The evolution of Rudolf Steiner’s pharmaceutical impulse

Preconditions for anthroposophical pharmacokinetics based on insight into essential human nature

Hans Broder von Laue

Abstract

Even in his early lectures (from 1904 onwards) Steiner spoke of “spiritual-scientific medicine” as having an autonomous place alongside homoeopathy and conventional medicine, but his own ideas for “an extension of pharmaceutics” first appeared in context of the first medical course (Spir. Science and Medicine, 1920). The present paper examines previous publications in the light of how Steiner presented his own standpoint concerning pharmaceutical issues. His efforts to interest physicians orientated towards homoeopathy in an “extension of medicine” are clearly evident in the medical lectures of 1920–1921. Parallel to this he carefully called into question the two supporting pillars of homoeopathy. At the same time, and without the physicians whose attention he sought to gain, he searched for new methods:

1) Modification of proteins (in a preparation from coffee bean, (61,62)).

2) Investigation of the specific effects of poisonous and non-poisonous plant parts on biological activity (115).

3) Modification of the “aggregate process”, i.e. the configuration and spatial relationship of the different constituents should be modified in a hydrodynamic process. These hydrodynamic processes were first developed for the pharmaceutical processing of mistletoe and later applied to many other medicines. These products were all to be made from two or more plant extracts.

4) The aim to achieve a spatial configuration of active ingredients in the new synthesis of “medicinal plant processes” using more inorganic constituents, which would today be called “colloidal”. The human being’s internal substance processes are the model for the homoeopathizing of medicines. A qualitatively fourfold transformation of matter—from the breakdown of foodstuffs to the building up of human substances which are receptive to impulses from the I-organisation—can be discerned. Apart from “direct” actions which act like poison, efforts are made to produce medicines that become part of the developing “invisible human being” without being converted “into their opposite”, as is the case with foodstuffs. Later on, concepts such as “vegetabilization” and “dynamization” were used for this pharmaceutical task. The fourfold sequence of steps in the metamorphosis of matter can provide archetypal indications for pharmaceutical methods.

Attention is drawn to “evolving” and “existing matter” and to further mental images which Steiner developed as an aid to understanding the effects which substances have on the human being.

The idea of “new” pharmaceutical methods is that matter be “taken out of earth’s gravity”, i.e. aligned more closely to growth and development. The practical aim is to prevent the organism’s inherent counter-processes from weakening the therapeutic properties of vegetable raw materials. Medicines should be processed to make them more effective and longer-acting.

In the light of modern pharmaceutical research, Rudolf Steiner’s aspirations for an “extension of pharmaceutics” are astoundingly modern.

Keywords

Extension of practical medicine and pharmaceutical science
Potentization
Homoeopathizing
Dynamization
Pharmacokinetics
A remarkable warning: “… this alone will give us genuine treatment, a genuine pharmacology … You see the prospect which opens up before us if we are able to grasp spiritual science in its true form. This spiritual science will, however, still have to shed some of its outer trappings, some of the things still attached to it today for many who believe that they can also cultivate it in all kinds of fantasies and in all kinds of amateurish ways” (1).

1 Introduction

1.1 Scientific pharmokinetics and homeopathy—which is the model for medicinal actions in anthroposophical medicine?

The impulse for this paper arose from many years of searching for the “physiology” of anthroposophical medicines. The fruitfulness of the anthroposophical view of the human being contrasts with the difficulty in arriving at a theory as to how a medicine can act on the higher levels of human existence. The challenge is exemplified in the following quote:

“You have the situation where in a pathological condition the I organization intervenes in the kidney organization, and this in the way in which it should only intervene in the heart … You will only get it out by artificially inducing an activity in the kidney (i.e. with a medicine) which equals this activity of the I organization. You can induce this in the kidney if you succeed in bringing the activity of *Equisetum arvense* into the kidney in the right way.” (2)

This opens up a number of questions.

1. How is the heart-type connection between kidney and I organization evident in the pathophysiology? Can the pathology be described in qualitative terms only or also quantitatively—using present-day terms?

2. Behind the words “if you succeed in bringing the activity, the function, of *Equisetum arvense* into the kidney in the right way” are two things we must do:
   a) How can the function of *Equisetum* be better understood both qualitatively and quantitatively?
   b) How can we find the right method of preparation as a pharmaceutical process? Can this be determined quantitatively or only grasped intuitively?

3. How should we see the connection between the above-mentioned pathology and the therapeutic intervention? How does *Equisetum*, properly processed and applied, take effect in the kidney?

The fields of pharmokinetics and pharmacodynamics also have to do with issues such as how pathophysiology is changed by pharmaceuticals. Pharmokinetics describes the influence of the organism on a physiologically active substance, i.e. absorption, distribution, transformation in the organism, and elimination by the organism. Pharmacodynamics on the other hand is concerned with the actions of medicinal agents on the organism. Investigations concern the nature and quality of the action, dose-effect relationship, and ideas concerning the nature and mode of action (mechanism of action). Both fields developed about 50 years ago; both call for defined individual medicinal agents and highly developed analytical methods. At the beginning of the last century, when Steiner’s lectures initiated the broadening of medicine and hence of the pharmacopoeia, the kind of thinking which lies behind these issues had not yet been developed.

Parallel to this scientific issue, the conviction has arisen in homeopathic and anthroposophical medicine that properly done potentization (“produced by special method”) would in itself make vegetable or mineral substances into a medicine. The potentizing process is considered to be independent of a transparent change undergone by the substances. The evolution of potentization from Hahnemann until the last century was described by Daems: “The essence is the method of preparation; the medium is given a different configuration; potentization is a rhythmical process”(3). A further step is then to correlate a specific number of potentization stages with the higher levels of human existence. Basold (1965) posed that the mother tincture went as far as the 8x (up to 14x); then the body time of the substance would be active (8x to 14x), and from there to about the 14x (to 23x) a soul-like state; after this one had the spiritual archetype of the substance (5). Other authors set different boundaries, but the idea would be the same. The level of potentization correlated with the levels of human existence. The question as to how an action arose was barely considered.

Zwiauer (2001) wrote that “pharmacy with an anthroposophical orientation really flourished” after the Second World War, and this was the time when “some suggestions made by R. Steiner were brought to realization, among them the metallic mirror preparations, vegetalized metals, RH preparations and mineral compositions”(6). An important paper on the mode of action of medicines was also published by G. Husemann (1953) (7). He discussed seven theoretically derived metamorphoses of the *similia* which characterized the actions of a drug in the organism. Papers on the threefold aspect of matter (Cloos 1953)(8) and the development of medicinal substances in the sphere of life and of dead matter (Krueger 1953)(9) may be said to have been representative. Bott (1976) developed his principle of anthroposophical pharmacodynamics also in close connection with potentization (10). Scharff (1990) published a compendium of homeopathic research papers (11). Strueh (1991) offered a critical review of the many experiments on potentization (12). Because of his work for Wala he was much involved in potentization. Yet he wrote: “My study of this research has in the meantime convinced me that it is illusory to think that potentized substances are active in purely physical experiments, in biochemical, … plant and animal experiments and also in clinical use. It is illusory to look for something that has universal efficacy …” Meyer-Wegner (2001) sought in vain for physical structural connections between homeopathic potencies and the substances used as media (alcohol, water or lactose) (13).
The need to develop anthroposophical medicines further has been stressed by Pedersen (2004) [14]. Regrettably, anthroposophical pharmacy is not defined in terms of content in the essay by Kalisch (2000) [15] on the position of anthroposophical medicine and pharmacy in the current epistemological dispute.

The reason for writing this paper at the present time is the highly biased description of anthroposophical pharmacy by Burkhard (2006) [16]. The author refers smugly—with extensive quotations—to the “anthroposophists” “spiritual-scientific, mystic philosophy of life. The paper is clearly designed to make anthroposophical pharmacy look ridiculous in scientific eyes and marginalize it politically.

The paper is not intended to be a reply to this. The opportunity is taken, however, to look for the roots of anthroposophical pharmacy. The aim is to track down references in Steiner’s life work to the following questions:

1. How did he relate substantial processes to the four levels of human existence?
2. Which pharmaceutical methods did he suggest for making substances into medicines that act on those levels of existence?
3. What is the relationship between individual and “typical” medicines?

In the statement quoted above as our motto, Steiner hoped that “a genuine pharmacology” would develop as an essential part of the proposed “medical system of anthroposophy” [17]. He spoke of the need to “shed some outer trappings” first and overcome “all kinds of fantasies” and “amateurish ways”. Today—a good 80 years later—every representative of this medical movement can ask himself in how far Steiner’s hopes of having “a genuine pharmacology” have been met and what work needs to be done when one considers the answer.

The paper is in this sense an attempt to trace indications for “broadening pharmaceutics” given by Steiner. Readers are invited to sift the accumulated material, put it in a different order and add anything which has been overlooked. Open dialogue will help us to overcome bias in collaboration.

I dedicate this paper to Ibrahim Abouleish, my “brother in Egypt” whom I hold in high regard, on the occasion of his 70th birthday (2007). The study of pharmacy and anthroposophy governed his years in Europe, after which it became his life’s work to develop the Sekem initiative in Egypt.

1.2 Can we see an evolution of pharmaceutical issues in Rudolf Steiner’s lectures?

At the turn of the 19th to the 20th century, intense discussion arose between followers of allopathic medicine, which was then the science-based established school, and of homeopathy. Steiner said in a lecture on the medical faculty and theosophy given in 1905, “some physicians here and there do work with us. We do not wish, however, to get involved in the battle between the parties. That would be a subjective approach. We wish to speak very objectively only of the things which theosophy has to say with regard to medical science” [18].

The physicians in his audience were of homeopathic and theosophical persuasion and critical of belief in the progress of a materialistic medicine. We now have the historical distance to say that they were only able to free themselves of their subjective bias within limits.

Steiner concerned himself intensely with the medical profession, hoping again and again to find people who would take up his call for the spiritualization of scientific medicine and pharmacy. His search has been documented from 1905 onwards, and there was also a first meeting with homeopathic physician Emil Schlegel (Tübingen, Germany), who was treating M. v. Sivers. The spiritual investigator’s search for physicians who might be interested in “broadening” medicine came to a first culmination in the lectures given in 1909 to 1911. We refer to the Budapest lectures (19), the Occult Physiology in Prague (20), and the Hamburg lecture course (21). Steiner hoped for collaboration with Dr Noll (22), Dr Peipers and other physicians. Close human bonds developed between individual physicians and the spiritual investigator, but none asked for a change in the “medical system”.

Subjects of medical importance next came up in some concentration in around 1916 and 1917. The theory of the senses was fully developed and following earlier attempts in Fragment (23), the vital processes were presented in The Riddle of Man (24). In 1917, threefoldness was published for the first time, after a long period of work on the subject (25). In St Gallen, Steiner called out, “But humanity would be most surprised to see how things would be different if one were to enter into clinics and anatomy theatres today with spiritual-scientific views and take spiritual-scientific views into all the other sources and media used in medical work” [26].

The lecture on geographical medicine in St Gallen was also part of this (27). The mood of all those lectures was such that they were really addressed to Dr Wegman, then practising in Zurich.

In the public lecture at Epiphany in Basel the world was told, “Spiritual Sciences must open up prospects for an intuitive medicine” [28]. For pharmacists Schmiedel and Spiess this appeal led to the question as to the transformation of medicine. The first medical course was then possible (29). Selig has shown these developments in detail (30).

From 1910 onwards, Alexander von Bernus was also working among those around Steiner. He suggested that Steiner should build his St John’s Building (the later Goetheanum) on his Stift Neuburg property near Heidelberg rather than in Munich (1913). Steiner stayed with Bernus, helped him to bear the grief over the inexplicable death of his son (1912), and baptized his daughter (1913). Steiner praised his literary efforts and encouraged publication of the journal Das Reich, which became a forum for Steiner’s essays. The “Appeal to the German nation and the civilized world” [31] appeared in that journal. Bernus attended esoteric lessons and also intended
to attend the first medical course (1920), though not a member of the medical profession.

At the same time Bernus achieved his inner mission, which was the renewal of alchemical medicine (33). He wrote a number of letters to Steiner about this, hoping that he would give an opinion on his medicines. Thus he wrote on 23 June 1914: “As to the medicines [which he had developed himself], they are extraordinarily effective, as I have had occasion to determine on myself and others ... They are produced exactly according to the details and rules given by Paracelsus ... May I now ask you to write what is necessary for this ... [for me] and whether the road of alchemy which I have taken is the right one, also in the present day and age; I cannot think it to be otherwise, for the arcana do belong to the power. Perhaps you will also be so kind as to say which of the remedies you would primarily still wish to be presented. I would be infinitely grateful if you ... were to give your opinion, however briefly, for I would like this undertaking, too, to be under your guidance” b.

As far as is known from quotations taken from the letters to Bernus which have so far been published, Steiner did not respond to this intense request which was repeated in further letters. It is surprising to find that an esoteric student of Steiner’s who wanted to bring a pharmaceutical impulse to realization was neither acknowledged nor encouraged in this. Steiner was evidently unable to support that proposed revival of alchemical medicine. On the other hand Rembges (34) considered the relationship between the ideas for medicines that were suggested by Steiner in around 1920 and alchemical formulae and found numerous connections (Kephalodoron®, Renodoron®, Ferrum hydroxydatum, Vulnodoron® and Kalium acet. comp.) (35, 36) Schmidt (37) also suggested an alchemical background to Ferrum cum aceto prep. In the same way the first references to producing metal mirrors (1911) may have been alchemical in origin (20).

We have three phenomena side by side: Steiner’s statement that he has individually investigated the basis of alchemical medicine (section 4.1.2), the way he was close to old formulae when he started his own pharmaceutical search, and the fact that he ignored Bernus’ alchemical impulse. Judex, thoroughly familiar with Bernus’ formulae, also wrote that it was difficult to imagine Steiner accepting such. Indications of elements of alchemical medicine being taken up are no longer really apparent in Steiner’s late lectures. The idea of Kephalodoron® (Bidor®) was also given a very different basis (section 4.2.1.5).

1.3 Early references to working with medicines— mistletoe pharmacetics

In a public lecture on health issues in the light of spiritual science, Steiner said:

“The use of specific medicines does in a way have to do with the fact that the organism is an independent entity and can be repaired in many respects if we are able to rely on it that following such repair a quite effective power exists which drives the human being” (38).

This is a very general reference to medicines. There is no suggestion as to how a medicine was to be made from a natural substance so that one might thus repair the organism, i.e. as to the pharmaceutical methods required.

The details given for mistletoe as a medicament for cancer show the way in which intuition for a medicine evolves in the spiritual scientist’s mind. In the lectures given from 1904 onwards, mistletoe was often referred to in connection with the Baldur myth and the “old Moon”. In 1907, the first general point was made that mistletoe is also a specific medicinal agent, poisons being altogether medicinal” (39). Soon after this (in 1908) Mrs Ritter asked R. Steiner for a medicine to treat cancer. His answer is not known, but she used mistletoe as a medicament after this. Three mistletoe preparations (Viscum Betulae, Viscum Mali, Viscum Pini) were still being produced as “photodynamic medicament” according to Mrs Ritter’s intentions in 1928 (40).

Almost ten years were to pass before the spiritual scientist had investigated the connection between cancer and mistletoe as a medicine to the point where he could talk about it. In his New Year’s Eve lecture he ranged far as he described the substance problems of both the tumor and the mistletoe for the first time as the result of his spiritual-scientific investigations.

“A carcinoma exactly depends on it that part separates out and evolves at a faster rate than the rest of the organism. This is a luciferic aspect in life at substance level. [About mistletoe toxin he went on to say:] The principle which we consider a toxin today is in a state of retardation ... The actual toxins, thus ahrimanic at substance level, from the Moon period, are opposing the regular progress of evolution” (41).

The connection between disease and medicinal plant was thus shown for the first time. The lecture does not, however, contain any reference to a manufacturing process in which mistletoe toxins might be processed to make them medicinal.

Soon after this, a parenteral product was produced at the Adler Pharmacy in Zurich in 1917, using the dried plant, glycerin, alcohol and water. The extract was not fermented. A local anaesthetic had to be added. The method chosen was not homoeopathic potenization but an extract made of the dried plant material according to the existing state of knowledge. We may assume that Steiner was not consulted about the method. The medicament was produced and used as iscar I (5 mg) and iscar II (10 mg) from 1918. This means that a new medicament “based on and standardized for the dried plant material” had been developed, but there was no indication as yet of new methods in pharmacetics. The next reference to mistletoe pharmacetics came in the first medical course:

“The point is that the glue-like, sticky substance in mistletoe is connected in the right way with a triturant and you gradually come to a very high potency of this mistletoe-type substance ... Another important aspect
will be to produce something in the medicines which is based on the combined action of this glue-like substance with certain metallic substances ... The combined action of mistletoe simply from an apple tree and trituration with, let us say, silver salts gives us something which could be highly effective against all pelvic cancers (44).

The reference to trituration may suggest that Steiner thought of processing the dried plant material. The request to go to a "very high potency" relates to homoeopathic potentization. The request to triturate with a silver salt does on the other hand go beyond the classic homoeopathic method, with an active principle (silver salt) used as the medium instead of lactose.

A page from a notebook referring to mistletoe details for the 1920 course (Fig. 1) includes reference to summer and winter extract, which is not mentioned in the course itself. The horizontal and vertical lines on that page may also be seen as a first reference to the flow process. A new manufacturing process for mistletoe was also discussed with Dr Noll that summer (or in the autumn of 1920). A flow process was to be used to combine the two extracts, with no reference made to trituration or high potencies. Further details appear in the manuscript on mistletoe written by W. Spiess. "When I talked for the first time with Dr Noll about formula No. 36, he told me that parts of mistletoe plants from two different periods of vegetation were to be used, with extracts from the flowering and the fruiting plant then to be mixed ... He [R. Steiner] confirmed the instruction concerning the fruiting plant in a talk with Dr Knauer where he suggested "mistletoe that is not quite ripe". I also had confirmation of everything when in December 1923 I showed Dr Steiner an extract from the fruiting form of apple-grown mistletoe, saying that the flowering form would be obtained at the end of January and beginning of February for an extract that would then be combined with the first. "You will then have a good preparation" ... It was probably in connection with the abnormal periods of vegetation that R. Steiner called the flowering one the "winter form", and the other the "summer form". These terms were then also used in various notes by Drs Noll and Schmiedel, though details concerning actual harvesting times different greatly. None of those involved at the time had probably studied mistletoe physiology as thoroughly as Dr Steiner, otherwise those details would not have differed in that way. I know of this peculiarity of mistletoe ... Initially it was processed in alcohol, but we soon changed to fermented extracts, mixing the carefully minced plant parts with water in a 1:1 ratio. The first suggestion for this method was to my knowledge given to Dr Schmiedel by Dr Steiner, and not only for mistletoe ..." (45).

Fermentation of plant extracts was also used in alchemical medicine (33).

Pharmacist W. Spiess started the work in September 1920 (43). On 1 July 1922 he was appointed head of the research laboratories at the Institute of Clinical Medicine in Stuttgart. He was thus involved in developing the mistletoe preparation from the very beginning.

In the winter of 1920/21, Rudolf Steiner called a meeting to discuss the use of flow systems in making the mistletoe preparations. Drs Wegman and Noll attended (Minutes, 1936). There is no record of anyone asking about the pharmaceutical value of using flow. The group was not involved any further in the development work. Soon after this meeting, Steiner started to work with C. Unger. They collaborated in the planning, construction and implementation of the first machine. Details of this have been given by Leroi and Koehler (46–48).

