored successive stages of cholera symptomatology, useless or dangerous allopathic cholera treatments acquired therapeutic dignity, if not efficacy, by virtue of the categories they belonged to. Calomel, chalk, ether and castor oil became “scientific” when classed respectively

as ‘alterative’, ‘astringent’, ‘stimulant’ or ‘eliminant’<sup>116</sup> — the very same rationalist terms satirized half a century earlier by Hahnemann.<sup>117</sup> Ether in particular was pure Brunonianism, but subverted because it was wrongly believed to be a stimulant.<sup>118</sup> Rudolf Virchow believed the possibility of an explanation was not a scientific criterion,<sup>119</sup> but it was probably more realistic to say that

Western knowledge is a form of having.... If knowledge is a form of possession, it follows that one possesses only what one understands. For what is not understood cannot truly be called a possession. Pragmatism is a disinherited offshoot of the true idea of Western knowledge because it is satisfied with the fruition of what it does not possess by comprehension.<sup>120</sup>

Looking beyond the incompatible aspects of Kantian and Hahnemannian medical assumptions, there are interesting similarities in Hahnemann’s and Hegel’s programmes that undoubtedly warrant further study. Post-Kantians with ambitions to transform their disciplines, they both believed they had transcended the rationalism or empiricism of their medical and philosophical predecessors and contemporaries. Both rejected mind–body dualism, and created integrated systems that were phenomenologically and semantically based — possibly under Herder’s influence — while asserting their scientific validity. There are ironic similarities in their reception as well. Both have frequently been derided as charlatans, or “too difficult to understand”, by practitioners and historians of medicine and philosophy, who have generally felt free to abandon academic objectivity when writing about them. Both are often confused with the *Naturphilosophen*, despite their having taken care to distance themselves from biological and philosophical Romanticism. Both had immense influence on the subsequent development of their disciplines, that has often gone unacknowledged.

Finally, it would be misleading to leave homeopathy under glass, as if it really were not a widely practised unofficial therapy in the present-day, and Hahnemann were known only to medical historians, like his contemporaries Cullen, Brown, Baumes, Hufeland, Roeschlaub, Kieser, Heinroth, Broussais, Trousseau, Andral and Dietl. Philosophically, the late twentieth-century rediscovery of psychology’s “double ontology” — that personhood coexists with but is not reduceable to Cartesian co-ordinates or molecular activity<sup>121</sup> — seems to have gone hand-in-hand with the realization that Hegel’s ‘hermeneutic circle’ could well be a more productive model for current developmental theory than the accepted Cartesian-Kantian one.<sup>122</sup> Whether this reorientation will eventually encompass Hahnemann’s medical personalism and what his expanded nondualistic notion of pharmacology might be able to tell us about ourselves remains to be seen. But as far as homeopathy’s enigmatic biomedical status as an irrefutable but unassimilable therapy is concerned,<sup>123</sup> recent commitments to pragmatic evidence-based healthcare have allowed Hahnemann’s *rationelle Heilkunst* to surface and be examined more impartially than before — not just for what it might ‘be’,<sup>124</sup> but also for what value it might have to offer patients and their doctors on its own terms.<sup>125</sup> When

that celebrated ironist Jean Paul exclaimed: “*Hahnemann, that double-headed prodigy of philosophy and learning ... whose system spelled the final ruin of the prescription-mongers, but was nevertheless little taken up by practitioners, and is more reviled than investigated*”,<sup>126</sup> he may not have guessed his judgement would stand for nearly another two centuries before it could be gainsaid.

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  18. Jean Baptiste Baumes, *Essai d’un système chimique de la science de l’homme* (Nîmes, 1798).
  19. Andreas Roeschlaub, “Einige Bemerkungen ueber die Definition und Eintheilung der Medizin”, *Magazin zur Vervollkommnung der theoretischen und practischen Heilkunde*, i (1799), 279–302.
  20. Cited in: Jacob and Wilhelm Grimm, *Deutsches Wörterbuch*, ed. by Moriz Heyne, iv (Leipzig, 1862).
  21. Friedrich W. J. von Schelling, *Einleitung zu seinem Entwurf eines Systems der Naturphilosophie, oder ueber den Entwurf der speculativen Physik und die innere Organisation eines Systems dieser Wissenschaft* (Jena and Leipzig, 1799).
