



## Jan Baptist Van Helmont and the Medical-Alchemical Perspectives of Poison

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This chapter discusses Jan Baptist Van Helmont's (1579-1644) views on poison in light of his medical alchemy. First, it argues that his approach was fundamentally influenced by the theories of 'universal poison' and 'potent poison' developed by Theophrastus von Hohenheim, called Paracelsus (1493-1541). Paracelsus's ideas supported Van Helmont's own views that medical alchemy was the only key to curing all diseases and poisons. At the same time, Van Helmont sought to set these concepts more clearly in a Christian framework, and also used them to launch a scathing attack on Galenic medicine and practices. Moreover, Van Helmont used poison theory to advance his belief in the existence of a universal solvent Alkahest that could extract medical essences out of any being. The Alkahest could then be used to construct an all-powerful universal medicine that proved God's special providence to mankind.

**Keywords:** Van Helmont, medical alchemy, Paracelsianism, Paracelsus, poison theories, universal solvent, Alkahest, universal medicine

In his masterpiece *Ortus medicinae* (1648), the Flemish polymath Jan Baptist Van Helmont (1579-1641) recounted his meeting with a mysterious Irish alchemist named Butler. Butler was in the possession of a 'little stone', *lapillus*, a wondrous alchemical medicine that could cure any disease by touching it with the tip of one's tongue. Van Helmont was himself given this cure, which, he says, healed him of a slow poison given by an enemy, who confessed his guilt on his deathbed (Van Helmont, 1652, p. 469). As he pondered the *lapillus* and its contents later on, Van Helmont compared its action with that of viper venom, which also acted instantly and in very small quantity (Ibid, p. 474). Thus he envisaged snake poison and Butler's *lapillus* as polar opposites. But Van Helmont was not content with alchemy's action being just as powerful as that of poison, and was eager to affirm its superiority: alchemical medicine could overcome any type of disease or poison. This chapter analyzes how Van Helmont used the notion of poison and poison theories to legitimize the pursuit of medical alchemy. In doing so, he developed his ideas in light of those of Theophrastus von Hohenheim, called Paracelsus (1493-1541), the maverick Swiss physician who initiated a highly influential, if controversial, movement of medical alchemy.

### Van Helmont's Paracelsian Legacy on Poisons

Van Helmont was an heir of Paracelsus's thought and movement, even if in his later years he went to lengths to distinguish himself from the Swiss physician. While in his early writings, Van Helmont had praised Paracelsus as

the restorer of true medicine, by the time most of the *Ortus medicinae* was written (between 1637-1644), Van Helmont was keen to affirm himself as a uniquely original philosopher who alone had come into the possession of the true 'Christian philosophy'. Indeed, his wish was to create a new synthesis between Christian thought and natural philosophy, which would rely on the Bible and alchemy as the main pillars of its ideas (Hedesan, 2016a).

Van Helmont was a keen reader of Paracelsus, and had inherited his framework in regards to poison. As I have shown elsewhere, the Swiss physician had developed highly complex theories of poison (Hedesan, 2016b). Perhaps the most important was his theory of universal poison, which argued that all things contained poison within them – as Paracelsus put it, nothing was free from poison. This view was later refined by a 'potent poison' theory, according to which some beings have more poisonous power within them than others. Both of these theories had a strong alchemical undertone, since they argued that only alchemy was able to remove the poison within things and hence provide powerful medicine for the sick.

By comparison to Paracelsus, Van Helmont did not develop extensive poison theories. However, as will be seen, he was influenced by the universal poison and potent poison theories of Paracelsus. This took idiosyncratic forms as he tried to reconcile them with his own specific worldview and speculation. Moreover, his perspective on poisons was deeply tied in with his sharp criticism of Galenic medicine and his supreme faith in the power of medical alchemy.

## Universal Poison in a Christian Perspective

In his writings, Paracelsus had strongly advocated a Christian approach to philosophy and medicine, but his theory of universal poison seemed to stand at odds with it. How was it possible that a benevolent Christian God would permit the existence of poison in all things? Paracelsus attempted to answer this by formulating a complex theory of how things were good in their essence, but ambivalent in relation to other things (Hedesan, 2016b, p. [3]). This was an ingenious theory, but did not completely solve the problem. Nor could he explain precisely why some things were more poisonous than others.

As a Christian medical alchemist and Paracelsian follower, Van Helmont faced a similar conundrum. The theory of universal poison was powerful and appealing because it legitimized medical alchemy, confirming the fact that it alone was able to separate the good from the evil in things. Van Helmont could not give up on it, but in order to advance it, he had to answer the same question that plagued Paracelsus.