After the spiritually dense presentation on New Year's Eve 1916, Steiner did not refer to mistletoe as a cancer medicine again until he gave his first medical course.49 The concept of the pharmaceutical method was presented to Drs Noll, Wegman and other physicians (at the winter 1920/21 meeting at the latest). It is evident, however, that those present did not gain a clear idea of the significance of this new pharmaceutical impulse. In the lectures that followed, the development of cancer is described in many ways, but with no reference to mistletoe (49–54). Mistletoe was only rarely mentioned. There is no reference to this medicinal plant even in the lecture given on 11 February 1923 (55), where tumour development and the principle of treatment were considered in detail. In a lecture to physicians we find only the general reference "with a mistletoe preparation, as we use it ..." (56). The next day he complained that opponents were describing the connection between mistletoe and cancer in a "simple analogy" (57). He said that physicians were not providing enough information to counter the misconceptions deliberately created by opponents.

In 1921, Dr Wegman wrote to Mr Hauser, her pharmacist in Zurich: "I have made arrangements with the Futurum corporation ... concerning the commercial distribution of my medicaments, including Iscar" (58). She still considered the Viscum preparation to be "her" medicament. She and Noll had attended the meeting in the winter of 1920/21. It is not known if she knew of...
Steiner’s collaboration with Unger. It appears that she had no questions concerning the new pharmaceutical process Steiner was asking for.

There is no reference to the cancer and mistletoe issue in the whole of the second medical course given in April 1921 (59). The meeting about building a flow machine for Viscum had been in the winter of 1920/21, a few months earlier. Some of those who had been at the meeting were now attending the course. The new pharmaceutical process which had been proposed was not taken up, nor were questions asked about it. The manufacturing process, the need for flow treatment, was not referred to in Steiner’s lectures, in spite of the fact that development work and construction were in progress at the time.

Mistletoe processing also was not included in the discussions on the Vademecum from April 1922 onwards (according to Dr Degener’s records).

The connection between mistletoe and cancer was only taken up again in the “pharmacists’ lectures” in London, now with the following statement which is important for the pharmacokinetics:

“If we take the active principle in the mistletoe process and introduce it directly into the human organism it [the medicament] changes ... too much. Because of this, attempts are now being made to process the principle which lives in the mistletoe development process with a highly complex machine [Unger’s machine] which involves centrifugal and radial forces ... The active principle in the mistletoe process is thus actually changed into a wholly different aggregate process, which makes it possible to use the potential in the mistletoe-developing power in a more concentrated form” (60).

This undertaking was then referred to again and again, in The Hague (16 Nov. 1923), Arnhem (24 July 1924) and London (29 Aug. 1924). The aim of pharmaceutical processing was to make the changes which the mistletoe substance undergoes in the organism less rapid. The mistletoe-developing power should stay active longer with the mistletoe substance in a different aggregate process. To solve the problem, it was proposed to change the substance in a flow process, and a first machine was constructed.

A more effective medicament was to be produced simply by setting up a flow system where two extracts were brought together and taken into a completely different process of aggregation. Could it be it was only in connection with the first medical course that Steiner started to give more serious consideration to the question of how a medicine could be produced that would positively influence vital processes? The first sign of a specific impulse to develop pharmaceutical methods comes in a notebook entry on mistletoe pharmacetics (Fig. 1). Neither “trituration” nor “potentization to a high level” came up again in later times. (High potencies are today produced in addition to substantial doses in the case of Iscucin® and Abnoba-Viscum®. The efficacy of high potencies has been demonstrated in single-case reports.) Were these proposals an intermediate step in his own researches?

Special reference must be made to two new impulses for the production of a mistletoe preparation, both going in the direction of “broadening” pharmacetics.

a) Material to be harvested at two different seasons, b) the flow process to bring about a new state of aggregation in order to achieve a more long-lasting action. In theory, mistletoe was to be “taken out of earth’s gravity”, or “influences from the outside world were to be eliminated”. The flow processes should thus change the mistletoe extracts so that they would be closer to the living organism and thus qualitatively “taken out of earth’s gravity”. In practice, the aim was to improve efficacy with the newly created “different process of aggregation”, which no doubt means that the substances were to be taken to a new state of conformation.

What Steiner meant by a changed “process of aggregation” can be more clearly understood if we look at his requirements for the preparation to treat foot and mouth disease. He considered this project so important that he had E. Kolisko freed from other commitments for a year (1922) so that he might develop and apply a preparation from coffee beans. The pharmaceutical detail given is the following.

“The reserve protein in the bean would have to go through a specific change in structure” (61).

L. Kolisko gave a similar description: “The work ran parallel to investigations done to find the structural changes in the coffee bean protoplasm which alone made the preparation medicinal” (62). Could it be that Steiner was able to express his intentions more clearly to E. Kolisko and veterinary surgeon Werr than to the other physicians? The aim of the pharmaceutical process was a “structural change in the protoplasm, in the reserve protein”. This was and is a challenge well ahead of its time, which probably also holds true for the mistletoe preparation.

According to the present state of knowledge, the structural change in the mistletoe material by the organism is effected soon after starting the treatment, as antibodies to various proteins (MLs; cbML, visco toxin) develop. Only primary exhibition of Viscum in high doses makes it currently possible to induce pyrexia (39.5°C) on repeated occasions. After this, even increasing the dose will only rarely induce it due to direct Viscum action. (Iscador® infusions, but not the unfermented I scador FrF preparation, can also provoke rises in temperature later on (pers. communication from Dr Kuehn, Arlesheim.)) There is probably a causal relation between antibody production and loss of the pyretic action of mistletoe; depending on the dose, this ensues after just 1 or 2 weeks of treatment. The disappearance of local inflammation in injection sites after some weeks is probably also connected with antibody production. Steiner may have been referring to these phenomena when he said that the “mistletoe-creating power” is “altered” by the organism so that efficacy decreases. In my opinion it is important to make it our aim in the further develop-
Cosmic matter is taken in through senses, skin, respiration. Poisons act like direct soul and spirit.

Night soul permits growth and development of soul function organs.

Night-time ether builds up the physical body.

All levels of existence are active in building up the physical body.

Foods from the earth world are transformed into the opposite and serve constructive development.

Vegetabilized medicines act constructively as
1) vegetabilized metals
2) mirror productions (met. prep.)
3) Two vegetable constituents are reconfigured by flow principles.
4) Plant processes are resynthesized.

Animalized medicines act constructively (Kephalodoron® or Bidor® type)

Powers of configuration
act on live processes through the waking human being and from the cosmos on the visible and invisible human being.

In science, the problem of medicines being altered by the body only came up just under 30 years later, when pharmacokinetics developed (63). There were no theories on the possible key role and potential importance for biological activity of the conformation of the tertiary structures of proteins and other macromolecules at the beginning of the last century. Supersensible investigation pointed the way to technologies which could not yet be described in the scientific terms of that time. Today, some knowledge exists of how the conformation of substances can be changed in flow processes (64).

1.4 Summary and prospect

In 1908, Steiner responded to a request by suggesting a mistletoe preparation. This was produced by Marie Ritter’s “photodynamic method”. When Dr Wegman produced another mistletoe preparation called Iscar in Zurich, this still did not involve any new pharmaceutical impulse. It was made in the usual “allopathic” way from the dried plant material. New pharmaceutical impulses emerged in the preparation for (page from notebook) and follow-up of (talk in Stuttgart in 1920/21) the first medical course, though not in the course itself. These were the two different harvesting periods and gaining optimal efficacy in the flow process. Construction of the machine for this was in collaboration with Carl Unger, not involving physicians or pharmacists. Steiner said no more about the new pharmaceutical impulse in the medical courses which followed. In 1923, when it had been brought to realization, he was able to say in London:

“In this cancer medicine which has been developed to a degree of perfection ... but will only be really complete ... when this laboratory process using the centrifuge—construction is now complete—will have been taken fully to its end” (65).

This (or a similar flow process) was also meant to be used for other typical medicines (Cardiodoron®, Choleodoron®, etc. see Table 5), all having a number of components from the plant world, to improve the medicinal quality. The reference to altering the conformation (process of aggregation) is found under mistletoe and in the suggestion that a “change in the structure of the protoplasm in the reserve protein” should be achieved for the foot and mouth disease product. It will certainly need years of research before the significance of this can be fully evident. A method to “dynamize” medicines was proposed, with the protein structure changed in the process to improve the medicinal action. Such a “broadening of pharmaceutics’ would go far beyond homoeopathy and alchemical medicine on the one hand and pharmacy as it then was on the other.

2 Live substance processes and the human

2.1 Introduction

Before the issue of “broadening pharmaceutics’ can be considered further we need to refer to two subject areas:

a) Current conventional scientific models for drug action will be briefly considered.

b) Reference will be made to the way in which spiritual investigation established the connection between food and medicinal substances on the one hand and the levels of human existence on the other in many different and surprising respects.

Particularly important references to this may be found above all in the second medical course (59) and in lectures from 1921 onwards. Not all of these can be considered here.

In conventional pharmacology, the question asked concerning the action/efficacy of a drug is where its points of attack in the organism would be. This presupposes a defined active principle, demonstrable continuity for it, and spatial and structural correspondence between it and the site of action. The action itself may depend on the mode of application and the absorption site. The thinking is that the organism’s response can be determined physiologically and/or psychometrically and occurs at the cell or extracellular matrix level. If cell functions are to change, the principle must be actively or passively made to pass through the cell membrane. Processes in the cell plasma, the organelles or the nucle-
us can then be either enhanced or inhibited. At the level of molecular biology, receptors and ligands, agonists and antagonists, etc. are analysed.

Apart from the problem of uptake, one has to establish the distribution of the active principle in the organism and how it reaches the desired site of action. It also has to be established how and by what route it is eliminated again. This will determine the choice of initial and long-term dosage. The physiological reactions of the organism can change the action of a substance after a time or even reverse it. This may be cumulative or lead to habituation. The endeavour is to establish the process of a substance in the organism using the terms of conventional science and thus learn to analyse the conditions for a cure. The actions of some drugs at molecular-biological level may not yet be fully determined, but the claim is that one gets to know the pathways of the active principle in the organism’s metabolism exactly. The simple need to know whether a medicine is effective is broadened by asking how its action can be described in its physiological evolution.

There is no real need to consider uptake and processing of drugs in the field of homoeopathy, for—at least from a particular potency onwards—different powers of a substance are considered which were “unnoticeable”, “latent” or “dormant” prior to potentization and only “affect the vital principle” directly after “dynamization” (66).

In anthroposophical medicine, absorption and distribution of the active principle and its elimination have hardly been discussed so far—not even for non-potentized medicines. Steiner was very clear about this.

“Any substance spreads in a specific way in the organism. Thus certain substances given by mouth do not concern themselves with the oesophagus but only with the heart, for example. Others do not concern themselves with the heart either … taken to the kidneys, only begin to be active there” (67).

As we seek to trace Steiner’s intentions, it will emerge that he hoped for detailed knowledge of medicinal actions—even if in different words and from a different way of seeing things—also in “broadened pharmacoeutics”.

The low value attached to pharmacological and toxicological aspects in anthroposophical medicine has meant that metal preparations once widely employed are no longer available. Degenaar has noted that Antimonite 3 × (4 × today), Arsenic 3 × (4 × today), Cuprum 2 × (3 × today), Mercury 3 × (6 × today), Phosphorus 1 % (4 × today) and Plumbum 4 × (6 × today) were considered to be the right dosage levels. Today they are no longer permitted because of the risk of toxicity. (The records do not show if those original dosages were established by the physicians themselves or used on the advice of R. Steiner.)

In this chapter (2.2–2.5) we will first present important spiritual-scientific findings relating to the connection between foods and medicinal agents and the activity of the higher levels of existence. This will be necessary if we are to come closer to understanding the issues in question.

### Table 1: Processes of the ether body

<table>
<thead>
<tr>
<th>Upper human being</th>
<th>Lower human being</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>As organs develop</strong></td>
<td><strong>As organs are used</strong></td>
</tr>
<tr>
<td>Cosmic soul and I organization guide the ether body for</td>
<td>Restructuring and construction to make future functions possible:</td>
</tr>
<tr>
<td>Growth until functionally mature</td>
<td>NSS: Developing nerve potentials, neural metabolism</td>
</tr>
<tr>
<td>Development of potentials for differentiation of organs in extracellular matrix</td>
<td>Rhs: Induction of anabolic parts of rhythms, dominance in exhalation. Rhythmic sequences breaking down</td>
</tr>
<tr>
<td>Development of power of movement for interaction of soma, connective tissue, nerves and ECM</td>
<td>M&amp;L: Developing own substance as general potential and organ-specific function. Dissolving “old” tissues. Anabolism in healing process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Some other names for specific functions</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating wedge form</td>
</tr>
<tr>
<td>Hardening, calcification of tissues</td>
</tr>
<tr>
<td>Mineralization</td>
</tr>
<tr>
<td>Differentiation, control</td>
</tr>
<tr>
<td>Power to model</td>
</tr>
<tr>
<td>Grow organically self-willed</td>
</tr>
<tr>
<td>Using substances ponderably</td>
</tr>
<tr>
<td>Apoptosis</td>
</tr>
</tbody>
</table>

### 2.2 First orientation based on the lecture given on 11 February 1923

The lecture on the invisible human being in us and the pathology which points the way to treatment (55) will give us a first model. Steiner presented the vital processes in us according to the way in which they reflect our levels of existence. He also made distinction between their evolution and involution. The lecture provides important orientation for gaining an overview of pathology and medical treatment in the anthroposophical view of the human being (Fig. 2). Studer-Senn has written an introduction to the lecture (in German) that is well worth reading (68).

The first part of the lecture shows how constructive and configuring processes, both governed by “invisible I”, are initially dominant in all physiological processes as the human organism develops. From a spiritual (I) impulse, a level of existence which has soul quality is taken hold of first, and then one which has life; after this the physical body emerges, most evidently so in condensation into crystalline matter as the teeth develop. According to the functional maturity of individual organs, destructive processes using the organs may run as well, providing the basis for conscious awareness at the different levels. Constructive and destructive processes oc-
cur together in the whole visible human being, in all physiological and pathological functions of the organs, reflecting life. Steiner used the terms “upper and lower human being” collectively for the constructive and destructive processes in the visible and invisible human being (Tab. 1).

Nutrients are taken in with food and drink. Every food is foreign to the body initially and needs to be “incorporated” step by step. In the lecture, the process is considered succinctly and in general terms:

“Anything entering into the human being as food must immediately be taken up in inner processes and transformed into its opposite.”

The stages of this qualitative change into the opposite had been considered a few months earlier (see section 2.4.3). The foods, initially foreign, must be broken down and then given life; they must then gain soul-sustaining powers in the human being and finally be open to the human I or self. The food is transformed in these four stages into what qualitatively is “its opposite”.

Unconnected with the transformation of foods, Steiner also spoke of medicines and the pathways of their actions in the lecture.

1. Belladonna serves to show that the process qualities arising as physiological degradation in the organism under the direct influence of the soul (or the I) are also stimulated by the substances in Belladonna. The toxicity is presented parallel to modern toxicological information and the relevant symptoms: central hyperthermia (“dominance of the upper human being”), mental disorders with motor restlessness going as far as hallucinations (“befogged by mental activity, unconsciousness”), dry mouth and mucosa, inhibition of secretory functions in the gastrointestinal tract, chronic constipation (“gastric phenomena”) and tachycardia (“I activity taking its origin in the blood”). The related information on the action of Belladonna is that it develops specific toxins because it greedily and directly absorbs a particular astral-ity from the cosmos. The genesis of these toxins may thus be directly compared to a particular direct intervention of the destructive mental functionality in human beings. Substances of that kind have the same effect in human beings as the one triggered physiologically by a destructive impulse in the soul. Belladonna increases the destruction triggered by certain impulses of thinking, feeling and will in the organism. These toxins cannot be degraded by the organism (in its present state of evolution) the way foods are, i.e. overcome and transformed into their “opposite”. Given in appropriate dosage, they are helpful medicines as they can induce specific processes of degradation.

The position of alkaloids in the history of medical treatment is given by Meyer.69 In his model, natural substances and impulses in the soul work in the same direction.

2. The second reference is to the possibility of supporting constructive powers directly, activating them medically. Iron was to be given in a suitable form, “to give the blood the weight it needs by means of the necessary iron concentration ...”. This directs the constructive powers flowing from the invisible human being right down into the physical body to strengthen it. Inadequate development, qualitatively “too lightweight” in itself, leads to disease and is cured by giving iron. In this theoretical model the organism has been prepared to take in the iron so that iron presented in a suitable form will be immediately available for development. For the organism is capable of incorporating iron in proteins in many different ways. These provide the medium for iron to arrive at different potency levels in the organism. This development of the therapeutic action is only touched on in the lecture and probably only applies to specific substances. An indication as to in how far iron, a toxic substance, can gain access to the constructive stream of the “invisible human being” is given in section 3.3 (Fig. 2).

3. In a third theoretical model in the same lecture it is assumed that the disease (development of tumour) arises due to destruction being dominant. (This is only part of oncogenesis.) The medicine proposed is to “support the original healing powers in the organism using external means ... If we are able, therefore, to meet the toxic actions of the astral body which intervene in the organism with etheric actions, we support the healing process which wants to be present through the organism’s own healing process. We really only need to know which medicinal agents ...”

The expected reference to mistletoe was not made (sec. 1.2). Nor was anything said about how the substances should be processed pharmacologically so that they might prove immediately constructive, i.e. take effect at the level of the nighttime astral or ether body. In theory this would demand that this group of medicines are not first changed into their opposite nor that they act directly as toxins and encourage destructive activities (like Belladonna). One merely needed to know how the healing, constructive powers of the organism can be called up directly by a medicament. (One may no doubt also think of medicaments that need to be partly metabolized before they become active.)

The lecture thus offers three models for medicinal action:

1. Poisons (Belladonna model) with direct destructive action that need careful dosage. These are only broken down by the body after they have taken specific effect.

2. Poisons (iron model) where all processes of intake, function and elimination are prepared for in the organism in form of specific proteins, etc. as media for potenti-ization within the organism. Their toxicity only takes effect beyond the physiological limits.

3. Medicines intended to provide direct stimulation for constructive processes. They must be such that they integrate their specific activity into the fourfold constructive stream of the “invisible human being”. The question arises here as to how substances can be pre- pared pharmacologically so that in spite of being foreign by nature they can serve the vital processes of “maintenance”, “growth” and “reproduction”. Later on in the lecture we read:
"We must, however, have a clear idea as to the changes which something located in the root of a plant goes through when taken in ... via the mouth and then processed so that it will move [constructively] outwards to the extreme periphery of the head organization."

Steiner asked that we have a clear idea of the changes which something goes through (55). This can be done by conducting a spiritual-scientific and natural-scientific investigation of the pharmacodynamics and pharmacokinetics of the medicaments. A help towards doing so effectively will be to consider some theoretical models where Steiner described the relationship of the human being to the substances in the world.

2.3 Theoretical models for the relationships between human beings and substances

2.3.1 Primary model body and secondary individual body

In the second medial course (70) the subject of medicinal actions comes up right at the beginning: "The last time I had to limit myself to the outer revelation of the inner human being. This time, I'll try and show how the different levels of human existence are influenced by substances as they are in the world outside the human being, what substances can be put to medicinal use, and what can be medicinal by influencing the human organism at a level other than the purely material."