  22. Roy Porter, *The greatest benefit to mankind: A medical history of humanity from Antiquity to the present* (London, 1997), 674.
  23. Samuel Hahnemann, “Versuch über ein neues Prinzip zur Auffindung der Heilkräfte der Arzneisubstanzen, nebst einigen Blicken auf die bisherigen”, *Journal der practischen Arzneykunde und Wundarzneykunst*, ii (1796), 391–439, 465–561; also in: Samuel Hahnemann, *Kleine medicinische Schriften*, ed. by Ernst Stapf (Dresden and Leipzig, 1829); Samuel Hahnemann, *The lesser writings*, transl. and ed. by R. E. Dudgeon (London, 1852).
  24. Samuel Hahnemann, “Ueber die Kraft kleiner Gaben der Arzneien überhaupt und der Belladonna insbesondere”, *Neues Journal der practischen Arzneykunde und Wundarzneykunst*, xiii (1801), 152–9. Other notable articles by Hahnemann that appeared in Hufeland’s *Journal* are: “Fragmentarische Bemerkungen zu Brown’s Elements of Medicine” (ref. 2); “Monita über die drey gangbaren Kurarten”, xi (1801), 3–64; “Heilkunde der Erfahrung”, xxii (1805), 5–99; “Was sind Gifte? Was sind Arzneien?”, xxiv (1806), 40–57; “Fingerzeige auf den homöopathischen Gebrauch der Arzneien in der bisherigen Praxis”, xxvi (1807), 5–43. All

- except the last two are collected in: Hahnemann, *Kleine medicinische Schriften*; Hahnemann, *The lesser writings* (ref. 23).
25. House of Commons, *Return to an Address of the Honourable House of Commons*, Sessional Papers, no. 255, xlv (1854–55), 189–226.
  26. Richard H. Shryock, *The development of modern medicine: An interpretation of the social and scientific factors involved*, 2nd edn (London, 1948), 138; Lester S. King, *The medical world of the eighteenth century* (Chicago, 1958), 156–91.
  27. Knut Faber, “Nosography in modern internal medicine”, *Annals of medical history*, iv (1921), 1–63; Owsei Temkin, “The scientific approach to disease: Specific entity and individual sickness”, in A. C. Crombie (ed.), *Scientific change* (London, 1963), 629–47.
  28. Hahnemann, “Heilkunde der Erfahrung” (ref. 24).
  29. For homeopathy as a reaction to Brunonianism, see: Hans Joachim Schwanitz, *Homöopathie und Brownianismus, 1795–1844* (Stuttgart, 1983); as empiricism’s final answer to 1500 years of Galenic rationalism, see: Coulter, *Divided legacy (II)* (ref. 10).
  30. Hahnemann, “Fragmentarische Bemerkungen zu Brown’s Elements of Medicine” (ref. 2).
  31. Samuel Hahnemann, “Ueber den Werth der speculativen Arzneysysteme, besonders im Gegenhalt der mit ihnen gepaarten, gewöhnlichen Praxis”, *Allgemeiner Anzeiger der Deutschen*, ii (1808), 2841–52, 2857–68, collected in Hahnemann, *Kleine medicinische Schriften*; Hahnemann, *The lesser writings* (ref. 23).
  32. W. R. Albury, “French nosologies around 1800 and their relationship with chemistry”, in E. G. Forbes (ed.), *Proceedings of the XVth International Congress of the History of Science* (Edinburgh, 1977), 502–17.
  33. See: Hahnemann, “Monita über die drey gangbaren Kurarten” (ref. 24); “Examination of the sources of the common materia medica”, in *Lesser writings* (ref. 23), transl. from: Samuel Hahnemann, *Reine Arzneimittellehre*, iii (Dresden, 1817).
  34. Francis Bacon, *Novum organum* (London, 1620), i, §95.
  35. Hahnemann, “Monita über die drey gangbaren Kurarten” (ref. 24).
  36. Hahnemann, “Examination of the sources of the ordinary materia medica” (ref. 33).
  37. Hegel, *Philosophy of nature* (ref. 16), iii, 206.
  38. Otto E. Guttentag, “Trends toward homeopathy: Present and past”, *Bulletin of the history of medicine*, viii (1940), 1172–93.