In *Ortus medicinae*, Van Helmont did his best to clarify this. In a typical move, he expressed his theory in terms of a biographical quest. He had long observed that 'if we investigate in depth, there is hardly anything in nature that does not have poison secretly mixed in itself' (Van Helmont, 1652, p. 373). Even roses and violets hide poison within, as all things contain impurity, residue or crudity. We can recognize in this an enunciation of Paracelsus's universal poison theory.

As a good Christian, Van Helmont finds himself wondering what the situation was before the Fall of Man itself. He considered that these poisons could not harm Adam before the Fall, because he was immortal by the Tree of Life; Van Helmont also pondered that perhaps, the snake notwithstanding, Paradise was free of them. Poisons could only be found in the ordinary world outside of Paradise.

This account raised several issues - Why were there so many poisons in the (non-paradisiacal) world in the first place? And how could he reconcile the universal poison view with the fact that the Bible clearly said that everything was made good in itself? Van Helmont confesses he had grappled with these questions for a long time.

Luckily, he maintains, alchemy came to the rescue and shed a ray of light. In the laboratory, Van Helmont discovered that poisons can be changed by 'our small labor' (*parvo nostri studio*) into effective medicine. Even

more, importantly, the more horrid the poison was, the more powerful the remedy. This latter view concurred with Paracelsus's 'potent poison' theory.

Thus, poisons were not ultimately evil, but good in their essence. Van Helmont goes further: he postulates that God was not responsible for death, disease or evil; man had created these because of his Sin. Van Helmont envisaged the Fall as having dramatically damaged the constitution of Adam. It is not that poisons were harmful, but that the human body had become imperfect and could be poisoned. Thus the Fall did not alter the ontological goodness of things, but many poisons, due to their natural strength, were subsequently able cause damage to the inferior bodies of human beings.

Van Helmont concluded that goodness lay just below the poisonous husk (*siliqua*), a fact which was confirmed, he says, by a chance happening. Working on wolfsbane (*aconitum*) one day, he touched the alchemical solution he had prepared with the tip of the tongue. He soon felt his head heavy and eventually fell into a strange state of stupor, where he felt he understood everything very acutely and that this clarity was located on top of the stomach. This gave him the conviction not only in the goodness of apparently evil things, but also that there was great power in poisons, if only their venomous side were removed.

In fact, he thought that the Bible confirmed this, since Ecclesiasticus 38:4 stated that God had created medicine out of the earth.<sup>1</sup> Van Helmont also pondered that the goodness of God must always be stronger than illness and disease. This is already seen, he notes, in the swift and effective action of a famous antidote against snakebite called Orvietan (Van Helmont, 1652, p. 471; on Orvietan, see Catellani and Console, 2005). Yet it was much more prominent in the *lapillus* of Butler, which cured all diseases by touching it with the tip of the tongue or by applying dermally. Van Helmont had no doubt that alchemy held the key to true medicine, and contrasted the alchemical processes with the Galenic approach to poisons.

## Van Helmont's Criticism of Galenic Purgatives

In Van Helmont's time, the majority of physicians followed the Galenic framework, which at this time incorporated medieval Islamic and Latin developments.<sup>2</sup> Galenic medicine was based on the doctrine of the four humors (blood, yellow bile, black bile, and phlegm), which regulated the body. Disease arose when these bodily fluids were imbalanced, and the 'balancing' act was done by tempering or purging the offending humor. Common treatments included taking medicines extracted out of plants (usually referred to as 'simples') or bloodletting.

In *Ortus medicinae*, Van Helmont launches a withering attack on the Galenic pharmacopoeia. First, he notes that many plants have a faculty that is stronger than that of the human, thus becoming poisonous to the body. Consequently, most Galenic physicians either reject them altogether, or seek to correct them by inappropriate means (Van Helmont, 1652, p. 459). As he points out, correction by boiling does not just remove the poison but also the remedy. For instance, scammony<sup>3</sup> boiled or treated with acids loses its strength (Ibid, p. 374).

Such boiled 'medicines' are ineffective, but at least they are harmless; yet other Galenic corrections are downright dangerous for human health. Van Helmont gives the example of the physicians' erroneous treatment of Spanish-

<sup>1</sup> The whole passage runs: 'The Lord hath created medicines out of the earth; and he that is wise will not abhor them.' Ecclesiasticus (Jesus Sirach) is considered a Deuterocanonical book in the Catholic faith and apocryphal in the Protestant one. In the period, Ecclesiasticus was popular with medical alchemists, as they believed it justified their doctrines.

<sup>2</sup> On medieval medicine and early Renaissance medicine, see Siraisi (1990).

<sup>3</sup> Scammony (*Convolvulus scammonia*) is a perennial plant native to the countries of the eastern part of the Mediterranean basin; it grows in bushy wasteland from Syria up to Crimea, its range extending westward to the Greek islands. The juice of scammony has a powerful purgative effect. See Chisholm (1911).