The action/efficacy of substances on an organism which is alive, ensouled and spiritual was to be described in the whole lecture course. Steiner developed special theoretical models for this which have a bearing on our subject. We will review them here, although it is necessary to have detailed knowledge of those lectures. In the first lecture, a number of polar opposite theoretical images are developed on the subject. Firstly, distinction was to be made between a primary body and an individualized secondary body as sites for the physiological processes. In other lectures the primary body was also called the model body (71). This is partly overcome with childhood diseases but continues to be active for a long time, especially in metabolism. It is only completely transformed at death. The primary and secondary body elements have different affinity to foods and medicines. The importance of making this distinction when it comes to the connection between substances and pathological processes has been given little consideration so far but should be mentioned in the present context.

2.3.2 "Substance in existence" and "substance development" in the human being

In the same lecture, individual substances were then considered from two different points of view. The current status of a substance is studied on the one hand, whilst a second way of looking at it is called "process". "We have to start not with substances but with processes, not something finished but a process."

Steiner was considering the qualitative changes. For every single substance moves from an earlier to a later state. The focus is not on the isolated, momentary state but on evolution and involution in time. This is the process considered in the anthroposophical study of the human being and not the constancy of molecules.

Processes can only be described in our earthly thinking once we have accurately determined a number of momentary states. Thinking trained in the observation of supersensible aspects will, on the other hand, perceive the actual transformation, being scarcely confined to fixing the analysable starting, intermediate or end states.

The development and transformation process in the human being was considered, taking silicon for an example. In the lower human being, substance development predominates; here lies the centre for silica production, the process which gives rise to silica. The upper human being, on the other hand, needs silica in a state of relative persistence; here the ponderable silica provides a basis for processes in the psyche. Steiner then extended the established order to other substances. Calcium, magnesium and fluorine (and hence all substances) in a more finished state, available for the I’s destructive functions in this form. In the lower human being, development, the substance-generating process, dominates. The constructive I reveals itself at a deeply unconscious level (Table 2, 4th column). The destructive I, on the other hand, needs the resistance of substance developed in the body which has been taken to a relative end-stage in the generative process.

In the 2nd lecture, the development and the finished state of a substance are seen in a wider context: "When we see arsenic in physical form, it really represents the end of a process in the outside world. We see the beginning of this process in the inner human being. We therefore do not really know the reality of any form of matter observed in the outside world unless we also know: What is this doing in the inner human organism?"

With arsenic as the example, we are therefore told that in the outside world we find different forms of matter which have more or less come to an end of their process of development. Only "imprints" of generative processes are perceptible in the substances we find in the world. Here the "finished state" predominates. Today, the evolution of any substance found on analysis can only be studied in the human physiology. The beginning, the origin, can still be discerned in the inner human being today. This alone is where the source and origin of the "generation of matter" lies.

Modern minds are not geared to make distinction between "developing and finished substance". One must evolve the idea before it is possible to look at the physiological reality. The fruitfulness of this distinction—including all intermediate forms—has to prove its value in the way we develop medicines. We may anticipate that "developing substances" have greater affinity to the "invisible human being" in his constructive processes than...
to “finished” matter. With this theoretical model, too, the pharmacists’ task is to take the “finished” quality of plant extracts or minerals back into a developmental process again.

In the 5th lecture, the same differentiation is considered with phosphorus as the example, now in a new context. Phosphorus is present throughout the organism as the vehicle for the I in its dual function in the lower and upper human being. In the latter, phosphorus tends to be chemically released as phosphate, so that processes go the way they also would in the outside world. It goes so far towards the finished state that it might prove toxic. In the lower human being, phosphorus is bound “to other substances” and therefore still in a nascent, developing state. Treatment with phosphorus can either stimulate the developmental potential of bound phosphorus, or it can present a risk of poisoning. (For further details on phosphorus physiology see ref. 80 and section 2.6.)

The term “development” or “genesis” of a substance initially sounds absolute, as if something new were to arise from nothing. It would probably be more correct to take the words “silica-generating process” literally. We are considering a physiological process where silica (or calcium, or any other substance) in a hidden, bound state exists only in the potential for a specific substance action. This potential can be released at any time in the organism; it “evolves” and then develops the substance-specific activity.

2.3.3 The “stable and unstable protein organization” in human beings

The 6th lecture (59) adds a further element to the relationship between levels of human existence and matter in evolution and existence. The powers of thinking in images must be strengthened to allow differentiated insight concerning treatment. The simple image of the lower human being is now broadened out into the “lower, anterior human being”. It has functions referred to by speaking of a sequence of organs: uterus, heart and larynx. The function they share is called the unstable protein organization in human beings.

A new description is also given of the polar opposite, the “upper, posterior human being”, the functions of which predominate in the great protein organs—brain, lung and liver, and probably also the kidneys. These functions represent the stable protein organization. The two systems are opposites. The unstable protein organization allows for night-time regeneration in all organs. At the same it attacks the stable protein organization. It takes the changed natural substances to the great protein organs in anabolism, requiring those organs to potentize the substances (section 2.4).

2.3.4 Conditions for substances in “spirit-releasing” and “spirit-binding” organs

In a next step, these physiological functions of the unstable and stable protein organizations are considered in relation to the human organism’s soul capacity (72). Spirit-releasing processes providing a basis for soul life are only possible in the “upper, posterior organs”, i.e. in the brain, lungs, liver and kidneys. In these organs, substances have a configuration and availability which make them suitable spirit-developers and serve processes in mind and spirit. Here, physiological processes can be configured to provide a potential basis, an abutment, for our thinking, feeling and doing.

At the opposite pole are the lower, anterior organs with their function of depositing matter, “functional developer of systems of forces that go towards combustion”. Examples given are uterus/sexual tract, digestive organs, vascular systems including the heart, and the larynx (some in other lectures in the same course). This group consists altogether of hollow organs in which something can be configured for the future. In the uterus, a new physical organism is created; in intestine and blood circulation, foreign matter is transformed into non-foreign matter and later condensed to organ substances. In the larynx, air is configured into speech. The unstable protein organization of the hollow organs makes it possible for mental and spiritual processes to be embodied, brought to realization, in earthly existence—as creation of living matter, transformation of matter and ultimately substance for development open to the I and as speech. Compared to the spirit-releasing process to which we referred above, this may be called a spirit-developing process. It is dominant in and integral to growth and development in the organism, which means that it cannot play a role in releasing the spirit so that processes from the sphere of life may be transformed into soul processes.

These two opposites, spirit-binding and spirit-releasing organs, were not referred to again by Steiner on any other occasion. They provided the basis on which he then developed examples of finding and producing the medicine in the 7th lecture. Decoctions of roots (Gentiana, Geum and Iris) act primarily on the lower, anterior human being. The action is due to constituents (though only general reference is made to these) taken by mouth. Infusions of leaves (Majorana) and flowers (Sambucus) and decoctions of seeds (caraway) affect the upper, posterior organs if taken by mouth. For the upper parts of a plant have already been “dynamized” as the plant developed and are thus able to reach the upper, posterior human being. With all examples, reference is made to the plant constituents which are to be transformed into medicinal agents. For establishing the order, the site of production (root, leaf, etc.) is important and the method of simple preparation (decoction, infusion, etc.).

Up to this point, reference had been made only to simple, familiar methods of preparation. It was only at the very end of this “pharmaceutical” lecture that mention was made of a new pharmaceutical impulse, the vegetalization of metals. All heavy metals endanger the organism as they cause destruction which is acute or on chronic exposure toxic. The vital processes of the plants concerned were to change the quality of the metals to such effect that they would directly activate the constructive, “invisible” human being. The details of the new meth-
ods were more fully considered in a discussion with pharmacists (7 & 8 Feb. 1923) (section 4.1.4). A pharmaceutical method would have to be developed where the new quality gained by the metals would be taken into a "developmental" process and made available medicinally.

2.3.5 1-incarnation in the metabolism and the offprint problem

Another aspect of the connection between the levels of human existence and the world of substances relates to the incarnation process. Long before conception, the supersensible I is preparing to be active in a living body. It first comes to realization in the membranes around the embryoblast, wholly constructive in its actions as the "invisible human being". This "peripheral I" continues to act "from above" in the early years of life.

"The actual I, which in the wholly exoteric world is ... only being born ... around the 20th year ... this I is also born in an inward direction" in about the 9th year of life. "But in the period ... between the 9th and 10th years the I which acts from the lower human being, the lower [central] I, must meet with the upper [peripheral] I. In a child, it is always the acting from the upper [central] human being which processes the substances ... I am, of course, referring to the instruments of the I."

The following is important on the subject of substance: "Only the I has the power to extend its feelers all the way down into the powers in external substances ... The I ... enters directly into the food substance ..."

(Step 2 of the transformation of matter before this aspect of the transformation of matter before the 9th year of life. Before that, the peripheral I is still involved, acting from above and outside. Physiologically, different instruments must be used to break up and recombine food elements before and after the 9th year.

The function of the peripheral upper I and the "birth of the I in an inward direction" into the metabolism in about the 9th year as precondition for exoteric birth in an outward direction at 21 has so far been considered to be the responsibility of educators (132) and hardly at all an issue in developmental physiology. Little considered so far, this aspect of the transformation of matter before and after the 9th year will play an important role in the medical treatment of children. Brief reference to this distinction is found in a suggestion made by Steiner: Hesitant incarnation of the higher levels of existence can be treated with arsenic baths—i.e. via the senses—in children, and in adults by giving arsenic by mouth, to act via the metabolic system.

2.4 Substance interiorization—food substance becoming human substance

The process in which food substances coming from outside are transformed into body substance was not discussed in detail until the autumn of 1922 (73, 74). Foods are broken down into their basic elements in the human metabolism, losing their natural relationship to the vegetable and animal worlds in the process. They become "mineral and fluid". These foreign elements, still "physical", must be "homeopathized" in the organism so that human protein may be produced. This "ascent" occurs in the blood. The first step comes in the field of tension of heart and lung. Here the substances are given life. "The system of heart and lungs exists so that something which is physical system may be caught up into the etheric organization." The next step is achieved in the combined activity of brain and kidney. The substance is here taken to a level where it sustains soul. The air organization and nitrogen play a role in this. In a final step with this potentization in the inner human being, protein—Steiner primarily refers to this—is taken to a quality that is open to the I in the warmth organization which lies in the field of tension between sense organs and liver (Table 2, 2nd column).

The whole lecture is the archetype of potentization or homeopathization. The substances must go step by step through the four quality levels in the human organism. The structures of physical substances are qualitatively changed, which frees them from non-human functions and makes them serve the human I. They are taken from whatever status they have into potential for development.

In the 4th lecture, the process of creating the body's own substance which takes place entirely in the unstable protein organization, is summed up: "If we refer to the route which human food takes through the organism as 'vitalization', an ascending curve, as it were, which rises from being initially inorganic to being vitalized, living, from there to something which can sustain sentience, and finally from this to something which can sustain the organization ... we must speak of progressive vitalization of matter taken in with the food" (75).

The same thought is developed and given a different emphasis in the 5th chapter of Extending Practical Medicine (26).

Corresponding to the food, the body substance is developed in stages and refined until it has developmental quality open to the I. It means that it exists in an unformed, non-specialized state which holds the potential for any specific organ substance but has not yet come to realization as any such. This prime matter is referred to elsewhere as "germinating life", "organic development which has not reached completion" (77), or also "chaos". The nascent, omnipotent state needs to be condensed in a secondary process before it can be actual organ substance.
2.5 Process of matter condensing to organ substance

Reference to the way in which unfomed prime matter open to the I develops into specific organ substances comes in the first course (78) and later in chapter 12 in Extending Practical Medicine. The nascent substance at the quality level of the invisible I, which can only be determined in thought, is “darkened down,” “cooled down” as it returns to being specific organ substance. Human protein as unfomed, omnipotent substance must secondarily “come under the influence of gaseous matter uptake. This takes the transformation products of the carbohydrates into the protein. The resulting substances can be the basis for the individual organs which develop. What we have here are not the finished organ substances, such as liver or bone substance, but a more general substance from which all the individual organs in the body can be developed. The I organization is involved in developing the finished organ forms [with the relevant organ substances] (76).

Distinction is made between four levels of organ-substance creation. Substances first arise from the nascent substance and these give up their openness to the I but also change specialization to the point where they can serve soul life. Substances are transformed further until qualitatively they relate only to the life organization. Finally substances also appear which belong predominant-ly to the physical organization. The extreme case of such “condensation” or “cooling” are the apatite crystals in teeth and bones. Nerve or cartilage substances are less condensed. This specialization of substance from being open to the I and as yet unfomed into individual types of tissue may in summary be called “condensation”.

An attempt to show the qualitative transformation of matter is made in Table 2. Homoeopathization from the mineral state of degraded food to I-open substance able to develop into any form of body substance is shown in the second column, condensation of this “magma” into substances only related to life and ultimately into mineral, crystalline (bone) substance in column 3. The same transformation of “warm” nascent matter open to the I in a sequence of cooling stages has been described in the 7th lecture of Occult Physiology (79) and later, in connection with the polarity of blood and nerve, in the 6th chapter of Extending Practical Medicine (76) (Table 3). The information given is not congruent, and the underlying physiological substance states need further investigation. The spiritual investigator found that the end point in the condensation process, i.e. mineralized bone, could be most clearly described.

2.6 Can the physiology of phosphorus and calcium provide more insight?

The idea of qualitative transformation (homoeopathization) of foreign food matter is considered to proceed in four stages according to the anthroposophical view of the human being. Foods are broken down in the intestine into a largely fluid and mineral form. They are then taken from this state in the organism to one that sustains life, then a stage related to soul, and finally a stage where they are open to the I. The process is the archetype of homoeopathization in the organism. Pharmacists can take their orientation from this.

Table 2. Qualitative transformation of substances in the organism

<table>
<thead>
<tr>
<th>Neurosensory system</th>
<th>Levels of creating body substance in the unstable protein organs of the lower, anterior human being</th>
<th>Levels of creating body substance in the stable protein organs of the upper, posterior human being</th>
<th>Quality levels of body substance in the visible human being</th>
<th>Calcium for daytime I and phosphorus for night-time I</th>
</tr>
</thead>
<tbody>
<tr>
<td>The substance quality which arises is imponderable, open to the I and unfomed; sheer warmth (senses, liver),</td>
<td>Heat withdrawn from the heart, warmth ether released; I-open seed-like substance (stem cells and embryonic ECM arise).</td>
<td>Ponderable substances (silicon) are used by the daytime I.</td>
<td>Ca++ ionogenically inducing configuration, phosphorus released</td>
<td>Ca++ ionogen as messenger</td>
</tr>
<tr>
<td>Substance quality which arises is open to the soul and unfomed (brain, kidney).</td>
<td>Light ether released in the kidney, condensation of substance to soul-sustaining quality.</td>
<td>Phosphorus in membranes and glia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance quality which arises is primarily at level of life (heart, lung).</td>
<td>Chemical ether released in the liver. Condensation of substance to life-sustaining quality.</td>
<td>Ca++ ionogen in blood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign physical substance begins to change into the opposite in the intestine.</td>
<td>Life ether is released in the lung, condensation of substance to mineral quality (bone).</td>
<td>Calcium crystalline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metabolic system</td>
<td>Imponderable substances are newly created in night-time I. “Silicon-creation process”</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

References:
- 22 Oct. 1922 (133)
- 31 Mar. 1920 (78)
- 11 Apr. 1921 (70)
- 31 Mar. 1920 (78)
Both albumin-Ca++ and phosphate have moved from outside-world states to a function that sustains life. Specifically, preventing precipitation of Ca++ and phosphate to phosphate even effect homoeopathization in the urine, action in the living organism. Bound in their new media, form phosphate calculi.

The organism here demonstrates its ability to integrate large quantities of matter (c. 1.0 kg of Ca++ and 0.7 kg of phosphate) into the level of life inspite of their outside-world quality. The specific tendencies of the two substances are evident physiologically in the crystalline structure of bone, and pathologically in the development of calculi. This tendency to form concretions is what Steiner meant by “cohesion of substances” which needs to be overcome by homoeopathization.

1) The first step in homoeopathization happens in the fluid circulations of the organism. With calcium, a new balance is established in the blood between ionic, directly effective form and the cloaked, albumin-bound Ca++. The albumin may be seen as the “surrounding medium” enveloping the ionic, salt-like form. Calcium in this cloaked form is prevented from uncontrolled use of its tendency towards Ca++-specific processes that lead to crystallization. This makes it a vehicle for life.

With phosphorus, dynamization to a life-sustaining level takes a different course. Buffers in body fluids, and especially in the blood, prevent individual constituents of a substance from taking effect. The phosphate loses its affinity to Ca++, and its potential to form apatite is reduced. Special inhibitors (e.g. proteins and pyrophosphate) even effect homoeopathization in the urine, actively preventing precipitation of Ca++ and phosphate to form phosphate calculi.

It is thus possible to maintain the acid-base balance (in so far as it depends on Ca++ and phosphate) as a function in the living organism. Bound in their new media, both albumin-Ca++ and phosphate have moved from outside-world states to a function that sustains life. With phosphorus, dynamization to a life-sustaining level takes a different course. Buffers in body fluids, and especially in the blood, prevent individual constituents of a substance from taking effect. The phosphate loses its affinity to Ca++, and its potential to form apatite is reduced. Special inhibitors (e.g. proteins and pyrophosphate) even effect homoeopathization in the urine, actively preventing precipitation of Ca++ and phosphate to form phosphate calculi.

Table 3: Hierarchy of substance qualities in field of tension of upper and lower human being (135)

<table>
<thead>
<tr>
<th>Upper human being in the nervous system</th>
<th>Lower human being in the blood system</th>
</tr>
</thead>
<tbody>
<tr>
<td>I organization</td>
<td>Physical organization</td>
</tr>
<tr>
<td>Cerebral nerves</td>
<td>Meso organization</td>
</tr>
<tr>
<td>Substance moving towards being</td>
<td>Substance moving towards being</td>
</tr>
<tr>
<td>Substance qualities arising in the</td>
<td>mineral in osteogenesis</td>
</tr>
<tr>
<td>field between upper and lower human</td>
<td></td>
</tr>
<tr>
<td>being</td>
<td></td>
</tr>
<tr>
<td>Substance moving towards being</td>
<td></td>
</tr>
<tr>
<td>mineral in osteogenesis</td>
<td></td>
</tr>
<tr>
<td>Astral organization</td>
<td>Etheric/astral organization</td>
</tr>
<tr>
<td>Spinal nerves</td>
<td>Substance with soul capacity, organs</td>
</tr>
<tr>
<td>Live substance, organs of internal</td>
<td>of internal vitality</td>
</tr>
<tr>
<td>mobility, muscles, cartilage</td>
<td></td>
</tr>
<tr>
<td>Etheric organization</td>
<td></td>
</tr>
<tr>
<td>Autonomous nerves</td>
<td>Substance moving towards being</td>
</tr>
<tr>
<td>Substance with soul capacity, organs</td>
<td>mineral in osteogenesis</td>
</tr>
<tr>
<td>of internal vitality</td>
<td></td>
</tr>
<tr>
<td>Physical organization</td>
<td>Substance moving towards being</td>
</tr>
<tr>
<td>Nerve stem cell</td>
<td>mineral in osteogenesis</td>
</tr>
<tr>
<td>Seed-like substance capable of</td>
<td></td>
</tr>
<tr>
<td>being configured, open to the (prime</td>
<td></td>
</tr>
<tr>
<td>matter)</td>
<td></td>
</tr>
</tbody>
</table>

2) The second step in homoeopathization, which leads to soul-sustaining substance (astralization), involves even more intensive enveloping of Ca++. Albumin on its own no longer suffices. Phospholipid membranes are used to envelop the Ca++ completely and keep it separate from the receptors. The membranes are the new “medium” in which the Ca++ is placed to inhibit its tendency to crystallize or unphysiological Ca++ activity. The ionogenic Ca++ can be released in the short term to serve as messenger in case of need. It will then trigger physiological processes at all levels of the organism to provide a basis for soul life. The quantitative amount of Ca++ is getting less important in the process, and the rhythm of the Ca++ impulses, the “Ca++ song”, more and more important. Once an impulse has been triggered, the Ca++ is immediately bound into the medium again, losing its effectiveness.