  39. Charles Sanders Peirce, *Collected papers* (Cambridge, MA, 1935), vi, 522–8.
  40. Norman R. Hanson, *Patterns of discovery: An inquiry into the conceptual foundations of science* (Cambridge, 1958), 70ff.
  41. Hahnemann’s footnote to: Cullen, *Abhandlung über die Materia medika* (ref. 1), ii, 108; he had seen many cases of malarial fever while practising in Transylvania in 1777–79 (*ibid.*, 114).
  42. Scott Atran, *Cognitive foundations of natural history: Towards an anthropology of science* (Cambridge, 1990), 89ff.
  43. Cullen, *Abhandlung über die Materia medika* (ref. 1), ii, 108.
  44. Samuel Hahnemann, *Fragmenta de viribus medicamentorum positivis sive in sano corpore humano observatis. Pars prima: Textus. Pars secunda: Index* (Leipzig, 1805).
  45. Samuel Hahnemann, *Organon der rationellen Heilkunde* (Dresden, 1810). The text of that edition can be found most easily, along with the texts of the five subsequent revised editions, in: Samuel Hahnemann, *Organon-Synopse: Die 6 Auflagen von 1810–1842 im Überblick*, ed. by Bernhard Luft and Matthias Wischner (Heidelberg, 2000). Quotations are taken from: Samuel Hahnemann, *Organon of the rational healing art*, transl. by C. E. Wheeler from the 1st German edn of 1810 (London, 1913), adjusted where necessary.



46. Hahnemann, "Heilkunde der Erfahrung" (ref. 24)
47. Even a medical instrument: Walter Rumsey, *Organon salutis. An instrument to cleanse the stomach, as also divers new experiments of the virtue of tobacco and coffee: How much they conduce to preserve humane health* (London, 1657).
48. Johann Heinrich Lambert, *Neues Organon oder Gedanken über die Erforschung und Bezeichnung des Wahren und dessen Unterscheidung vom Irrthum und Schein* (Leipzig, 1764).
49. F. G. J. Henle, *Handbuch der rationellen Pathologie* (Braunschweig, 1846).
50. Leaving an identifiable gap: Rudolf Carnap, Karl Popper and others complained that psychoanalysis and Marxism did not deserve their self-descriptions as scientific — *wissenschaftlich*. The disappearance of the original meaning of *rationell* might even have been a factor in the foregrounding of the demarcation problem by the Vienna Circle.
51. Die Wahrheit, die wir alle nöthig haben,  
Die uns als Menschen glücklich macht,  
Ward von der weisen Hand, die sie uns zgedacht,  
Nur leicht verdeckt, nicht tief vergraben.  
I have adjusted the translation in: Samuel Hahnemann, *Organon of medicine*, 2nd edn, transl. and ed. by Robert E. Dudgeon from the 5th German edn (London, 1893; reprinted Calcutta, 1961), 155.
52. Pp. v–xlvi, previously published as: Hahnemann, "Fingerzeige auf den homöopathischen Gebrauch der Arzneien in der bisherigen Praxis" (ref. 24); first English translation: Samuel Hahnemann, *The homoeopathic medical doctrine, or, 'Organon of the Healing Art; A new system of physic*, transl. by Charles H. Devrient from the fourth German edn of 1829, with notes by Samuel Stratten (Dublin, 1833), 48–101.
53. Hahnemann, "Monita über die drey gangbaren Kurarten" (ref. 24); Hahnemann, "Ueber den Werth der speculativen Arzneysysteme" (ref. 31).
54. Hahnemann, "Heilkunde der Erfahrung" (ref. 24).
55. Dean, "Homeopathy and alchemy: (2)" (ref. 10).
56. Hahnemann, *Organon der rationellen Heilkunde* (ref. 45); Roeschlaub, "Einige Bemerkungen ueber die Definition und Eintheilung der Medizin" (ref. 19).
57. Erwin A. Ackerknecht, "Diathesis: The word and the concept in medical history", *Bulletin of the history of medicine*, lvi (1982), 317–25.
58. Hahnemann, *Organon* (ref. 45), § 6.
59. *Ibid.* § 32.
60. *Ibid.* § 43.