Phosphorus—among other things in the form of phospholipids—makes the second step in the homoeopathization of Ca++ possible. Vesicular structures and cloaking surfaces are developed in form of phospholipids to prevent cohesion, crystallization of calcium phosphate to (apatite) or carbonate (calcite) and limit the messenger function.

3) The third step in homoeopathization in the organism establishes the connection with the I’s substance-creative powers (81). The Ca++ serves as a tool in any mitosis and the induction of apoptosis. It is thus possible to bring order into all growth and dying processes in organogenesis and regeneration. Ca++ enables the I to come to bodily realization at molecular-biological level in this function, so that the I may create its own organs. The sparks and flashes of Ca++ that develop, and the character given by the different “Ca++ songs” which may be “heard” on the live cells are indications of this calcium quality which can be observed using our senses. Here, too, the effective ionogenic form of Ca++ is immediately taken back again and cloaked. The active, uncloaked form may be called “Ca++ in existence”, the cloaked form “Ca++ development” (section 2.3.2).
Phosphate is taken to a higher level in a qualitatively different way in the organism. Phosphorylation with ATP puts phosphates into the surface structure of enzymes and receptors. The process changes the conformation, i.e. brings about a spatial change in the enzyme or receptor. These molecules can only be activated once they have been “opened up” in this way. The process may be compared to the opening of a flower which will only then be ready to receive pollen, to be pollinated. Phosphorylation takes the enzyme or receptor to the point where it can react to the triggering signal. The configurative impulses brought to realization in mitosis and apoptosis are thus made possible for the I organization with the help of Ca++ and phosphate as refined tools (Table 2).

2.7 Summary of calcium and phosphate physiology

Quantitative determination of Ca++ or phosphate will give the same result at all levels. It is only when we relate this uniform statement to the relevant function in the organism that a qualitative difference is seen for the four functional levels which may be considered to reflect the different levels of human existence.

1) The physical product aspect is evident in the crystalline apatite in bone. Here the quantity of both substances matters, and the external law of the constant solubility product of the two partners, Ca++ and phosphate, can come into effect in crystallization. The “cohesion” of matter (29) can to a large extent take effect.

2) The etheric process aspect shows itself in the flow balances established between albumin-bound and free Ca++ in the blood on the one hand and the phosphate buffers on the other. This dual polarity in all extra and intra cellular flow systems in the fluid organism between Ca++ status and Ca++ development on the one hand and free and bound phosphorus on the other provides a basis for life in all extra and intra cellular flow systems in the fluid organism.

3) The soul aspect shows itself on the one hand in the messenger function of the Ca++ spark and the boundary surface-creative ability of phospholipids on the other. The latter assume a function which in classic potentization of medicines is ascribed to the medium. They create the protective element which makes it possible to trigger action potentials, induce secretary functions and movement impulses at the right time. These processes are the bodily precondition for all soul processes.

4) The combined actions of Ca++ and phosphate are further enhanced as potential builds up and growth is triggered (mitosis) and with death impulses (apoptosis). Once again the phosphate attaches itself to the Ca++ in such a way that the latter will only take effect where the I’s configuring function demands this. Here the I’s level of existence meets with that of physical matter.

2.8 Future research issues

Questions concerning the manufacture of medicines in the field of anthroposophical medicine arise as we consider the human organism and its relationships with the world of substances. Having four levels of quality it is exemplary for the process of homoeopathization. The organism changes foreign earthly matter into a process quality open to the I and from this prime matter then develops the specialized substances for individual organs. The process of homoeopathization and re-condensation needs to be grasped at idea level and elucidated experimentally. The characteristic aspects of this transformation, which we can see in the Ca++ and phosphate model, can provide first access to the physiologically describable reality. This will also help us to understand the following better:

“Sentient substance and substance capable of supporting the self-aware mind and spirit are lifted out of the total organism (which means that for a short time, Ca++ is liberated and phosphate freed from its bonds) and put at the service of the astral body and I organization” (82).

The quality of anthroposophical medicines will need to be measured using the standards of the ether body, i.e. perceptible changes in human physiological vital processes.

Further investigation is needed of the physiological processes to establish phenomena for the following questions:

1. How can we describe the evolution of matter in the lower human being?
2. How can we differentiate the I-function in the processing of foods and of medicines before and after the 9th year of life?
3. How does the I-function in the model body differ from that in the individualized body, i.e. which are the physiological differences indicative of this transformation which is part of the biography?
4. What value should attach to the action of substances in spirit-releasing and spirit-binding organs?

These and other questions must be followed up if access is to be gained in anthroposophical pharmaceutics to both pharmacokinetics and pharmacodynamics. Phenomena can then be described on which light will be cast by the general statement:

“When a medicine is to influence a pathological condition developing in the inner organization ... it is first of all important to see in how far the astral organization is acting to the effect that protein decomposition occurs somewhere in the organism in such a way that it is initiated in the normal way by the nerve organization” (83).

The goal in pharmacy, referring to the level of soul-sustaining substance in the above quotation, can be formulated as follows. How do we produce a medicine in such a way that protein decomposition can be transformed into corresponding composition effected by the invisible human being? Protein decomposition presupposes knowledge of the possibility of synthesizing protein. At this point we may recall the requirement for producing the coffee preparation to treat foot and mouth disease (section 1.3): Knowledge of the protein structure was required for producing the medicament.
At this point we need not go into in how far the term “homoeopathizing” as used by Steiner is synonymous with the closely defined term “potentization” and how these differ from the terms “dynamization” and “vegetabilization” which he came to use later.

3 Relationship of substances to the human organism

3.1 Conversion of food into “its opposite”

“An adequate diet must provide sufficient energy, at least the minimum of protein and carbohydrates, minerals and trace elements, essential amino acids and fatty acids as well as vitamins” (84). In this textbook passage it is taken for granted that there is continuity between substance elements and energy reserves outside and within the human being.

The same situation is presented the other way round in the anthroposophical view of the human being.

“The great obstacle to an objective view of the actions which substances, and above all medicinal substances, have in the human organism is… the law of conservation of matter. These laws, which have been established as a general law of nature, absolutely and completely contradict the process of human development... The whole process of nutrition and digestion is really seen from the materialistic point of view as if the substances were outside us, so that we have within us, even if in small particles, something given to us by the outside world... Yet this is not the case. For the potential truly exists in the human being first to destroy the external carbon completely through the lower human being, removing it from physical space and then simply producing it again anew in the counter move to this.”...

[In modern science] nothing is known of the genesis of substances and their death, nor of how substances go through death and revitalization” (78).

This statement—carbon merely serves as an example—holds true for all substances and chemical elements.

Using the energies of the upper human being, the foreign matter, substances from the outside world, is destroyed in metabolism (Table 1). This “death of matter” stimulates a development process in the lower human being in which human substances are newly created or given life again. The sequence of the degradation of matter and the four stages of matter coming back into existence has been referred to in sections 2.4 and 2.5. The contradiction between the two statements is not easily resolved. On the one hand we have continuity of chemical elements (which can be labelled) from the point of view of analytical natural science, and on the other the discontinuity of substances serving the organization which makes it necessary to forget and come alive again.

In a later lecture we read:

“If we thus take some mineral or other existing outside the human organism and imagine that this mineral... is part of its bone, of the teeth... this is sheer nonsense. No, the substance which appears there again in the human configuration must first have changed into the wholly volatile warmth-etheric form and then have been transformed back into the substance which then appears in living configuration in the human organism” (85).

These words clearly point to a sequence of four major steps, each with a number of intermediate steps.

1. Food substances are broken down into their individual parts in the gastrointestinal tract, digesting them of their foreign nature.

2. The individual parts are still ponderable to begin with; they are taken up into the “unstable protein organization” and qualitatively taken to a level where they sustain life and powers of soul. Finally they reach a level of unformed potential matter open to the I. The process takes them qualitatively from “existence” to “development” (section 2.4).

3. Open potential matter enters into a relationship with the “stable protein organization” where specialized, analysable organ substances arise. These are open to quantitative analysis. The specific characteristics in both substance and configuration for nerves, glands, bone, etc. develop. The “neogenesis” of substances in the organism which Steiner would refer to again and again refers mainly to this final stage. From a potential for matter open to the I—also referred to as pure warmth ether—organ substance would arise at the physical level which could be quantitatively defined.

4. The resulting organs—all of them now “upper posterior organs”—can be taken hold of in a direct “spirit-releasing” process by the upper levels of existence to such effect that the soul functions of thinking (brain), feeling (lung) and acting out of the will (liver) appear when they are broken down. The organs are made “spiritual” again in the process.

3.2 “Feeding through the senses”

Steiner would often stress that the physical matter making up the body must be considered to come from two sources.

“Ordinary metabolism only provides... the building stones for the nervous system as far as matter is concerned. The neurosensory system is then active, together with respiration, in taking in substances in an extraordinarily finely divided state, integrating them in the organism, to replace at substance level everything which leaves the body... The human body is never built up through food intake. The food merely contains the activity which has to be there to organize the nervous system. The [metabolic organs] are... in terms of substance built up not from ingested foods... but really from the cosmos” (86).

An important point made in the lecture of 2 July 1921 (87) (Table 4) concerning the qualitative changes “substances from the cosmic surroundings” have to go through until condensed to human organ substance. Steiner did, however, speak only of developments in soul life and not the live physiological processes needed at the same time: “Feeding through the senses” is connected with subconscious or conscious perception. This is followed by physiological and if necessary mental pro-
The physiological phenomena which correlate with this spiritual-scientific view have been even less worked out than the organ-relationships of the food-substance stream. The structures are remarkably similar: the food stream is spiritualized in four stages and with the “upper posterior organs” (section 2.3.3) provides the basis for today’s inner life in thinking, feeling and acting out of the will. The thought-substance stream is spiritualized—again in four stages—to be the seed for powers of configuring the future body.

It is not said that these “finely distributed substances” taken in through the senses and respiration must also be broken down first, like ordinary food, and refashioned into their opposite. These condensed substances seem to be taken in and processed as they are. (One must, of course, assume transitional situations between these two ways.) This way of taking substances in is therapeutically activated with all external applications. The pleasant scent of volatile oils and the soothing perception of being touched by hands are part of the process, as are pharmaceutical products taken in via the skin. It is still an open question as to how these can be optimized pharmaceutically. In conclusion, mention must be made of the fact that all forms of art therapy also touch on this through-substance stream.

3.3 Medicines in relation to the upper and lower human being

In the passage quoted above (78), reference is made to the discontinuity of food substances and also the breaking down and reconstruction of medicines. Changed into “the opposite”? How should we think the “genesis and death of substances”? Unfortunately no further explanation was given at that point and there is no indication as to whether this concept of death and generation applies to all medicines and all formulations.

In section 2.2, we considered the way in which we should think of the action of belladonna (lecture of 11 February 1923). Alkaloids, a natural substance, enforce physiological processes in the human being. They are not changed into “the opposite”, like foods, but act directly. The uptake and mechanism of action of alkaloids are well known in pharmacokinetics. Physiological degradation only begins after they have developed their specific action.

The same theoretical model is used for the action of arsenic as a mineral poison. The “action of arsenic if diluted but not too much so” (81, 88) was recommended where the organization does not intervene sufficiently to cause degradation during the day and the individual is too sleepy. Again the “action of an external substance” was directly shown to be parallel to the destructive psychic processes within the human being.

If toxic medicines are used in suitable dilution, we can use the model for the direct action of soul and spirit from the above lecture to explain the connection. The medicine has a direct action, strengthening degradation in a specific way. The toxicological phenomena point to bodily relations, where and how the poison in question...
has its origin in the soul world. The essential difference between direct action of the I and action of the soul can be worked out with poisons.

As mentioned earlier, apart from the “direct” action of **Belladonna** alkaloids, reference was also made to two other treatment principles in the lecture. Iron was to be given in suitable form “to give the blood the weight it needs by the necessary iron concentration …”. The constructive stream coming from the invisible human being is here directed down into the physical body, correcting constructive activity where it is qualitatively insufficient and “too light”. Many processes of iron absorption and processing in the organism are known in modern physiology. The organism takes the iron step by step from the intestine to the haemoglobin of erythrocytes on the one hand and into the matrix metalloproteins (MMP) of extracellular substance (sections 2.4 and 2.5). It calls for appropriate biology. The organism takes the iron step by step from the processing in the organism are known in modern physiology. The organism takes the iron step by step from the intestine to the haemoglobin of erythrocytes on the one hand and into the matrix metalloproteins (MMP) of extracellular substance (sections 2.4 and 2.5). It calls for appropriate biology. The organism takestheiron stepby stepfrom the processinginthe organism are known inmodern phys-

3.3.3 Action and mode of exhibition of medicines

In conventional medicine, questions as to the method of exhibiting a medicine are given less attention than are absorption, tolerance, practicability, etc. In anthroposophical medicine, the method of exhibition was given a set of new rules in the lecture of 11 February 1923, and on many other occasions Steiner made it clear that oral exhibition acts on metabolism, and external applications influence the neurosensory system via the senses in the skin. Injections always act on the rhythmical human being via the blood (92, 93 etc.). At first sight, such correlation appears to take no account of the quality of substances, their absorption, distribution, etc. It has to be said that to my knowledge, no investigation has so far...
been done to establish if the same dose given by mouth or by injection (e.g. Stibium or Arnica) really acts more on metabolism or the rhythmical system. The action of a poison (e.g. arsenic) differs only in degree and not in principle with different forms of exhibition, though the above rule might suggest this. The situation with arsenic is that independent of the method of exhibition, the action is the same if given orally or applied externally. The indication for both is the same: to get I and astral body to intervene more effectively in the body during the day. Arsenic was recommended in Levico baths for children and by mouth for adults. In either case it acts as a poison “from above outside”, independent of the mode of exhibition.

3.3.2 Connection between plant organ and medicinal action

A further rule was given in a lecture given on 17 April 1921 and on a number of other occasions. The organ of the plant from which the medicine is obtained has an influence on the pharmaceutical process and also determines the region of the human organism where the medicinal action takes place. Preparations from the root need to be boiled and act on metabolism (example Gentiana lutea, Geum urb. and Iris germ.). This general statement was immediately made more specific, however. The specifically therapeutic actions arise through different constituents in the three medicinal plants. They do all affect the “lower and anterior human being”, but in very different processes which in turn were shown to have polarities within them.

An infusion was to be made of marjoram leaves—a typical medicine for this plant organ—to strengthen the respiratory organs. It was emphasized that boiling the leaves would destroy certain constituents. The flowers of Sambucus nig. were also to be used in a tea for changing internal respiration, now, however, from the “upper posterior” and not the “lower anterior” human being. Again a general characterization was given of the constituents. A decoction of caraway seeds also acts on the “posterior human being”, but in very different processes which in turn were shown to have polarities within them.

An infusion was to be made of marjoram leaves—a typical medicine for this plant organ—to strengthen the respiratory organs. It was emphasized that boiling the leaves would destroy certain constituents. The flowers of Sambucus nig. were also to be used in a tea for changing internal respiration, now, however, from the “upper posterior” and not the “lower anterior” human being. Again a general characterization was given of the constituents. A decoction of caraway seeds also acts on the “posterior human being”, but in very different processes which in turn were shown to have polarities within them.

An infusion was to be made of marjoram leaves—a typical medicine for this plant organ—to strengthen the respiratory organs. It was emphasized that boiling the leaves would destroy certain constituents. The flowers of Sambucus nig. were also to be used in a tea for changing internal respiration, now, however, from the “upper posterior” and not the “lower anterior” human being. Again a general characterization was given of the constituents. A decoction of caraway seeds also acts on the “posterior human being”, but in very different processes which in turn were shown to have polarities within them.

The physicians who were interested in theosophy and asked R. Steiner’s help were, as far as we know, mainly involved in homoeopathy. They were certain that the healing powers of potentized natural substances could be made directly available to patients. Steiner was asked to suggest medicines and meditations for individual patients even before he gave his medical courses. There is no evidence of any intention to produce medicines oneself at this time. Luescher (136) refers to the two impulses to be discerned prior to the medical courses. On the one hand, the focus can be on the individual with his disease, as in the Manifestations of Karma lectures given in Hamburg (21). This suggestion was taken up by the physicians and brought to realization in individual practices. In the Prague lectures on An Occult Physiology (20) Steiner developed “the general, generic, human aspect of health and sickness, insight into which can be made to bear fruit in a future art of medicine” (136). This general task was less definitely taken up by the physicians. As far as we know, they did not ask about the method...
of producing medicines, the “rationale” for the relationship between human being and medicine, nor explore them themselves.

From July 1912 onwards, Mr Schmiedel, the pharmacist, was working with herbal material to produce vegetable paints, hair oil, etc. in the newly established Theosophical Chemical Laboratory (later called “Dr Schmiedel’s Chemical Laboratory”). Rudolf Steiner made suggestions (139). The laboratory moved to a shed in Dornach in March 1914 where the vegetable paints for the First Goetheanum were produced. Schmiedel also gave the impetus for the first medical course when he had heard Steiner say to the world in a public lecture that there was need to develop an “intuitive medicine” (28).

He had said that it

“would be the ideal of the spiritual scientist to really speak fully to people who were experts in the field. If they were to come and let their expertise speak without prejudice, they would see how much their very expertise would be made fruitful out of the science of the spirit... science of the spirit seeks to draw on deeper scientific sources than our ordinary science today.”

Prior to the medical course, the physicians and the pharmacist had not had any questions concerning the deeper scientific sources, a methodology for medicine and pharmacy. The first medical course followed a few weeks later, in March and April 1920 (29).

4.1.2 The first medical course, Introducing Anthroposophical Medicine (29)

All those who attended the first medical course were seekers hoping to find a way out of traditional medicine. Steiner spoke of the “outward manifestation of the inner human being” in the course (70) which is the activity of the supersensible levels of existence in the sensible. Physiology, pathophysiology and treatment were broadened from this point of view. Steiner addressed the previous training in homoeopathy of his audience, he hoped to be asked about the “deeper scientific sources” which spiritual science can provide. His own approach to homoeopathic medicine is evident from his words. He referred to potentization on several occasions, and one can see a gradual broadening of the concept. We will look at the key aspects of this.

In the first lecture, Hahnemann was given due appreciation as the founder of homoeopathy. He was the first physician of our time who sought to overcome medieval medicine on the basis of a scientific concern.

“How the attempts that point to the future entered into this decline of humoral pathology—like the attempt made by Hahnemann, for example—will be considered in the days to follow.” He spoke of “attempts” or “attempts” made by Hahnemann.

The nature of homoeopathic pharmacists was considered in the second lecture (22 March 1920), referring to substance metamorphosis between the “lower and upper processes” in the human being as a model for the pharmaceutical processes (section 4.2). The “coherence” of matter is cancelled in that transformation within the human being. The potentization of medicines would need a transformation of similar quality. The image given for the right method of homoeopathization was the way in which light spreads. In the 4th lecture (24 March 1920) the meaning of the term was expanded. When minerals are processed, “something occurs which in some form or other points to some homoeopathic principle or other...” The familiar rhythmical dilution, i.e. the classic method of potentization, even if handled differently in different places, was said to be not the principle, but “some homoeopathic principle or other in some form or other”. Examples from nature given were medicinal springs as places where homoeopathization takes place.

At the same time, the other source for a medicine open to the spirit is integrated into the subject matter as well: the tria principia of alchemical medicine. In the sixth lecture Steiner defined his own position regarding this approach to medicine in more detail.

In the 5th lecture (25 March 1920), reference is made to the dispute between homoeopaths and allopaths, and once more to the archetype in the human organism. Cancellation of “the cohesion of individual parts of the medicine” happened in the human organism, he said, when substances were made into the body’s own. Pharmacists could relieve the organism of having to carry this process. Pharmaceutical action overcame the opposition between the two medical disciplines if guided from spiritual-scientific insight.

In the 6th lecture (26 March 1920), the alchemical Sal, Mercury and Phosphorus processes were first of all related to the plant. On the basis of this, the planets with their metals and their relationships were developed into the original wisdom of the tria principia. It is interesting that Steiner described his own investigations into alchemy.

“What I am saying here has not been taken from earlier medical writings but based wholly on current investigations in spiritual science... It would be quite erroneous to think that anything said here has been taken from earlier writings.”

The old insights in alchemy had petered out, but present-day spiritual-scientific research could take up the thread of the old nomenclature and the old processes (section 1.2).

Towards the end of the 6th lecture, tribute was paid to the new beginning that came with the “Hahnemannian approach”. The aim of that approach had been to make the cosmic origin of substances available through potentization.

“The method is that one seeks to take what exists and potentizes it so that the powers inherent in the existing substances can be made available.”

Once again, emphasis is on the attempt, and it is made clear that we must not forget the connection with the cosmos.

Potentization was referred to in the lectures, whilst the process of rhythmical dilution was not mentioned but assumed. Nor is there any reference to the difference
in action if a substance is merely diluted or genuinely po-
tentized. Rather than giving an appreciation of the clas-
sic potentization process, Steiner gave images, e.g. that of spreading light. Here, he said, one had the models for
how the "qualitative and quantitative spread" of a sub-
stance and its transformation happen in nature. The me-
dicinal springs managed to "cancel out the aggregation,
the coherence of matter" in a different way. The transfor-
mation of substances in the human being was the typi-
cal process. Foods were "potentized" in metabolism "all
the way to the upper human being". Up to the 6th lec-
ture, reference to potentization related to the first pillar
of homeopathy.

In the 7th lecture (27 March 1920) the "simile"—the
second pillar—was also broadened, changed: Homoeo-
pathic medicine was based on the constitution and
symptoms which the patient displayed in the here and
now. With chronic diseases, earlier symptoms were also
included in establishing the drug picture and integrated
in the "simile" of the medicine. New symptoms develop-
ing during treatment meant that pharmacognosy must
be repeated. Steiner said in this lecture that the simile in
the disease picture (the simile as picture of poisoning)
might lie in phenomena which do not primarily have to
do with the current disease but developed years earlier.
The patient’s current symptoms were not necessarily
the key to finding the simile. Hahnemann had also
known that the proper simile lay far back in the past, but
this was hardly taken into account in current practice.
The physician was called upon to know the origin of the
disease in earlier diseases and symptoms. (Surprising
examples of this are given in Extending Practical Medi-
cine (138) and also in the lectures.)

Correction of the simile continued in the 9th lecture
(29 March 1920). Dr Scheidegger, leading homoeopathic
physician from Basel in whom Steiner set great hopes,
was gently corrected:

“We shall see that one has to master all these things
[developed in the preceding lectures] if we are to arrive
at a proper evaluation of the law of similars which Dr
Scheidegger spoke of so clearly yesterday. This law of
similars involves something of extraordinary impor-
tance. But it will be necessary to base the law on all
elements ... as we establish them now.”

Steiner was most cautious in making the correction, say-
ing that the law of similars needed to be newly based on
the spiritual-scientific elements. This made it necessary
to master all the things which he had by then developed
from spiritual-scientific knowledge.

In the 11th lecture (31 March 1920), emphasis was on
the need to build a bridge between the physiology and
chemistry of that time. Reference was made to the ho-
meopath’s fear and danger of “turning mystical”. Stei-
ner spoke of the importance of the processes used in pro-
ducing a medicine. The “ponderable state” of a sub-
stance needed to be changed into the “opposite” and the
“surrounding medium [thus] given a new configura-
tion.” It is not certain if this referred to the media used
for existing medicines, i.e. alcohol, water and lactose, or
the methods intended by the speaker. It must be taken
into account, however, that to date it has not proved
possible to demonstrate the changed “configuration” of
the “surrounding medium” in a medicine potentized us-
ing the classic media (139).

In the 11th lecture, we are finally given an abstract
mathematical model for the qualitative potency stages.
Three process directions at right angles to each other,
with zero points in between. A further comparison was
added to avoid any confusion with familiar views. The
action of fluorescent light related to direct light like a
more imponderable, homeopathy quality to one
that was more ponderable. The ideal way of condensing
substances via the organ sequence (heart) – kidney –
liver – lung was then shown (see section 2.5).

The 15th lecture (4 April 1920) contains references to
a number of medicinal plants, their processes and their ac-
tions on the human organism. Important development-
tal gestures of the plants (Betula, Capsella, Cochlearia)
were considered and related to constituents. The
processes in which of plant substances was given weight,
processes to which little importance at-
taches in the homeopathic method.

In the 17th lecture (6 April 1920) we read:

“Among the things of not inconsiderable merit which
have come up specifically in the homoeopathic trad-
tion of the 19th century is the fact that acceptance of
the spirituality of external material substances was
kept alive.”

This is important. Acceptance of spirituality is empha-
sized. This should have led to the investigation of spiri-
tuality in external material substances in homeopathy.
Later, speaking of hypochondria, it was said that

“we must treat the hypochondriac by applying power-
ful treatment to the lower human being, with medic-
inal actions at material level, i.e. in low potencies. If we
find that someone is of a lively mind or sanguine when
not suffering from the disease, it will be necessary to
take recourse to higher potencies from the beginning.”

With this last statement, a physician with homoeopathic
orientation would be bound to feel solid ground under
his feet again—or did it refer to the quality stages of sub-
stances with potentization within the human being?

In the 20th lecture (9 April 1920), the archetype of po-
tentization is mentioned once more. Iron medication
must be such that the iron

“gains a true relationship with the homoeopathization
which happens on each occasion in the [through the]
upper human being ... For everything connected with
our “lower human being” is connected with the earth-
ly processes.”

The whole of the task is then gently hinted at in the fi-
nal paragraphs:

“You can’t say that one will therefore simply always be
satisfied—please forgive me for saying so—when tak-
ing a critical look at homoeopathic medicine.”

With due caution he considered the equivocal nature of
homeopathic medicines, recommending that “the re-
region of a medicine” be narrowed down.
4.1.4 Introducing Anthroposophical Medicine or Anthroposophical Spiritual Science and Medical Therapy (29)

These lectures are concerned with "how the different levels of human existence are influenced by substances coming from outside the human being ... which can then be put to medicinal use" (11 April 1921). It would be necessary to gain knowledge of essential human nature. How are "substances coming from outside the human being" transformed into medicines, and how can we gain insight into the ways in which they act in the organism? Almost all the themes considered in section 2.3 of this paper are considered in detail in these lectures. They must be given due consideration if we are to understand the way natural substances relate to the spiritual nature of the human being. Let me recapitulate briefly.

• Natural substances have a different effect in the primary, model body than in the individualized body, for in the latter the I-organization is able to penetrate the substances.

• The lower human being, with the ability to generate matter, must be distinguished from the upper human being where matter is extant.

• The substances are taken up into the unstable protein organization and only act on the stable protein organs in us through this.

• Conditional requirements for substances must be studied separately for spirit-releasing and spirit-binding organs.

Basic physiological conditions for normal and pathological functions were considered in connection with the levels of human existence and substances (silicon, fluorine, calcium) in the lectures, as were the therapeutic functions of sulphur, phosphorus, arsenic, antimony and "magnesium in any kind of preparation". The substances were to be used in "small amounts", in suitable "dilution". Mercury was to be given "in small doses, i.e. going in the direction of the homoeopathic".

Aspects were mentioned that bring order into diagnosis, for the homoeopathic

"symptom complexes involve many, many details, and it calls for some skill to bring the individual symptoms together, keep them together ... Thus is it necessary, if we want to judge a pathological situation rightly, to
The anthrposopohical approach to medicine

The lecture course, in another translation called Fundamentals of Anthroposophical Medicine (56) had to be given from necessity. The lectures should have been given by L. Noll and perhaps also F. Husemann. "It was not really my intention to speak at this medical meeting ..." The speaker repeatedly addressed an audience used to keep together the symptoms which occur in the upper human being. If you add just one symptom which, although in terms of location it does occur in the upper human being has in fact ... merely pushed its way up from metabolism, we will be ... mistaken." (13 April 1921). In homoeopathy, there is provision for this distinction between an upper human being in spatial terms and one which is functional (etheric). Later on, reference is made to various iron compounds: “the carbonate, Ferrum muriaticum, [iron with] vegetable acids and the native metal. It is indicated that these different iron salts are qualitatively at different levels of homoeopathization (and definitely not due to being different decimal or centesimal potencies) and thus relate to the levels of human existence. We then read:

“Basically the human organism does not allow itself to be dealt with allopathically but homoeopathizes the metals itself, breaking them down as it moves from digestive system to head organism” (15 April 1921).

Both the law of similars and classic potentization were thus carefully corrected. Just the day before he said:

“Far we must gain an idea of the real heart of the problem. The more deep-seated the deficit [functionally], the lower the potentization ... The more you are able to say that it is close to the head organization, it will be a matter of using higher potentization” (14 April 1921).

Four potency levels resulting as substances change inside the human being are the premise throughout the lecture (section 2.4).

“For the sequence of stages in the human being, which is so important when considering treatment ...” (16 April 1921)

is the basis for a functional diagnosis and the approach to treatment based on this.

The general rule concerning dosage also relates to these four levels:

“The system of metabolism and limbs is most like the natural world outside. If something is amiss there ... one must use the low potentizations. As soon as we come to the middle human being, we must use medium dosages. But as soon as we want the action to come from the head, we must work with the highest potencies ... the highest potentizations.”

This, he said, was “a guide for potentization” (16 April 1921). (Anticipating, let me way that a rule which sounds the opposite was given in a later lecture (96))

A summing-up came in the 8th lecture, following repeated efforts to exemplify the lower and upper functional human being.

“Substances which in large quantities are destructive in the upper human being, prove constructive actions, coming from the lower human being, in small quantities, diluted ... Substances which in large quantities prove pathogenic in the lower human being will in small quantities restore health, and vice versa. This revision of the homoeopathic rule will alone make it possible to settle the dispute [between homoeopathy and allopathy]” (18 April 1921).

Nothing was said about the theoretical or practical steps to be taken to achieve this revision and settle the dispute between the empirical, critical approach on the one hand and homoeopathic thinking in images.

It was only in the 7th lecture of the second medical course (142) that Steiner addressed pharmaceutical methods and medicinal preparations. Initially reference is limited to the familiar methods of decoction or infusion. Then came the first mention in lectures of a new pharmaceutical impulse. Metals were to be taken to the level of life to improve the medicinal action. The medicinal plant was to be fed metal solutions and a special compost was then to be made of the harvested vegetation. The medicinal plant grown in this could be used to make the medicine. This, Steiner said, enhanced its efficacy. Homoeopathization of the medicine was to be achieved by means of vegetabilization in the plant itself. The qualitative step into the sphere of life which in the organism comes between heart and lung (section 2.4) is here taken in the medicinal plant. The metal process was to be taken into life to activate the constructive stream of the “invisible human being” directly.

The suggestion to vegetalize metals was the second practical proposal for new pharmaceutical processes. The first had been the flow machine. Notes from a pharmacists’” meeting with Steiner in Stuttgart on 8 February 1923 (passed on by Degenaar, though he did not include this in his Case Records), show that the method of feeding medicinal plants with metals was discussed in detail with the physicians and pharmacists. Plants named in this talk were Urtica for iron, Equisetum for silicon, Bryophyllum for mercury, and cacti, stonecrop and lemon balm for copper.

The 8th lecture concluded with question-and-answer session. None of the questions referred to pharmaceuticals. The listeners were not open to this aspect of “extended medicine”.

The 9th lecture, in which the second medical course and the eurythmy therapy course (57) running parallel to it were summed up did not touch on the issue of medicines.

The theory of signatures from the past—and hence alchemical and esoteric medicine were mentioned in connection with cinnabar (15 April 1921). The approach to the theory of signatures was more distanced than it had been in the first course. A correction made was the following:

“But external appearance will only explain anything if one takes an inner view of it.”

All in all, Steiner’s views on homoeopathy and alchemy were clearly more reserved than in the first course.

4.1.5 The Anthroposophical Approach to Medicine

The lecture course, in another translation called Fundamentals of Anthroposophical Medicine (56) had to be given from necessity. The lectures should have been given by L. Noll and perhaps also F. Husemann. "It was not really my intention to speak at this medical meeting ..."
thinking as scientists. He considered the axioms of natural science and asked for many different series of experiments. At the same time—and for the first time within his medical lectures—he referred to the need for inner training, developing imagination, inspiration and intuition as the basis for a renewal of medical and pharmaceutical thinking and work.

Up to the 4th lecture, reference is only made to familiar medicinal plants and simple substances (sulphur, phosphorus) and metals. At the very end he spoke of a new pharmaceutical goal which was that the processes of medicinal plants were to be recreated in a synthetic method to make the medicines more effective. It should be possible to synthesize new, more effective preparations if one knew the physiology of plants. The suggestion that one should imitate the order of substances in a known medicinal plant and thus improve efficacy was only presented in full detail in the London lectures (section 6.1) almost a year later (section 4.2).

This was the third step towards a renewal of pharmacies. The flow process for *Viscum at around the first lecture* and the vegetabilization of metals in the second course were now followed by the new synthesis of vegetable processes to produce medicines that were more effective than the original vegetable process itself. Nothing is known of physicians or pharmacists asking questions concerning these new methods.

### 4.1.6 Cautious assessment—Old pharmaceutical processes (alchemy and homoeopathy) and seeds for a broadening of pharmacies

In principle, Steiner considered a future spiritual-scientific medicine independent of established homoeopathy and conventional medicine from as early as 1905. In the medical courses he gave from 1920 to 1922 he progressively changed the concepts inherent in homoeopathization for physicians who were thinking and working homoeopathically. The way in which he took up the subject, avoiding the term "potentization", shows that his audience were meant to move from their habitual ideas to understanding the archetype of potentization.

The first tenet in homoeopathy is that a substance which has produced the symptoms of poisoning in healthy subjects becomes medicinal if diluted and successed in stages (potentization). The resulting medicine is said to have greater powers than a natural substance that is merely diluted. Hahnemann's own attitude to the issue has been aptly summed up by Meyer 2006.

The second tenet in homoeopathy is *similia similibus curentur*. It refers to the connection between patient and natural substance. The toxic symptoms of the substance in a healthy subject and the signs and symptoms of the patient (perceptible symptom, modality and constitution) are related.

These two pillars of homoeopathy were cautiously changed and extended in the lectures given from 1920 to 1922. Looking at this from the distance we have today, it was probably F. Husemann, 33 at the time, who was asked to bring together "scientific accuracy and artistic imagination" (109). Were the many references to "necessary doctorate theses" and scientific elaboration really addressed only to the participating students? Who, if not he, could be asked to promote and follow these investigations with an ability to see the whole and with expert knowledge? Noll was expected to write a "vademecum". Degenar (110) has passed on records of some discussions on the vademecum in Stuttgart—the notes came from F. Husemann. (As far as I know there are no notes on the vademecum issue by L. Noll.) The spiritual teacher's hope for collaboration in taking a new, progressive step beyond conventional medicine and homoeopathy and towards an "intuitive medicine" were directed mainly towards F. Husemann and L. Noll. This would also have included issues relating to a broader pharmacology.

Within the teaching of homoeopathy, the issue of the material constituents of a medicament is not of prime importance. The pharmaceutical process is designed to overcome this material aspect. Similarly the question as to a suitable medium for potentization which would make reconfiguring into higher quality levels possible through the stages of its own transformation has hardly ever been asked. Alcohol and lactose are still used as the medium for most preparations. The Rh preparations made by Weleda and Wala methods avoid alcohol, using fermentation processes that are made to take different specific courses. These were originally suggested by Steiner (see section 1.3), and the actual method was used in alchemical medicine in the past (33). Fermentation of a plant extract achieves a degree of stabilization for individual substances in the extract. At the same time substances are transformed, precipitated or released in gaseous form. (The problem of partial lectin degradation on fermentation of mistletoe extracts can only be mentioned in passing here.)

In the literature on potentization, the authors largely base themselves on the first medical course (m–114). Their evaluation does not take so much account of the further development of the pharmaceutical task, which Steiner explored step by step in the courses that followed, making no mention of his proposals to analyse the functional aspect of the plant substances or to improve efficacy by means of flow processes. A talk which Steiner had with Dr Maier, the physicist, on 20 April 1920 shows the expectations Steiner had of the pharmacists and physicians. Maier ran the Stuttgart research laboratory for a time. The talk came less than two weeks after the first medical course. Steiner handed him a handwritten page of proposals for research which he considered of prime importance. Evidently none of the physicians attending the course had said anything about having plans for research. In part the proposals relate clearly to the first medical course. One was: "Investigate plant poisons and non-toxic plant substances and compare their powers, especially their powers of configuration."
Following that talk with Steiner, Dr Maier noted the following: “Details of the method of investigation: To plant poisons and non-toxic plant substances, and above all mixtures of the two, add solutions (in weak doses) and let crystals crystallize out from these. The plant substances, or mixtures of them, will cause certain modifications in the crystals. Here the transition from the power to configure mineral crystals to the power to configure plants” (155). Analysis of the plant constituents was required, both of poisons and of non-toxic secondary constituents. Plant extracts and/or individual substances were also to be investigated for their biological actions with regard to their powers of configuration.

Neither F. Husemann, who was more inclined to think scientifically, nor L. Noll, who was tending towards theosophy and homoeopathy in his thinking, asked how natural substances could be processed into medicinal agents.

Pelikan (111) suggested that the action of a potentized medicine depended on the number of potentization steps and not the concentration of original substance. His exact and detailed investigations, using growth experiments, resulted in correlating graphs. There is still need, however much we appreciate those pioneering investigations, to establish how these biological actions can be applied to medicinal actions.

It is not our remit here to establish the efficacy of potentized medicine. We are only concerned with how we may follow the physiological actions of a medicine in the organism in our thoughts. The separate investigation of plant poison and non-toxic plant substances is made more difficult today because of the vast number of secondary constituents. Pedersen (116) suggests an “element cross” to bring order into this multiplicity.

The important issue in anthroposophical pharmacy is: “How can a medicine reach the constructive stream of the invisible human being at the level of the etheric, astral or 1 organization?” In the lectures given from 1920 to 1922, Steiner’s presentation of the homoeopathic principles grew increasingly more distant and his relationship to natural-scientific issues more distinct. He no longer referred to his own investigations relating to alchemical theories. Instead, he postulated that the live processes in the plant and those in the human organism must be appropriately seen together. This is an matter for pharmaceutical science.