61. *Ibid.* § 45.
62. *Ibid.* §§ 62–69.
63. *Ibid.* § 79–81.
64. Hahnemann, *Fragmenta de viribus* (ref. 44); Samuel Hahnemann, *Reine Arzneimittellehre* (6 vols, Dresden, 1811–21); 2nd edn (Dresden, 1822–27); 3rd edn (2 vols, Dresden, 1830–33), transl. by R. E. Dudgeon (ed.) as *Materia medica pura* (2 vols, London, 1880); Samuel Hahnemann, *Die chronischen Krankheiten, ihre eigenthümliche Natur und homöopathische Heilung* (4 vols, Dresden and Leipzig, 1828–30); 2nd edn (5 vols, Dresden and Leipzig, and Düsseldorf, 1835–39), transl. by L. Tafel as *The chronic diseases: Their peculiar nature and their homoeopathic cure* (2 vols, Philadelphia, 1896). For tabulated analysis of the development and publication history of Hahnemann's materia medica, see: Richard Hughes, *A manual of pharmacodynamics*, 6th edn (London, 1893), 17–39.
65. Hahnemann, *Organon* (ref. 45), § 121.
66. *Ibid.*, § 115.

67. *Ibid.*, § 129.
68. *Ibid.*, § 186.
69. *Ibid.*, § 189.
70. Samuel Hahnemann, “Cases illustrative of homoeopathic practice” (1817), in *The lesser writings* (ref. 23), 766–73.
71. *Ibid.*
72. The follow-up to this case is interesting. Hahnemann prescribed a drop of (undiluted) *Bryonia* tincture in the customary single dose and asked Frau Sch— to see him in 48 hours, telling a colleague present at the time that she would be better the next day. She never returned, and when the colleague sought her out later from curiosity, she replied: “What was the use of going back? The very next day I was quite well, and could start my washing again. I am extremely obliged to the doctor, but the likes of us have no time to leave off our work. For three weeks previously my illness prevented me from earning anything” (*ibid.*).
73. *Ibid.*
74. Hegel, *Philosophy of nature* (ref. 16), iii, 205.
75. Hahnemann, *Organon* (ref. 45), § 79.
76. Samuel Hahnemann, *Dissertatio historico-medica de helleborismo veterum [Habilitation]* (Leipzig, 1812); also in *Kleine medicinische Schriften* and *Lesser writings* (ref. 23).
77. King, *The medical world of the eighteenth century* (ref. 26), 173.
78. Nicholas Jardine, *The scenes of inquiry: On the reality of questions in the sciences* (Oxford, 1991), 111ff, citing H. von Seemen, *Kenntnis der Medizinhistorie in der deutschen Romantik* (Zürich, 1926).
79. See: Haehl, *Samuel Hahnemann* (ref. 1), i, 89ff.
80. Dietrich Georg von Kieser, *System der Medizin* (Halle, 1817–19), cited in H. G. Schenk, *The mind of the European romantics: An essay in cultural history* (London, 1966), 180.
81. Samuel Hahnemann, “Nota bene for my reviewers”, *Lesser writings* (ref. 23), 659–64; translated from: Hahnemann, *Reine Arzneimittellehre*, 2nd edn (ref. 64), iii. Perhaps it was a sign of the times, or just of his normal impatience, that he pushed the historical review to the end of the *Organon*’s Introduction in the 4th edition of 1829, and preceded it with an equally lengthy recension of his medical critique. The history of homeopathy’s precursors was reduced to a handful of examples in the 5th edition of 1833. Hahnemann’s extensive annotations and revisions to the 5th edition were not published until 1921: Samuel Hahnemann, *Organon der Heilkunst*, 6th edn, Richard Haehl (ed.) (Leipzig, 1921).
82. Kant, “Beantwortung der Frage: Was ist Aufklärung?” (ref. 11).
83. Hahnemann later translated Rousseau: *Handbuch für Mütter, oder Grundsätze der ersten Erziehung der Kinder*, transl. by S. Hahnemann from *Principes de Jean-Jacques Rousseau, sur l’éducation des enfants* [Paris, 1793] (Leipzig, 1796).