In brief, the preconditions for more broadly-based pharmaceutics might be summed up as follows:

1. The stages of transformation between lower and upper human being as the archetype of homoeopathization (potentization).
2. Substances within the human being show common aspects between “active principle” on the one hand and an “active medium” in which this is embedded on the other. Here we have the archetype for the connection between the actions of individual substances in the organism and in their given medium.

3. The close similibus of homoeopathy must be broadened to give the relationship, open to the spirit, between nature and human being. A relationship between macrocosm and microcosm seen in real terms presupposes knowledge of the pharmacology of a medicine and of human physiological processes in health and sickness.

4. Proposed new pharmaceutical methods were:
   a) A flow process for Viscum, Cardiodoron®, Choleodoron® and Myodoron® (no longer in use). The old expression “push through mixture with special structure” traditional for the manufacture of Hepatodoron®, may also be seen as a flow problem.
   b) Vegetabilization of metals using suitable medicinal plants.
   c) Neosynthesis of a medicinal-plant process using suitable substances.
   d) Producing mirrors. The method was first mentioned in 1911 (20). It was taken up again in 1923 (section 4.2.1.2). The method has been considered in detail by Simon (131).

5. No distinction made between dilution in stages and the classic method of potentization.

6. As far as one can see, Steiner made no distinction between “potentization”, “homoeopathization”, “dynamizing”, “vegetabilization” — “animalization”, on the one hand and “smallest entities”, “high potentization”, “high dilution”, “smallest doses”, etc. on the other.

4.2.1.1 Introduction in the lecture of 2 September 1923

The speaker emphasized from the beginning that he did “not exactly enjoy talking about this part of our spiritual-scientific movement”. What mattered to him was to “produce medicines which will be truly effective ... The major guidelines are indeed gained from spiritual vision”, to be able to formulate natural substances and processes exactly. This, he said, could bridge the gap between pathology and treatment: “Pathology is something today which take be taken up and taken some distance further in every one of its points.” He asked that in medical science
“one accurately understands the connections that exist between substances—between the way they function within the human organism and outside both in nature and indeed also in the processes which can be used in the laboratory.”

Reference was made to the establishment of the scientific institutions and L. Kolisko’s publications on splenic function on the one hand and the activity of smallest entities on the other:

“So far there has essentially been no exact research in this field, only homoeopathic belief.”

The work on splenic function has never gained acceptance. L. Kolisko has described the way it developed and the conflict with the Stuttgart physicians which followed (62). She had found “elements” unknown to her in the blood of cows examined in connection with foot and mouth disease. Steiner called them “splenic hormone” or “regulators”. To my knowledge no one else has ever described them. The surprisingly positive value which Steiner attached to the results of animal experiments (“innocent vivisection”) cannot be recognized today. Apart from anything else, they could not now be repeated for ethical reasons. The paper on the efficacy of smallest entities is, on the other hand, generally accepted today to have marked the beginning of the investigation of such entities. It will depend on the nature of the enquiry if her details concerning optimum succussion times stand up to critical evaluation (99). In this passage, Steiner notably avoids using the term “potentization” in the sense of ultra trace entities. Perhaps in form of ultra trace elements—it will depend on the nature of the environment—but the changes happening in it, the processes it goes through.”

Antimony in substantial dosage is needed to achieve an effect in the neurosensory system. For the “motor” or metabolic system “it will be a matter of subjecting the antimony to processes—combustion, oxidation—where the antimony turns to smoke and the smoke precipitates to form a mirror ... We must consider the processes—of the processes in metabolism and movement.”

At first sight this goes against the familiar potency rule given in the first and second medical courses. Here we’ll limit ourselves to the polar opposite statement, not going into the different points of view.

Treatment with “antimony in substantial dosage” will have to take account of the toxicity of the metal. For use in the “lower” human being, a (fourth) new pharmaceutical process was introduced to give the substance process quality. The antimony was to precipitate on a surface. Different approaches are used as to whether this mirror production should be by means of smoke or vapour.

Naturally occurring processes were to be copied “correctly”, and the process should then be active in the medicine. We can expect “the medicine to be successful, with the processes correctly done”. The process was to take the medicine closer to the human ether body, with the substances taken to a “state closer to life”. No indication was given as to dilution or to potentization in the classic sense.

The pharmaceutical process of metal mirrors was described by Pelikan in Zu den Urangaben fuer die Metallspiegelpraparate (447; 27 May 1967). Daems (101), Titze (102, 103) and Zwiauer (104) wrote of the problems in developing the method and the antimony action. The 3rd installment of Heilmittel fuer typische Krankheiten (120) was also devoted to this medicine. All were more concerned with the idea and not with investigations to determine the action. So far it has not been taken into account that the amorphous modifications of Stibium in the thin mirror surface may well be processed differently in the organism than the relatively thicker layers of the crystalline substance.

4.2.1.2 Example of antimony in lecture of 2 September 1923

Clear distinction must be made between the “upper processes” of the neurosensory system and the “lower processes” in metabolism in the human organism, for “one sphere [in the human organism] ... needs to be treated with larger quantities, but the other sphere ... with minimal quantities.”

A bit later, the subject was taken up again:

“More detailed insight into the human organism shows ... that, when we are dealing with the neurosensory organization, we are essentially dealing with the action of different substances in substantial amounts in the human organism ... When we are dealing with a metabolic process ... a movement process, we have to consider not the substantial level of something we find in the surroundings but the changes happening in it, the processes it goes through.”

“Antimony in substantial dosage” is needed to achieve an effect in the neurosensory system. For the “motor” or metabolic system “it will be a matter of subjecting the antimony to processes—combustion, oxidation—where
nematics in our methods, and with this draw forth the medicinal factors from nature.”

No questions were asked as to the form which these methods was to take. Steiner did say to the workmen building the Goetheanum: “It really is terribly simple, our medicine [for hayfever]” (105). As evident from the sentence which followed, this did, however, refer to the action in the organism rather than the method of preparation. The 20th chapter of Extending Practical Medicine, entitled “Typical Medicines”—a chapter written by Dr Wegman—includes no reference to the required pharmaceutical process of “imitating these dynamics in our methods.”

Steiner was here probably also referring to a flow process similar to the one he spoke of the next day (3 Sept. 1923) with regard to mistletoe. The task Steiner set himself was to configure a medicine of two components, using technological means to achieve a dynamic (enlivened) state which could serve the processes of life in the organism directly.

The descriptions of Gencydo® given in the following publications contain no reference to a dynamization technology: Korrespondenzblätter fuer Aerzte No. 21, January 1955, special issue of the same in 1996, and Weleda’s Arzneimittellaeufi Gencydo® of 1995. Pedersen wrote: “It would be pseudoscientific to try and explain the efficacy of Gencydo® on the basis of the pharmacological actions of the constituents” (106). This may apply to the present-day product. Yet if I apply my experiences with the Viscum problems to the details given for Gencydo®, I have more confidence in Rudolf Steiner’s suggestions. The substantial processes of the two plants, the pathophysiology of the disease and the technical methods which bring the dynamics into the preparation must be reconsidered and tested. This could lead to a more effective medicine, with scientifically demonstrable efficacy.

4.2.1.4 Example of Cichorium in lecture of 2 September 1923

The third proposal for new pharmaceutical methods takes the process originally mentioned on 28 Oct. 1922 up again.

“It is nevertheless a good thing, even if one is able to manufacture a preparation synthetically ... to know how this is put together synthetically by nature herself, in a way, in a particular plant. One can then also learn a great deal about synthesis in manufacture ...” (107)

This absolutely new concept of neo synthesis, taking a present-day product. Yet if I apply my experiences with the Viscum problems to the details given for Gencydo®, I have more confidence in Rudolf Steiner’s suggestions. The substantial processes of the two plants, the pathophysiology of the disease and the technical methods which bring the dynamics into the preparation must be reconsidered and tested. This could lead to a more effective medicine, with scientifically demonstrable efficacy.

The suggestion was made to synthesize a medicine from silica and alkaline salts,

“in such a way that there is a loose connection ... not really chemical but merely by reduction to a powder and provision of resinous binding agents ... a subtle, natural adhesion.”

Silica and alkaline salts are not to be chemically bound, yet synthesized to make a new whole.

“It is a matter, in what we do in the laboratory, to imitate all the time what the plant is doing ... It is simply a matter of not being able to get ... the right result with mere herbalism, for the process in the plant is in turn destroyed when introduced into the organism in some way or other.”

The “lay practitioners” and “mere herbalism” were clearly held in low regard here. Anthroposophical medicine was to stay away from this. The plant was characterized in its material processes. The terms “silica” and “alkaline salts” are merely representative here and in all relevant passages, reflecting the knowledge of the constituents at that time. An important point made was that the substances in the plant themselves were too unstable after harvest, they did not stay the same. They were taken hold of by the processes which are designed to destroy foods, so that there can be no long-term effect. The spiritual investigator refers to the need to face the tasks of future pharmacokinetics. The dynamics in the plant material, which analysis will reveal, must be resynthesized in the pharmaceutical laboratory to achieve an adequately consistent and lasting effect.

This was to be done by taking the individual substance into a state of cohesion which we would call colloidal today. Steiner described this without using the term, which was created by Graham in 1861 (117). The process in which a medicinal agent is taken close to the vital processes in human beings (“dynamized”) is expensive and demanding. The statement made with reference to Cichorium that there were lay practitioners who used straight Cichorium intybus no doubt also applies to many other medicinal plants. Cichorium is merely a typical example of the need to broaden pharmacetics in the field of anthroposophical pharmacy.

W. Cloos and G. Grohmann devoted themselves extensively to developing a resynthesis of medicinal plant compositions. Cloos spoke of the need to work with “developing and not developed nature” (n8). He had developed five preparations at the time (Alkali comp. for Cichorium, Solutio ferrii comp. for Urtica leaves, Solutio sacchari comp. for chamomile root, Solution silicea comp. for Equisetum shoots, and Calcium silicicum comp. for Arnica root). Kaufmann referred to this. In addition to the above, Kalium chloratum comp. was developed for anise, and Kalium sulfuricum comp. for Anagallis. He ended by saying “that the future will call for many more developmental steps” (n9).

We also still have the theoretical and experimental preconditions before us. The model of a medicinal plant was to be developed in such a way in neosynthesis that the produce was “dynamized” in the synthesis and tak-
en to the level of life, giving improved efficacy. The “developmental impulse” of individual secondary constituents of a plant can be described in detail today. In the plant, synthesis proceeds from protein-type precursors to substances which can be more and more clearly identified. The chemical substances Steiner spoke of (silica, alkaline salts and the binding agent) are end points in a developmental process that started from protein-type macromolecules. These pathways for synthesis were still completely unknown in 1923.

4.2.1.5 Example of Kephalodoron® in lecture of 2 September 1923

Before we come to the next example of a pharmaceutical process, let us remember that Steiner saw the archetype of homoeopathization in the human organism. Foods coming from the outside world have to be transformed in stages (section 2.4). In the first stage of homoeopathization the material is taken close to the human ether body. It is therefore approximated to enlivened matter and so made available. At the second stage the material is further refined and comes close to astral body function. It becomes a vehicle for and akin to soul qualities. The third stage achieves openness to I functions. Steiner used the terms dynamizing, vegetalizing, vitalizing, for this and no longer the term homoeopathizing used earlier. The term potentization as a target in pharmacy is not mentioned at all.

In the London lecture, the idea of Kephalodoron® (Bidor®) was developed in the next example. *Equisetum* was the model; its processes were to be studied. Again silica, sulphates and a binding agent were to be used to synthesize the model. Up to this point the manufacturing process was in principle the same as for *Cichorium*, probably aiming to achieve a colloidal state in both cases. Then a further step was proposed for kepahaldoron®. The process sequence was to be enhanced, for the aim was to address not only processes that sustained life in the human being. The substance was now to be “animalized”.

“But with this, *Equisetum* does not yet help one to treat migraine. For...it becomes evident that certain vital processes in the human organism are similar to vegetable processes, yet also differ radically from them. It is therefore a matter of not just taking up the *Equisetum* process directly...but to animalize it first...One uses silica ..., sulphur. Binding is achieved not only with the other binding agents, which play a subordinate role, but by bringing in the iron process. The whole *Equisetum arv.* process will then have been animalized.”

Again we may assume that with silica, sulphur and the binding agents, Steiner was referring to the end point in a process and not the raw materials for a medicament.

As far as I know, the suggestion to “animalize” a medicament does not appear anywhere else in Steiner’s works or lectures. No reference was made here to the spirits of wine and the honey which are used in the manufacture. Does the mention of “other binding agents, which play a subordinate role” refer to these two substances?

The problem as to what “animalization” might mean is not considered in the 20th chapter of *Extending Practical Medicine*, written by Wegman (76), nor did Pelikan refer to it in the first instalment of *Heilmittel fuer typische Krankheiten* (320). Wolff (121, 122) and Titze (123, 124) also made no mention of this. Engel (125) did say that iron was intended to serve the astral body, but did not go into the matter. The obvious interpretation, to my mind, is that “animalization” referred to a pharmaceutical goal, is that the medicament would act constructively at the level of the astral body. This does not, of course, tell us what form the manufacturing process might take. How can medicines be processed so that they are not only dynamized but also animalized and enter into the constructive processes of the “invisible human being”?

Kephalodoron was proposed in close connection with alchemical processes in 1920. This passage from 1923 no longer has anything of that early idea. The *Equisetum* development process was to be neosynthesized and also taken to the level of night-time astral-body activity with the help of iron.

4.2.1.6 Summary of first London lecture (2 Sept. 1923)

Steiner used terms like “vitalize, dynamize”, etc. rather than “potentize” with its homoeopathic background. In the first transformation stage, the substances are taken into a state where they come close to the living human organism. They are to be similar to life.

1st example: antimony. Through the smoke (or evaporation) the single substance is condensed into a mirror, possibly changing the conformation to take it close to the vital processes.

2nd example: Gencydo®. Two vegetable substances are taken to a new order (aggregation process) in flow processes, resulting in greater efficacy. The intention probably was to change the relationship of medium to active principles or their conformation by adding a second group of substances and so make the therapeutic process more effective and lasting. Substances which were end products were to be taken closer to the process stage by means of flow processes.

3rd example: Cichorium. Insight into the inherent dynamics of a medicinal plant makes it possible to resynthesize the active processes. This was to achieve better and more lasting efficacy than with simple plant extracts. Reference to use of a binding agent indicates that the aim was to achieve a colloidal state for the medicinal composition. The trend is discernible: Innovative pharmaceutical research to define protein-type “binding agents” and the route of synthesis for the primary and secondary plant substances, using these to produce a medicine which acted constructively in the ether body.

4th example: Kephalodoron®. Neosynthesis of the *Equisetum* process was the aim, also involving the animalization process. The latter to be achieved by appropriate treatment of the iron during the neosynthesis.
Table 5: The four levels of ‘typical medicines’ (section 5.3)

<table>
<thead>
<tr>
<th>&quot;Typical medicine&quot;</th>
<th>Plants used</th>
<th>R. Steiner's suggestions for pharmaceutical and technical methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gencydo*</td>
<td>Citrus, Cydonia (?)</td>
<td>“Dynamize using technical means”</td>
</tr>
<tr>
<td>Hepatodoron*</td>
<td>Vine leaves, Strawberry leaves</td>
<td>“Push through” mixture with special structure</td>
</tr>
<tr>
<td>Cardiodoron*</td>
<td>Primula, Hyoscymus Onopordon</td>
<td>Flow processes</td>
</tr>
<tr>
<td>Choleodoron*</td>
<td>Chelidonium, pumpkin, Curcuma</td>
<td>Flow processes with drops and trickling</td>
</tr>
<tr>
<td>Myodoron*</td>
<td>Plantago, Primula Hyoscyamus</td>
<td>Flow processes</td>
</tr>
<tr>
<td>Viscum alb.</td>
<td>Winter and summer extracts</td>
<td>Flow processes with drops and trickling</td>
</tr>
</tbody>
</table>

Table 5: The four levels of ‘typical medicines’ (section 5.3)

<table>
<thead>
<tr>
<th>&quot;Typical medicine&quot;</th>
<th>Plants used</th>
<th>Suggestions</th>
<th>Binding agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kephalodoron</td>
<td>Equisetum, animal. w. iron</td>
<td>Silica, sulphur Iron</td>
<td>Honey &amp; wine</td>
</tr>
<tr>
<td>Alkali comp.</td>
<td>Cichorium int.</td>
<td>Silica Alkal. salts</td>
<td>Resinous binding agent</td>
</tr>
<tr>
<td>Kalium chlor. comp.</td>
<td>Pimpinella anisum</td>
<td>Iron &amp; salts</td>
<td>Vegetable mucilage</td>
</tr>
<tr>
<td>Scleron</td>
<td>Lead, honey Sugar</td>
<td></td>
<td>Honey ?</td>
</tr>
<tr>
<td>Renodoron</td>
<td>Silica (flint) Crab stone</td>
<td>Suitable pharm. processes. Wine vinegar</td>
<td></td>
</tr>
</tbody>
</table>

2. Typical mineral medicines and the recommended ‘binding agents’

3. Vegetabilized metals

4. Metal mirror production (met. prep.)

Again, Steiner spoke of the need for a binding agent, referring to a colloidal state for the future Kephalodoron*.

The aim was always to produce medicines which the living organism could take up and process and which had a long-term action that would be better and longer-lasting than could be achieved with a purely herbal medicine. This calls for knowledge of the processes in which the constituents of the medicinal plants develop and of how to make them into medicines.

The London lectures in 1923 gave the first systematic description of the pharmaceutical processes which were to be part of a more broadly based medicine and pharmaeutics. The clear progression of stages can be seen in the four examples, with the vegetabilization of metals the only method not discussed.

4.2.1.7 Second London lecture

The pharmaceutical processes were no longer to the fore in the lecture which followed (65). Remarkable certainty was shown in describing the first results then available. Unger’s machine was working, dynamization of the two separately harvested and processed mistletoe extracts brought to a first realization. This was the first time that a new pharmaceutical process was made an essential part of the relationship between medicament and disease. It was now possible to speak of results and not only theories. The connection between mistletoe, which had to be subjected to the newly developed flow process, and cancer could thus be demonstrated for the first time again since 1920.

“If we take the principle active in the mistletoe process and give it directly it will change too much, as I showed yesterday with reference to other things. Because of this, we now seek to process the principle which lives in mistletoe development, using a highly sophisticated machine which develops a centrifugal and radial force, ... Construction was far from easy. So one is actually reconfiguring the principle active in the mistletoe process into a totally different aggregate process. This makes it possible to use the tendencies in mistletoe development in a more concentrated form than the mistletoe process itself shows today, when it has grown decadent.”

He added that the laboratory process with the centrifuge was almost complete (see section 1.3).

The two vegetable substances (extracted from summer and winter harvests) were to be brought together in such a way in a new industrial process that the medicinal principles would be more effective. A new process was hinted at which would change the substances and take them closer to a live state. In relation to the methodological progression of stages in the first lecture, the treatment of Viscum here corresponds to the proposal for Gencydo. Two different extracts were to be processed industrially to give greater efficacy. The subject of changed aggregate processes or structural change was thus touched on again (section 1.3).

4.2.2 Lectures in Penmaenmawr, The Hague, Arnhem

4.2.2.1 The two Penmaenmawr lectures

In the first of the two lectures given in Penmaenmawr (93) antimony served as an example again to “find the relationship of the medicine taken from nature and its powers to the powers of gaining health or causing disease in the inner human being.”

Steiner again developed the polarity between “upper and lower human being”—here called antimonizing and albuminizing powers. As late as 1921 (54) he would refer to the polarity between developing and developed state without characterizing the developing state in a substance. Now a protein—albumin—was introduced as process quality polar to antimony, a developed state. The
development of a substance was thus connected with the protein problem. Silica was then mentioned as a medicine. Silica is effective

“If one exhibits this medicinal agent in the right way. Depending on the nature of the secondary symptoms, one must add other substances, but in the main we are concerned with the principle inherent in the process which produces silica” (see section 2.3.2).

Phosphorus was then described in a similar way. Again a second principle would be needed (calcium, copper, iron) to address different forms of the disease. Steiner spoke of the need for research, saying

“We do not work in an amateurish way, and do not reject today’s science. We merely take it further.”

The subject was taken further in the second Penmaen-mawr lecture (143) Steiner spoke of Mrs Kolisko’s potency experiments:

“One is able to see how lower potencies, dilutions, make seedlings grow differently and how the highest dilutions make the seedling grow fastest, i.e. stimulate vitality most. It has therefore been possible to split up the purely material aspect, making the actual spirituality in mere matter show itself. For if you do not split matter into atoms, which is what atomists do, but let its functions, its powers take effect, you demonstrate the good will to fill matter itself with spirit ... in future one will, of course, have to know where substances have to be applied directly in an allopathic way, and where they must be used in dilution, so that they influence the human being, and especially the human ether body, in the right way ... in future it will be possible to establish the boundaries accurately—here you have to use the allopathic approach, here the homoeopathic approach ...”

The physician should always decide afresh when to use the more or less toxic substance in its finished state and when to use medicines which thanks to the pharmaceutical process serve the evolving process state in the human being.

The inherent scientific nature of spiritual-scientific research findings leads to the further development of “today’s science”. Pure substances (antimony, phosphorus) were to be altered by binding them to different partners; other substances were to be added in to differentiate the action of the pure substance so that actions can be achieved at the different levels of existence. This will be possible when process qualities that are polar opposites—here called “albuminizing” and “antimonizing”, have been integrated into the manufacturing process. Again Steiner was considering the possibility of triturating quartz so finely that its functions and powers could take effect. It was not a matter of splitting the atoms, but to split the material aspect by trituration. The quartz was to have a direct influence on the ether body in the organism (section 4.3.1).

4.2.2.2 The two lectures given in The Hague

The two lectures given in The Hague (268) started with a sentence outlining a programme: “It is certainly possible to take what anthroposophy has to offer and case a light on pharmaceutical preparations ...” The development of medicines must be seen in close connection with clinical practice and research using accurate methods. Examples given were the work of Dr L. Kolisko (127, 128) on splenic function and potency experiments. He went on to say:

“You will not expect me to defend the widely disputed field of homoeopathy in its relationship to allopathy; this is not what I have in mind. For I know how much of the usual homoeopathic views are amateurish and of a lay nature. It cannot be denied, however, that substances in high dilution can have the most far-reaching actions, even in the external physical field.”

Steiner then referred to the inhalation of substances and the action of baths, saying that here, too, very small quantities were undeniable having an effect. “And it truly is not the case that the usual effect of material doses develops, but the function which lives in the substances enters into the medium.” Substances in high dilution are also effective medicines if in the right medium. His view of homoeopathy emerged even more clearly: “And with this [the potency experiments], the small part, the section of the practice which is misused in homoeopathy has been elevated to the rank of a field of exact research.” The dilution experiments showed a distinct biological action. As to which parts of homoeopathic practice were referred to as being misused, this is open to all kinds of interpretation.

The medicinal plant serving once again as an example was Equisetum. The silica and sulphates it contains play an important role. Steiner then said:

“If with our spiritually developed insight we are now in a position to perceive the specific nature of the compound ... we find that there is a functional relationship ... But it is better now not to use Equisetum as such, and this is what is special about our method of manufacturing medicines, for the actions are there in the plant, evidently so, but not very lasting. If we endeavour to study the function relationship between silica and sulphur and then seek to imitate it in the medicament, this makes it possible for us ... to develop more powerful effects on the human organism for what essentially is an inorganic preparation ... than if one were to use the plant as it is. This is really the essence of our medicines.”

The “essence of our medicines” thus lies in neosynthesis of the active plant processes. Medicines for hayfever and the plants Cichorium and Anise were then considered in a similar way. “We could relieve the blood of these disease processes by using a preparation which recreates the connection between particular mucilage and iron in anise.” Insight into the pathological function sequences in the organism and knowledge of the vital processes in a medicinal plant can allow a prognosis to be made for the medicinal action. The relationship between the medicinal substances then needs to be neosynthesized to intensify the action. To develop a medicine, we must act from real insight into the disease process. ”We must first
have a rational pathology, must know the disease process.”

In the next lecture, more weight was given to the metals (lead, silver, iron, antimony). The rationale for Scleron, composed of lead, honey and sugar, developed. Silver, if “introducing using the necessary binding agents, the necessary additives in subtle dosage”, can action on the eliminatory processes.

4.3.1 References to pharmaceutics in the young doctors’ course

In the young doctors’ course (131) encouragement for those present to undertake inner development work was much to the fore. This was the background to Steiner’s representation of the relationship between human being and cosmos and to our being subject to heredity and the law of karma. None of the questions in the 7th (8 Jan. 1924) lecture or 11th (21 Apr. 1924) lecture of the Easter course concerned medical treatment or a pharmaceutical problem. Potentization was merely called a natural process with reference to ants. Instead, Steiner developed the connection between the geological environment and the medicinal agent growing in it, with rhododendron and laburnum serving as examples. Pharmaceutical challenges were not mentioned for either plant (113).

In the course, orientation was given for carbohydrate metabolism and important references were made to toxic metals. References to pathophysiological processes show no evident connection with homoeopathic rules; with “potentization” not used even where the subject matter would make one expect this.

“If one were to pulverize quartz to the point where in its parts it would no longer have the tendency to act according to its own inherent powers, something would grow from the quartz that had living cosmic quality. This happens in seed development. There matter is pushed out so far that the cosmos can come in with its ether powers.”

The natural powers of quartz naturally take it towards crystallization. This tendency was to be overcome by pulverizing it. The problem has been mentioned in section 4.2.2.1. The quartz was not to be split into atoms but changed in its functions so that it could directly serve the ether body. Here the picture was much broadened. Quartz was to be as open to the life principle from the cosmos as are the seeds of a plant. Quartz was to address the powers of growth and development in the organism directly. This shows that pulverization (trituration) can only have been a metaphor. However fine, quartz sand will never reach a seed-type state. But how can it do so?

One example of how silicon makes the process of osteogenesis possible was given by E. Carlisle in 1970. She described the brief appearance of silicon immediately prior to calcification in bone. Apart from this, silicon processes may also be expected to play a role in other forms of organ differentiation. It would be important to know how and where quartz occurs in a seed-like, nascent state, acting as a tool for organ differentiation. According to the present state of knowledge, this nascent state of quartz may be envisaged to be like a protein compound or enzyme. It would also be reasonable to think of silicon processes as a tool in keeping organs in a germinal state (77). This would also throw light on the connection between silicon organization and cancer development (93). Unfortunately, few substantiated scientific data are available that would permit one to go into all these questions concerning the relationship between silicon and human being. (See Ciba Foundation Symposium (132) on the problems of silicon determination.) A similar, allegorical statement is that in spiritual science, progressive dilution of gold or the like allows us to perceive a “fundamental essence of our material existence on earth” in form of light (27 May 1910 (21)).

The questions which remain are: Which are the pharmaceutical processes that can take quartz close to the sphere of life? What findings, capable of substantiation, must be tracked down which might meet the supersensible reference to seed quality arising on pulverizing the development of light on dilution?

In this course, an example was again given (22 Apr. 1924) to show that the cause must be treated and not the symptom “skin eruption”. The law of similars, it was said, did not result in effective treatment; the cause, a childhood trauma, had to be treated. In the 5th lecture, finally, three medicinal plants (Melissa, Belladonna and Hyoscyamus) were mentioned, but no reference made to pharmaceutical processes.
4.3.2 References to pharmacetics in the later medical lectures (Dec. 1923/Jan. 1924) and discussions with medical practitioners (21–23 Apr. 1924)

The lectures ("Three lectures to doctors", 31 Dec. 1923, 1 & 2 Jan. 1924; typescript translation 895) and the discussions at the medical meetings in April 1924 (107) ran parallel to the Course for Young Doctors, in response to a request from the physicians who were not permitted to attend the course. The suggested medicine was a preparation of Astragalus exsiccatus, combining an extract of the seed with a fluid extract of leaves and flowers. As in the case of Viscum, reference was made to two harvesting times. Again we may assume that the medicinal action was to be enhanced by use of a combined flow process, as with mistletoe.

Steiner was explicit when it came to the treatment of glaucoma:

"Glaucoma is essentially only treated surgically today, I think, or at most also by the homoeopaths; but homoeopathy is not yet rational."

Arnica injections were recommended in the 15th, 25th, even 30th potency. One would have to observe the action of the Arnica montana toxins, and this gentle poisoning could be cancelled out by alkaline compounds of some kind taken by mouth. Steiner was largely responding to questions in those talks, and none of these related to pharmaceutical problems. He was not developing thoughts in his usual way, and this explains why he was on the one hand criticizing homoeopathy and yet suggesting treatments which went in that direction. A similar approach can also be seen in direct suggestions for treatment (section 5).

The polar opposite nature of upper and lower human being was also developed in the meetings with medical practitioners, who were then asked:

"How does one get to know the medicines? We cannot get to know them unless we have first lived in spirit with what is truly going on in the human being."

Steiner went on to say that all therapeutic influences (examples being light, lead and stibium) must be thought of in two ways:

"If we take it [antimony] the way it exists in the outside world as a fibrous metal, stibium will be an agent to act on metabolism. If we subject antimony to an earthly process, making it into antimony mirror, we act specifically on the human head."

Generally speaking,

"It is a matter of knowing how the process went, if we have a raw material or if we have subjected it to some process or other. The way in which material has been treated—that is essentially what matters."

Here it strikes one that mirror production was called an earthly process. The changes due to the pharmaceutical process determined the level of the organism where the action unfolds in the sphere of life. Homoeopathic potentization was not even mentioned as a possibility.

Important statements concerning the pharmaceutical process using flow methods for mistletoe were made on the following two days (section 1.3).

4.3.3 References to pharmacetics in Extending Practical Medicine

The book, written by Steiner and Wegman in collaboration, contains descriptions of the qualitative changes of substances in the organism. Reference is made to living and sentient substance which is ultimately drawn into the sphere of the I organization. In the 5th and 6th chapters, reference is also made to the transformation of unformed substance open to the I into organ substance, i.e. the process which is called condensation in section 2.5. In qualitative terms it is here referred to as a cooling down.

The references to medicines in the book will be briefly recapitulated, and reference made to new impulses for pharmaceutical processing.

Anagallis is mentioned in the 7th chapter, "The nature of medicinal actions". The medicinal plant and its mineral constituents are characterized, and neosynthesis of the plant process recommended (see section 4.2.1.4). In the 13th chapter, "On the nature of illness and healing", reference is made to sulphur and phosphorus, with no mention of pharmacetics or dosage. Knowledge of pharmacodynamics is called for in the 14th chapter, "The therapeutic way of thinking". "It will merely be a matter of influencing the organic bodily action to such effect that the silica which is introduced acts specifically around the diseased organ and does not have a systemic effect..." It remains open which silicon compound or pharmaceutical process might be used to achieve this. In the 15th chapter, "The method of treatment", another pharmaceutical reference is:

"Substances that contain phosphorus can also do this. All we have to do is to add other substances to the phosphorus so that its action develops [only] in the intestine and not in metabolism that lies outside the intestine."

Phosphorus was to be treated so that it would not be absorbed but act only in the intestine. Further on we read: Introduce

"to the organism the gum-like substances that may be obtained from Levisticum (lovage)—in form of a tea, or even better processed to some degree to obtain a medicinal preparation."

Such a preparation would act on the blood circulation. Again no reference to a suitable processing method.

In the 16th chapter, "Perceiving medicinal qualities", antimony and later Conchae were introduced. Antimony crystallization, liquration, oxidation and electrolysis of antimony are discussed to show its specific properties. It is not stated how the listed "chemical actions" relate to pharmaceutical processing.

"However, when it comes to actions in the human body, the chemical actions of substances have in fact as little relevance as the chemical composition of a pigment has for the way a painter uses it. Yet it would be a good idea for a painter to know something about the chemical point of origin."

This lends particular weight to the title of the 17th chapter, "Perceiving the nature of substances as a basis of
pharmacognosy”. Knowledge of the connection between medicines and the human organism was not enough at that time, though even then it was good “to know something about the chemical point of origin”. Up-to-date knowledge of substances was then and still is the basis for pharmacognosy in anthroposophical medicine. At the time, data were only available on the toxicity of antimony, with the effects at trace and ultratrace element level not known.

Finally Formica and Oxalis are referred to in general terms, drawing attention to the difference in action between substances of vegetable and mineral origin. (The trace element level not known. Although not enough at that time, though even then it was good “to know something about the chemical point of origin”.

5 Typical medicines, medicines for typical diseases, individual prescriptions

5.1 Individual prescriptions

5.1.1 Introduction

A typical example of the way in which Steiner made bedside recommendations for treatment has been given by Glas (150). “Asked about a new medicine recently referred to by Rudolf Steiner, he [Schmiedel] would listen carefully, getting very thoughtful when Rudolf Steiner had presented us with yet another riddle. Oskar Schmiedel would talk not so much about the medicine but rather about the way in which one might make it available in the best—and quickest—way... There was one [patient with] severe tuberculosis. Two of our physicians went to R. Steiner, who had known the patient for years, and asked his advice. Without a moment’s hesitation we were told: “Go to the Weleda [i.e. to O. Schmiedel], for a preparation of tree fungus growing on softwood trees; it has to be this really hard fungus, potentized to the 10 x. The injections must be given three times a week.” Our chemist did not hesitate for long, talked to a botanist and went on a walk of several hours in the woods. He found what we needed and we soon had the preparation in ampoules. It was injected—and proved effective; which did not even surprise one—merely make one very glad.”

Glas truly conveyed the mood of a new dawn, full of hope, and the therapeutic enthusiasm of the young physicians in Arlesheim. Steiner posed riddles, one went to the Institute of Clinical Medicine in Stuttgart as a young physician. He said that with O. Palmer he was mainly learning about homoeopathy, and they did not read the medical lectures. In 1929 he was given the medical discussions recorded by F. Husemann and the latter’s notes on the vademecum, a “chaotic pile of papers”, to sort out.

The typical medicines only came up very occasionally in the 165 case records (Hepatodoron®, Kephalodoron®, Phthysodoron®, Rheumadoron® once each, Dermatodoron® twice, Scleron® four times, Viscum 8 times). The great majority were single medicines, some familiar, others put to medicinal use for the first time. Low potencies (up to the 6 x) were mainly listed, metals and occasionally other substances in higher potencies. The appendix has minutes by F. Husemann of individual talks on the vademecum which Steiner hoped for. No reference is made to questions concerning the suggested new pharmaceutical methods and especially the significance of the flow processes for Viscum. Surprisingly, only Viscum was referred to in these case records and not Iscar®. Which mistletoe preparation did they use in Stuttgart?

5.1.3 Walter’s case records

Zeylmans van Emmichoven (58) described Steiner’s collaboration with the physicians in Arlesheim: “Steiner’s diagnoses, suggestions for treatment and discussions with the physicians were not regularly minutely and dated but rather given immediate practical application. The details of new medicines, written on scraps of paper and prescription notes, would immediately go to Schmiedel next door, asking him to produce the medicines in his laboratory. Wegman would probably ask few questions; her interest focused less on curing her patients. She also had an excellent memory and therefore no reason to write everything down immediately for later generations. Some of the notebooks and diaries of that time contain numerous notes on patients—one of them dated—with many quickly jotted-down diagnoses and details of medication, many of which undoubtedly came from such consultations. The surviving material suggests that Hilmar Walter only made formal records of a fairly large number of patients’ histories at a later date.”

Dr Walter published “Abnormal mental and psychic developments, their signs and symptoms and possibilities for treatment. Guide to understanding a collection of case records with suggestions from Rudolf Steiner” in
manuscript form [in German] in 1955. 117 patients were seen and treatment plans made. Again we note that the only typical medicines listed where we know for certain that they were suggested by Steiner are Scleron® and Kephalodoron®. The other typical medicines (Cardiodoron® 3 times, Digestodoron® once, Gencydo® twice, Iscador® twice) were only used in later years. Potencies (above the 6 x) were used little on the whole. Here we have metals and known poisons. The book on the seven main metals and their relations to world, earth and human being published in 1966 included further case records.

5.1.4 Summary. Do the recommended single medicines prove a help in gaining insight?

The problem with learning something from individual recommended treatments has been described by Sieweke (144). "A physician who studies R. Steiner's medical courses and on the basis of these comes across the treatments recommended by R. Steiner may be overwhelmed by the feeling that it is simply hopeless to try and cross the gulff between the two. The content of the courses seems accessible in the sphere of ideas, using the powers of enlivened thinking; the content of the individual prescriptions seems inaccessible to logical thinking."

We can imagine the situation in Arlesheim and Dornach: Many patients coming for consultations, the physicians focused wholly on Steiner's suggestions concerning treatment, and preparations to be made available as quickly as possible. The new pharmaceutical ideas had only been touched on lightly in the lectures, and never inquired into further. Their implementation in England and Holland was not known to the physicians who treated the patients, except for Dr Wegman. It seems that the courage to heal left scarcely any room in the physician's minds for the questions that would have had to be asked to understand Steiner's references to new pharmaceutical processes.

The distinction between individual prescriptions and the use of typical medicines was also only made in Extending Practical Medicine. The case records thus prove an inexhaustible source of individual suggestions for treatment. This applies especially to the accepted use of potentized preparations. There was need to give medical help quickly and the physicians' courage to heal had to be encouraged, which made it necessary to act along established lines. The case records do, however, not help us much in our search for Steiner's impulse to broaden pharmaceutics.

5.2 Typical medicines—medicines for characteristic diseases

In chapter 19, written by Dr Wegman (76) mention is made of two levels at which every serious illness may be treated. On the one hand, treatment should let the pathological process "go into reverse" in a controlled way to regain health; on the other, "typical medicines" should balance out the general weakness. The "typical medicines" are in this case defined by the treatment goal and not their composition. Further on we read: "It therefore needs fairly detailed study before one realizes why a preparation has certain constituents." Dr Wegman already had the ability for this "fairly detailed study". The sentence does, at any rate, indicate that the "typical medicines" had a number of constituents.

Up to and including the 5th case, the principles were characterized which we use "to find the indicated medicines in the process of diagnosis. To illustrate this clearly we chose cases where treatment had to be highly individual. Typical medicines for typical diseases will follow. "The typical medicines mentioned are Gencydo® and Scleron®, followed by individual substances—Bello- donna and elder tea, Colchicum, and wormwood oil enemas, external applications of Urtica, lime blossom and sorrel salt (potassium oxalate), internally first antimony and later Tormentilla. It is not stated in how far these individual agents were "typical".

The 20th chapter finally bears the title "Typical medicines". Scleron® is referred to again, saying that it was effective "providing the dosage is high enough. If the dose is too strong, the I organization will hypertrophize." Bidor® (Kephalodoron®) comes next, followed by antimony, cinnabar and pyrites as single substances. Under pyrites, we have the puzzling statement: "Based on this insight, we produce a medicament for the above pathology from pyrites, reconfiguring the mineral in such a way that its forces find their way into the affected organs when there is an internal indication. It is, of course, necessary to know the route particular substance processes take in the organism." The pharmaceutical process involved is not stated. Pyrites was manufactured as a simple trituration. The chapter ends with a second reference to Gencydo®.