84. Samuel Hahnemann, *Anleitung alte Schaeden und faeule Geschwuere gruendlich zu heilen* (Leipzig, 1784), 179.
85. Hahnemann, *The homoeopathic medical doctrine* (ref. 52), 101.
86. I am grateful to an anonymous reviewer for this journal who drew my attention to the historiographical survival of the term in *Die Apologie der Heilkunst: eine griechische Sophistenrede des fünften vorchristlichen Jahrhunderts*, transl., ed. and annotated by Theodor Gomperz (Leipzig, 1890).
87. Josef Dietl, “Praktische Wahrnehmungen nach den Ergebnissen im Wiednerbezirkskrankenhaus”, *Zeitschrift der k.u.k. Gesellschaft der Aertze zu Wien*, i/2 (1845), 9, cited in Jens Lachmund, “Between scrutiny and treatment: Physical diagnosis and the restructuring of 19th century medical practice”, *Sociology of health & illness*, xx (1998), 779–801.

88. Robert Jütte, "The paradox of professionalisation: Homeopathy and hydropathy as unorthodoxy in Germany in the 19th and early 20th century", in Robert Jütte, Guenter B. Risse and John Woodward (eds), *Culture, knowledge and healing: Historical perspectives of homeopathic medicine in Europe and North America* (Sheffield, 1998), 65–88. *Naturheilkunde* survives as naturopathy; see: M. Wiesenauer, P. Groh and S. Haussler, "Naturheilkunde als Beitrag zur Kostendämpfung: Versuch einer Kostenanalyse", *Fortschritte der Medizin*, cx/17 (1992), 311–14, for evidence that it might even be *rationell*, in the modern sense of economically efficient.
89. Hahnemann, *Organon der Heilkunst*, 5th edn (ref. 45), § 222; Lachmund, "Between scrutiny and treatment" (ref. 87).
90. Hahnemann, *Organon* (ref. 45).
91. August Bier, "Wie sollen wir uns zu der Homoeopathie stellen?", *Münchener medizinische Wochenschrift*, lxxii/1 (1925), 713–17, 773–6.
92. Miles Weatherall, "Drug therapies", in W. F. Bynum and Roy Porter (eds), *Companion encyclopaedia of the history of medicine* (London, 1994), 915–38, especially pp. 918f, 936. Between 1805 and 1837, Hahnemann published provings of nearly 100 drugs that he had personally conducted or directed (ref. 64).
93. Hahnemann, "Ueber die Kraft kleiner Gaben der Arzneien überhaupt und der Belladonna insbesondere" (ref. 24). See: Hughes, *A manual of pharmacodynamics* (ref. 64), 930–9, for a chronological review of Hahnemann's posology.
94. Samuel Hahnemann, "How can small doses of such very attenuated medicine as homoeopathy employs still possess great power?", in Hahnemann, *The lesser writings* (ref. 23), 728–34, transl. from Hahnemann, *Reine Arzneimittellehre*, 2nd edn (ref. 64), vi; "Magnes", *Reine Arzneimittellehre*, 3rd edn (ref. 64), i.
95. Shryock, *The development of modern medicine* (ref. 26), 138.
96. With the consequence that occult and Paracelsan ideas are still regularly imputed to Hahnemann even by post-positivist historians: Gloria Flaherty, "The non-normal sciences: Survivals of Renaissance thought in the eighteenth century", in C. Fox, R. Porter and R. Wokler (eds), *Inventing human science: Eighteenth century domains* (Berkeley, 1995), 271–91. For a corrective to this view, see: Dean, "Homeopathy and alchemy: (I) and (II)" (ref. 10). Notable content-based exceptions are: Josef M. Schmidt, *Die philosophischen Vorstellungen Samuel Hahnemanns bei der Begründung der Homöopathie* (Munich, 1990); Friedrich Dellmour, "Homöopathie und Lebenskraft. Begriffe bei Samuel Hahnemann", in Franz Swoboda (ed.), *Documenta homoeopathica* (Vienna, 1997), 63–103. For recent social historiography of homeopathy, see: Olivier Faure (ed.), *Practiciens, patients et militants de l'homéopathie (1800–1940)* (Lyon, 1992); Jütte, Risse and Woodward (eds), *Culture, knowledge and healing* (ref. 88).
97. Hahnemann, "Ueber den Werth der speculativen Arzneysysteme" (ref. 31).
98. Haehl, *Samuel Hahnemann* (ref. 1), ii, 287.
99. Hahnemann, *Organon* (ref. 45), § 187.
100. Michel Foucault, *La naissance du clinique* (Paris, 1963); Erwin A. Ackerknecht, *Medicine at the Paris Hospital 1794–1848* (Baltimore, 1967); N. D. Jewson, "The disappearance of the sick-man from medical cosmology, 1770–1870", *Sociology*, x (1976), 225–44; Russell C. Maulitz, *Morbid appearances: The anatomy of pathology in the early nineteenth century* (Cambridge, 1987).
101. Lachmund, "Between scrutiny and treatment" (ref. 87).
102. The idea of compiled personal reactivities mystified an otherwise sympathetic commentator on a recent successful randomized placebo-controlled trial of infinitesimal doses for childhood diarrhea: C. D. Berkowitz, "Homoeopathy: Keeping an open mind", *Lancet*, cccxlv (1994),

- 701–2, commenting on: J. Jacobs, L. M. Jiménez, S. S. Gloyd, J. L. Gale and D. Crothers, “Treatment of acute childhood diarrhea with homeopathic medicine: A randomized clinical trial in Nicaragua”, *Pediatrics*, xciii/5 (1994), 719–25.
103. For the relevance of Popper’s criterion to homeopathy in falsificationism’s heyday, see: Frank Cioffi, “Freud and the idea of a pseudo-science”, in Robert Borger and Frank Cioffi (eds), *Explanation in the behavioural sciences* (Cambridge, 1970), 471–515; Anthony C. H. Campbell, “Is homoeopathy scientific? A reassessment in the light of Karl Popper’s theory of scientific knowledge”, *British homoeopathic journal*, lxxvii (1978), 77–85; Schwanitz, *Homöopathie und Brownianismus, 1795–1844* (ref. 29), 177.
104. Immanuel Kant, *Critique of pure reason*, transl. by J. M. D. Meiklejohn from the 2nd German edn of 1787 (London, 1934), 384.
105. Hahnemann, “Nota bene for my reviewers” (ref. 81).
106. Ian Suttie, *The origins of love and hate* (Harmondsworth, 1952 [1936]), 130, original emphasis; 132.
107. For cholera see: Lucille Lasveaux, *Traitements homéopathiques du choléra dans la France du XIXe siècle* (Lyon, 1988); Bernard Leary, “Cholera 1854: update”, *British homoeopathic journal*, lxxxiii (1994), 117–21; for equally startling statistics in pneumonia: Jean-Paul Tessier, *Recherches cliniques sur le traitement de la pneumonie et du choléra suivant la méthode de Hahnemann, précédées d’une introduction sur l’abus de la statistique en médecine* (Paris, 1850); Martin Eidherr, “Erfahrungen über die Heilwirkungen der 6., 15. und 30: Arzneiverdünnung auf die entzündete Lunge”, *Zeitschrift des Vereines der homöopathischen Aertze Oesterreichs*, n.s., 1/1 (1862), 1–165.
108. J. C. A. Heinroth, *Anti-organon, oder das Irrige der Hahnemannischen Lehre im Organon der Heilkunst* (Leipzig, 1825).
109. Editorial, *Bulletin général de thérapeutique médicale et chirurgicale*, vii (1834), 5–6.
110. Shryock, *The development of modern medicine* (ref. 26), 138, referring to Anon. [Maxime Vernois], “Expériences homéopathiques faites par M. Andral, à l’hôpital de la Pitié”, *Bulletin général de thérapeutique médicale et chirurgicale*, vi (1834), 318–21.
111. Maxime Vernois, *Analyse complète et raisonnée de la matière médicale de Samuel Hahnemann* (Paris, 1835). The most comprehensive contemporary homeopathic analysis of Andral’s trials is: F. W. Irvine, “M. Andral’s homoeopathic experiments at la Pitié”, *British journal of homoeopathy*, ii/1 (1844), 49–64. See also: Carroll Dunham, “The homoeopathic experiments of M. Andral, and his past and present opinion of them”, *North American journal of homoeopathy*, ii (1852), 263–8, for evidence of Andral’s later admission that his own trials had not been conclusive, as well as his belief that homeopathy deserved serious investigation.