The later literature also does not make clear what was meant by "typical medicines": "The term "typical medicines" refers to preparations which represent something central to anthroposophical medicine and as such derive exclusively from R. Steiner's work. They include above all the metal preparations and the "typical medicines" (145). The list does, however, also include Anaemodoron®, although this is "merely a mixture of simple formulations which Steiner put forward in connection with the iron process" (146). O. Wolff listed the following as medicines for typical diseases: Cardiodoron®, Choleodoron®, Dermatodoron®, Digestodoron®, Gencydo®, Hepatodoron®, Iscador®, Kephalodoron®, Menodoron®, Renodoron® and Scleron® (147). He did not state why he did not include preparations which did not end in -doron" (Alkali comp., Kalium chlor. comp.; Kaliu acet. comp. etc.) and also meet the criteria for typical medicines. Himmelsbach stated that combination preparations given by Steiner were called "medicines for typical diseases". Typical diseases were those which could be defined by a more or less fixed term capable of clear definition and characterization (148). Unfortunately the clearly definable term is still not clear. The explanations for the 2nd edition of the 1923 Medicines List also left the terms poorly defined: "The list initially only
included typical medicines which should have the most favourable composition for most forms of the disease at a medium level." Before, Steiner had said:

"I consider the "medicines list' to be the most harmful thing there can be. What matters is to represent the method [of anthroposophical medicine"] (136).

Pedersen called the medicines in the Arlesheim list that bear the comment "Given to Dr Noll by R. Steiner" or similar "typical medicines in the narrower sense" (15). Preparations are listed, but only 8 of these were also listed by Wolff (147) (personal communication). The papers available to me do not show how typical and non-typical diseases may be systematically differentiated, nor typical and single medicines, for both kinds of medicines are mentioned in chapters 19 and 20, and explanations in the later literature are heterogeneous.

5.3 New pharmaceutical methods and new medicines with the "broadening of pharmacy"

Four groups of new pharmaceutical methods can be said to meet Steiner's intention to broaden pharmacy. With all of them, the raw materials were to be dynamized, vegetabilized. They were thus meant to act at the level of the ether body in the "invisible human being" and have a direct constructive action. Further procedures can also enable the newly synthesized medicinal-plant compositions to act on the constructive soul level section 4.2.1.5 and table 4).

Familiar poisons (e.g. Belladonna) were used in the then existing preparations and dosages. They act on the visible human being and need no further processing. The new preparations are based on essentially nontoxic natural substances, and almost all of them act in the "invisible human being" where Iorganization, astral body and ether body act constructively. The four groups of new medicines are the following.

5.3.1 Typical plant-based medicines where flow processes or technological means not described in more detail would combine two extracts to enhance their action (Table 5). These pharmaceutical flow processes were most fully worked out for Viscum, newly developed in an experimental Choleodoron® preparation, and have been historically confirmed for Cardiodoron®. In spiritual-scientific terms, the task is to free the medicinal agent from being bound to earthly forces and open it up for the level of vital powers, to "dynamize" it. The demonstrable aim is to enhance the action.

Combining two plant extracts in a flow process makes it possible to rearrange the relevant active principles together with their secondary constituents. Improved galenics and symbiotic enhancement concentration of primary extracts results in a medicine which qualitatively has become a life-sustaining substance capable to direct improvement of constructive development in the human being. Koehler (47) has described the scientifically demonstrable further development of the flow process to improve the colloidal structure of plant extracts.

5.3.2 Typical mineral agents subjected to neosynthesis based on an improved plant model. The pharmaceutical and clinical aim in this case was best described for Alkali comp. (Cichorium as the model) in the lecture given in London on 2 Sept. 1922 (60). The concept can, however, also apply to many other medicinal plants (Table 5). The action was to be enhanced and made more long-term. The process of the plant's development was therefore to be resynthesized using more or less mineral constituents; a binding agent was to give a compound which we would call colloidal today. This was to provide a direct constructive effect.

The chemical substances listed for synthesis clearly do not represent a formula but suggestions as to the direction which anthroposophical pharmacy might take. Constituents are manipulated in many different ways in modern phytopharmacy. What the two methods have in common is that the native vegetable substance is the starting point in processes to improve efficacy.

5.3.3 Metals are vegetalized by repeated passage through suitable medicinal plants to support the constructive powers.

5.3.4 Metals are evaporated (or used as smoke) to change their conformation in mirror production to such effect that they, too, can serve constructive processes directly. Further developments of these two methods cannot be considered in the present context. See the paper by Simon (151).

6 The future

Spiritual-scientific medicine gained its own place quite early, independent of homoeopathy and allopathy. As far as one can see from the lectures, Rudolf Steiner did not give serious consideration to pharmaceutical issues prior to the first medical course in March 1920. The historical starting point for his search would appear to have been the alchemical medicine of Paracelsus. Such roots are perceptible at least for Kephalodoron® and Renodoron®, Ferrum hydroxydatum, Vulnodoron® and Kalium acet. comp. The formulas for these were given to Schmiedel in July 1920. Parallel to this, the first notes on Viscum preparation indicate that he was looking for new ways—harvesting at two different seasons and dynamization using a flow process.

The medical courses given in 1920 and 1921 were addressed to an audience with homoeopathic orientation. Steiner struggled to gain their collaboration in developing an intuitive medicine. He used terms such as "homoeopathization" to indicate the essential difference from classic potentization. No distinction was ever made between dilution and potentization; images from nature were instead given for homoeopathization. The law of similars was also touched on, but extended with the invitation to develop a rational connection between medicinal agent and pathological process. This, he said, could only be found through the science of the spirit. The archetype of the new pharmaceutical methods he intended to develop lay in the human ether body. Finished natural substances were to stimulate processes
of development—probably in connection with a protein-like quality that was close to life.

The 20th lecture (9 Apr. 1920) concluded with an evaluation of “modern allopathic medicine”; the supersensible causes of sickness were not seen, and secondary phenomena were said to be the causes instead. Homoeopathy was also said to be “the wrong road”, one might “despair at finding medicines listed one after the other, each for a whole legion of diseases. It is never the case that one can easily arrive at the specific aspect…”

Natural medicine serves the inner instinct “to take human beings into the effects of their own healing powers”. For the medical system in anthroposophy (17) both medicine and pharmacy had to be broadened.

Substance processes were more and more clearly characterized: Live matter was taken to the level of sentient and then spiritualized in the human being. “The human being in his configuration is the fruit of his organization even in the smallest particles of his substance” (82). The transformation going through qualitative stages in us are the model for the pharmaceutical methods. Beyond natural medicine and homoeopathy on the one hand and a materialistic allopathy on the other, the idea was to develop our own pharmaceuctics. This aim is also evident in the “van Leer paper”, written in 1924, to provide some orientation concerning the broadening of medicine, seeing that the “vademecum” had not been brought to realization. Van Leer, a businessman, was to use this paper to open up a market for anthroposophical medicines in the USA. Here there is only one “old method in medicine which has developed from the natural-scientific views of more recent times”. The “new medical method [added] insight which goes beyond the physical to physical knowledge. Homoeopathy was still wide-spread in the USA at the time, yet it was not even mentioned in the paper, nor were efforts made to connect the “new medical method” with it.

The spiritual investigator was most able to go his own way in the mistletoe preparation he developed. A special process technology was brought to realization—without recourse to the physicians and pharmacists—in order to test the idea. Suitable flow processes were to take the substance to new aggregation processes and so enhance the medicinal action. The active principles and excipients were to be given a conformation where both destroyed tumour tissue (“replacing the surgeon’s knife”) and evoked inflammation—connected with pyrexia—out of the intentions of the Iorganization.

The other new pharmaceutical methods—synthesis of processes in medicinal plants, dynamization of metals passed through medicinal plants and metal mirror production—are still at an early stage of development, though important steps towards realization were taken 50 years ago and other development work was also done. Much work is still needed to make them hold their own in the scientific climate of today. The explanation, still given today, that a medicine based on spiritual-scientific ideas needs no rational explanation, even if efficacy can be demonstrated, sounds more like alchemy than a modern science of the spirit.

When it came to practical application and collaboration with physicians and pharmacists, Steiner followed the familiar, established ways. It might be that medication was immediately required, or he would recommend potentized medicines, partly basing himself on homoeopathy. I do not, however, know of any mention of Steiner doing his own researches in the field of homoeopathy. His searches concerning new ways in pharmaceutics were initially close to alchemical medicines. His decision not to work with Bernus (32, 33) did show that his own search was completely separate from this historical phenomenon. The spiritual scientist’s aims are evident in the ideas for the four groups of typical medicines. The Arlesheim list (1922) showed only two of the new medicines he intended to be in potency (Renodoron® D15 (= 15 x), Scleron® D13 (13 x)). Otherwise there is no indication that medicines produced by the new methods had to be “potentized” in addition. The new methods were meant to “dynamize” the substances. In practice, individual medicines were given in homoeopathic potencies, or medicinal poisons used in suitable dosages.

I would stress that this paper is not about the efficacy of present-day anthroposophical or homoeopathic medicines. Used by experienced physicians they are a great help, and extensive, fully evaluated empirical data are available (151). As Zwiauer (6) put it, essential steps in developing the typical medicines were taken 50 years ago. I am grateful for the life’s work of pharmacists and physicians who worked to broaden medicine and pharmaceutics. Since then impulses for renewal have been implemented for individual medicines (Cardiodoron®, Renodoron®, Kephalodoron®, etc.). Different flow designs have been developed for Viscum, and these need to be compared for their effect on the substance composition. Many new medicinal compositions have been produced. The further development of anthroposophical pharmacy and medicine will depend on whether new insights and methods are developed on the basis of the original work, to take us closer to the goal of broadening them and continue to be in dialogue with the scientific world. It is a matter not of judging work done in the past but of taking a sober look at the future and grow aware of the tasks that lie ahead. Knowledge of the lectures and published writings should give a real picture of the pharmaceutical impulse in spiritual-scientific medicine. This must inevitably be one-sided. Open and critical dialogue can lead to further development if we see the task together. What did the spiritual investigator ask us to do to spiritualize pharmacy as part of a medicine broadened out of the science of the spirit?

H. B. von Laue, MD
Forststrasse 19
D-75223 Niefern
hbvlau@t-online.de
Discussion on Hans Broder von Laue’s paper “The evolution of Rudolf Steiner’s pharmaceutical impulse” (Der Merkurstab 1/2008)

I would like to make some comments on the long, informative paper by Hans Broder von Laue. It will not be possible, of course, to deal with every point where questions and problems arise, but I think it is important to mention some fundamental aspects that have come to mind on reading the paper.

These critical remarks are, of course, not intended to diminish the positive suggestions in the paper. The many questions, especially on points where research will be needed, contribute greatly to the further development of Rudolf Steiner’s pharmaceutical impulse.

The question posed was how one can work on the roots of anthroposophical pharmacy (section 1.1) and in the Editorial we read that “existing resources have for the first time been systematically worked up, which took years of work” and it is therefore appropriate to offer some thoughts on this. Considering Hans Krueger’s work of several volume on references to medicines, printed in 1969, a systematic collection not only of the most important medicinal substances but also the pharmaceutical processes, including “potentiation” or the “three-dimensional dynamic system,” or R. Hauschka’s publication in 1965—oddly enough not mentioned in the otherwise extensive list of references—it seems to me that the present paper is at least somewhat one-sided.

A number of important lectures by Rudolf Steiner which form part of the roots of anthroposophical pharmacy are not mentioned. This is not by chance, for H. B. von Laue is more or less deliberately representing a particular approach and looking for substantiation in the works of Rudolf Steiner, but leaving aside other aspects. Yet in its length and with its given title the paper appears to cover the whole of anthroposophical pharmacy.

Some examples: Rudolf Steiner spoke of the manufacture of medicines and of substance processes in connection with the Druidic Mysteries. 1 Here the wide field of elemental spirits and the need to consider this world on processing the substance opens up. Conscious collaboration with nature spirits is part of the new pharmacy.

The lectures on the Rosicrucians2 include important details concerning the Sal, Mercury and Sulphur processes and the inner experiences connected with these. Entering into natural processes in meditation leads to inner change which comes to outward reflection. This is an approach which in different form is important for pharmacists to this day. The mental state of the manufacturer is a not inconsiderable part of the “history” of the anthroposophical medicine and depends on anthroposophical inner development work. The laboratory bench must become an altar,3 and the pharmacist must work towards this.

The lectures on the powers of evening and morning4 also refer to processes that gain importance in the manufacture of medicines. One must learn to be aware of cosmic influences. The Wala and Rh methods are connected with this and are one of the pillars supporting our pharmacy.

The course on agriculture5 may surely also be said to be a source of inspiration for pharmacists. Many details given for the agricultural preparations are no doubt also important in the manufacture of medicines. The works of W. Cloos are a telling example.

These are several areas of major importance to pharmacists which H. B. von Laue is simply leaving aside. The paper therefore cannot be said to have been “worked up systematically.”

One of the basic issues raised is the “rationale” of relationship to the kingdoms of nature, i.e. of the different minerals, plant and animals to the human organism (e.g. section 3.4). Rudolf Steiner’s extensive work to show the common evolution of earth and man—e.g. in his Occult Science6 and the lectures on mystery centres—provides a secure and clear basis for an answer to the question posed. A “rationale” which only anthroposophy can offer. No mention at all is made of the whole of this most fruitful and innovative area (especially taken further by W. Cloos), an omission that is almost incomprehensible when anthroposophical pharmacy is in discussion.

Another issue I feel I must mention has to do with methodology. Essential H. B. von Lauer considers only methods not previously used in pharmacy to be anthroposophical, among them flow processes, vegetalization, mirror production, synthesis with medicinal plants the model, typical medicines. This creates the someone strange problem area, difficult to follow, relating to potentization, dynamization, etc., where it is said that Rudolf Steiner distanced himself from the classic method of potentization and did not value it (section 4.1.2). This is a very limiting view. We should consider the anthroposophical aspects to lie not only in physical procedures such as mixing, succeッション, reactions, etc. but also in the qualitative relationships that give those procedures specific meaning. This casts new light on procedures that existed also before Steiner’s time, giving them new meaning. This gives rise, for example, to new connections being seen for known heating methods to human physiological processes. In potentization, the relationships of metals to the planets will, for instance, give us a potency calendar. Anthroposophical pharmacy cannot be imagined without this. Steiner’s “pharmaceutical impulse” must primarily be sought not in original physical and chemical combinations, but in extending horizons and broadening ideas and the consequences of this.

Much knowledge has been gathered in this paper in terms of “model ideas,”2, 3 but unfortunately there are also major gaps. Steiner’s ideas are seen from this one angle, without the qualitative differentiation of points of view and the level of conscious awareness one would consider desirable. It really behoves us, however, to break up the “model ideas” and advance to genuine images (imagination). We must then learn to “read” their meaning (inspirations) so that we may intuitively do the right thing at the right moment. One would thus, at least ini-
References
5. Steiner R. Warmth Course.
7. Steiner R. Mystery Knowledge.

Initially, seek to reach the levels at which Steiner was able to make his investigations.

Many details should, of course, also be mentioned, but they would need to be considered individually. This will only be meaningful when we are able to differentiate more consciously between the different methodological approaches, e.g. more substance-related, or cosmological, or also meditative and inward, identifying them more clearly and thus arriving at a degree of mutual recognition and then complementation.

These lines are intended to make some contribution in that sense.

Stefano Pederiva

I am grateful to Mr Pederiva for drawing attention to the different methodological approaches one may choose when dealing with the subject of “The evolution of Rudolf Steiner’s pharmaceutical impulse”. He speaks of four possibilities in his last paragraph:

a. substance-related
b. related to essential human nature
c. cosmological
d. meditative and inward.

Mr Pederiva is right, I deliberately chose the first two. On the other hand it is not at all possible to work in this field unless one uses a meditative, inward approach. Otherwise the overview of different spiritual-scientific research findings that has led to this attempt at an “imagination in thought” could not have been kept in mind and considered. Should I have made a point of referring to this part of the preparations in my paper? It would not have changed much of the subject matter. In my view, the broadening of pharmacy mainly concerns “methods not previously used in pharmacy to be anthroposophical, among them flow processes, vegetabilization, mirror production, synthesis with medicinal plants the model, typical medicines” (Pederiva) and not the study of essential human nature to give earlier approaches to treatment a reason to exist.

I am unable to see, however, why it should not be acceptable to select a number of “models in thought” from the whole picture in order to formulate research issues for the future.

Serious consideration must be given to the statement that I omitted all cosmological aspects. Mr Pederiva is right, I deliberately chose to do so and will be glad to explain this. Section 4.1.6 in the paper bears the title “Cautious assessment—Old pharmaceutical processes (alchemy and homoeopathy) and seeds for a broadening of pharmacetics”. Here attention is drawn to the different choice of words in lectures Rudolf Steiner gave before and after 1922/1923.

In the 3rd lecture given at Torquay he also referred to the new step in development he had to take himself so that he could consistently separate the cosmological form aspect from the more earthly substance aspect: “If one continues to have the courage one will say to oneself: One drop of the divine is in you, you cannot sink, you are of a nature that is divine, one has not merely theory but lives in something which will give one courage to stand up straight and be prepared to move forward.” Here Steiner was referring to the courage which he himself needed to take another step forward in spiritual-scientific investigations. He went on to say: “At this point one gets to know something else relating to the minerals. Before, one got to know the crystallized nature [the cosmological aspect] of mineral. Now one gets to know their materiality, what fills them inwardly at the material level. Before it was the form, now it is substance nature.” The great theme of that last lecture course was the question as to what the spiritual nature of the substance is and not only its cosmic form aspect: “and today we must again look for very different insights so that we come back from the outer to the inner, from the higher to the lower, back from the inner to the outer, back from the lower to the higher in a spiritual way.” Steiner spoke of the consequences of this new step in spiritual-scientific investigation in the last lecture of this course. The consequence in the practice of medicine and pharmaceutics still need to be fully established. I have not found reference to this important change in methodology in anything published by anthroposophical pharmacists. Yet I have found it more and more important to think through the consequences of this new step with regard to the work we need to do today.

It may also have been part of the new step that Steiner only spoke of the three steps to be considered when developing a medicine in the late lectures: Intuition based on spiritual science, realization in practice in “our laboratories”, and verification in clinical use, and that this [realization] be done with the same full responsibility which are ordinarily used in clinical work.” The three steps of intuition, realization and verification have their own several laws which must not be confused. Mr Pederiva refers to the important lecture on the powers of evening and morning. The need to consider these powers applies fully in work leading to the intuition for a new medicine. Scheffler raised the question as to whether those powers have the same importance for the realization of a medicine—i.e. the practical, process of manufacture in accord with GMP—as for developing the intuition.

When it comes to clinical verification as the third step, these powers are needed only to decide on how efficacy may be established in the be possible way, and not to the actual process of verification. Inner and outer requirements differ when it comes to establishing the three steps. This can be taken into account in pharmaceutical and medical practice.

The substance and the human-nature aspect were deliberately chosen for the paper, so that the focus would be on the substances. What pharmaceutical processes and changes do the pharmaceutically utilized substances go through in the organism. How should this question be dealt with in broadening pharmacetics? The question is posed anew in the paper but not solved. I am sure that a common will to work on this, in spite of a controversial beginning, will help all of us to move forward.

Hans Broder von Laué, MD
Forststrasse 19, D-75223 Niefern