112. Armand Trousseau and Henri Gouraud, “Expériences homéopathiques tentées à l’Hôtel-Dieu de Paris”, *Journal des connaissances médico-chirurgicales*, viii (1834), 238–41; D. M. P. Pigeaux, “Étonnantes vertus homoeopathiques de la mie de pain: Expériences faites à l’Hôtel-Dieu”, *Bulletin général de thérapeutique médicale et chirurgicale*, vi (1834), 128–31. A systematic review of nineteenth-century placebo-controlled trials of homeopathy, including those such as Trousseau’s that used placebo alone as homeopathy’s rhetorical equivalent, is contained in: Dean, “A homeopathic origin for placebo controls” (ref. 10).
113. Ian Hacking, *The taming of chance* (Cambridge, 1990), 84.
114. Abraham Lilienfeld, “Ceteribus paribus: the evolution of the clinical trial”, *Bulletin of the history of medicine*, lvi/1 (1982), 1–18.
115. House of Commons, *Return on an Address of the Honourable House of Commons* (ref. 25), 194.
116. Medical Council, *Report on the results of the different methods of treatment pursued in epidemic cholera*, Parliamentary Papers, no. 1901, xlv (1854–55).

117. Hahnemann, "Monita über die drey gangbaren Kurarten" (ref. 24). As well as indicating homeopathic treatments, in 1831 Hahnemann proposed an infectious micro-organismic origin for the cholera pandemic; it would be interesting to know whether his suggested hygienic measures, including sterilization of clothing and bedlinen, were followed in homeopathic hospitals, accounting for some at least of homeopathy's apparent success in the cholera decades: Samuel Hahnemann, *Aufruf an denkende Menschenfreunde über die Ansteckungsart der asiatischen Cholera* (Leipzig, 1831); *Heilung der asiatischen Cholera und Schützung vor derselben* (Nuremberg, 1831); translated in *Lesser writings* (ref. 23). For the development of Hahnemann's contagionism and germ theory, including his later belief that untreated infections were a source of chronic disease, see: Dean, "Homeopathy and alchemy: (2) Contagion from miasms" (ref. 10). As with pharmacology, Hahnemann is omitted from orthodox accounts of the emergence of germ theory.
118. Conner, "Anesthetics in the treatment of cholera" (ref. 15).
119. Cited in: Otto E. Guttentag, "Homeopathy in the light of modern pharmacology", *Clinical and pharmacological therapeutics*, vii (1966), 425–8.
120. William S. Haas, *The destiny of the mind, East and West* (London, 1956), 182.
121. For example: Rom Harré, *The singular self: An introduction to the psychology of personhood* (London, 1998).
122. For example: Ivana Marková, *Paradigms, thought, and language* (Chichester, 1982); J. Scott Kelso, *Dynamic patterns: The self-organization of brain and behavior* (Cambridge, MA, 1995).
123. For instance: Paul U. Unschuld, "Plausibility or truth? An essay on medicine and world view", *Science in context*, viii (1995), 9–30.
124. For a recent substantive review which seems to endorse Hahnemann's appeals to physics (ref. 94), see: F.-A. Popp, "Hypothesis of modes of action of homoeopathy: Theoretical background and the experimental situation", in E. Ernst and E. G. Hahn (eds), *Homoeopathy: A critical appraisal* (Oxford, 1998), 145–52. D. Eskinazi, "Homeopathy revisited: Is homeopathy compatible with biomedical observations?", *Archives of internal medicine*, clix (1999), 1981–7 advances Hahnemann's principle as an explanatory mechanism underlying many so-called 'paradoxical effects' of biomedical drugs.
125. For example: Jacobs *et al.*, "Treatment of acute childhood diarrhea with homeopathic medicine" (ref. 102); Carl May and Deepak Sirur, "Art, science and placebo: Incorporating homeopathy in general practice", *Sociology of health & illness*, xx (1998), 168–90; Jeremy Swayne, *Homeopathic method: Implications for clinical practice and medical science* (Edinburgh, 1998).
126. Jean Paul [J. P. F. Richter], *Zerstreute Blätter*, ii, 292, in: *Sämtliche Werke*, E. Förster (ed.) (Berlin, 1826–28).