Italian general Carlo Spinelli, who was given a solution of white hellebore corrected with anise seed. This provoked a half-hour vomiting bout that ended in convulsion and ultimately death (Ibid, p. 374).

Van Helmont considered that the problem with Galenic physicians was that their attitude toward hard purgatives, particularly laxatives, was inconsistent and hypocritical. While Galen had thought of laxatives to be poisonous, and most Galenic physicians would admit that they are dangerous, they continue prescribing them in 'corrected' form. When things do go wrong, they blame the dose, the correction, the solution, the apothecary or even his wife for it (Ibid, p. 755).

The attraction of Galenic physicians to purgatives was borne out of a fundamental error: they falsely believed that excrements induced by purgatives were bad humors. Van Helmont denied that the excrements resulting from laxatives were humors at all, but putrefied matter caused by poisoning. Again, Van Helmont's evidence lies in personal testimony, told, in Helmontian style, with rueful humor.<sup>4</sup> When he was young, he recounts, he had touched the glove and hand of a lady infected with scabies, and got the scabies too. At the time, Galenic physicians did not recognize the disease as being contagious, but instead attributed it to a distemper caused by the overheating of the liver. Young Van Helmont, eighteen at the time and a student of medicine, called in two leading physicians of Brussels to obtain their recommendation, 'half-glad' to get experience in medical treatment. The physicians diagnosed him with an excess of inflamed bile and of salty phlegm, which caused damaged blood production in the liver. First, they prescribed bloodletting to cool the liver. A concoction was then offered to eliminate the yellow bile and phlegm from the body. Since that also did not work, Van Helmont took laxative pills of *fumaria*, which made him evacuate many stools. Naively, he felt pleased by this as he thought his corrupted humor was thus being eliminated. He took another round of laxatives after two days, and then another after three. Having eliminated so many stools as to 'easily fill two buckets,' Van Helmont felt seriously weak: 'I who previously were healthy, vivacious, full of strength, light in jumping and running, I was now emaciated, my knees were trembling, my cheeks collapsed, and my voice was hoarse' (Van Helmont, 1652, p. 756). Nor did his scabies go away with the laxative. At that point, the youth started wondering where all those humors were coming from. Surely, he calculated, there was not enough room in the bowels, in the head or in his chest to contain so much humor. Eventually, upon reflection, Van Helmont concluded that the so-called humors were not originally present in his body, but were formed by the action of the laxative. This conviction acquired, the young man grew increasingly critical of traditional medicine. As for laxatives, he concluded that 'it is indubitable that laxatives contain hidden poison, which has made thousands of widows and orphans' (Ibid, p. 757).

Eventually, Van Helmont claimed that laxative action was simply a manifestation of their poison. The mechanism whereby poisons act within the body is the following: once ingested and received in the stomach, they ferment, dissolve anything found there, and then putrefy them. This would still be fine if the laxatives were to dissolve excrements, but they actually destroy the vital juices of the body. Thus, they corrupt the purified blood out of the *vena cava*, contaminate it with their poison and dissolve it by means of a fetid cadaverous ferment (Ibid, p. 420). This leads to a disturbance of the body that persists long after the laxative was taken, and often in spite of any astringent medicine. Hence, he concludes, laxatives 'are poisons to us, not to the excrements' (Ibid, p. 383).

Van Helmont is also critical of the common belief in his period that laxatives could 'clean' the body and supposedly preserve it from disease. He gives the anecdotal example of a Privy Counsellor of Brabant, who took aloe pills to maintain his health intact. These pills were corrected to the point they were useless, and had no effect. When the Counsellor complained of the lack of success to his physician, the latter gave him stronger pills of an undisclosed type. These had such a harsh effect that the Counsellor died miserably, leaving behind eleven

<sup>4</sup> The story is first told in the treatise 'De febribus', p. 756 (published first in 1642), and later in 'Scabies et ulcera Scholarum', pp. 255-256.

children (Ibid, p. 756). Van Helmont blamed the faith in laxatives squarely on Galenic practices, and on the false belief in humors.

## The Alchemical Solution

As already mentioned, Van Helmont believed, along with Paracelsus and other Paracelsians, that the essence of all things was pure and good. This belief was articulated in Van Helmont's theory of the *primum ens* ('first being'), which was drawn from pseudo-Lullian and Paracelsian precedents. In Van Helmont's view, if an entity could be returned to its *primum ens*, it could re-acquire its original goodness, or medical quality. This was particularly important in the case of poisons, which had a stronger virtue than others.

Van Helmont expressed the alchemical process of obtaining the medical essence as an 'inversion.' A poison should be 'inverted in its core' (*in sui radice introverti*): colocynth, for instance, could 'invert' its laxative quality, which can then be used to cure chronic disease (Van Helmont, 1652, p. 374).

This, Van Helmont adds, was familiar to Paracelsus, who knew how accomplish the inversion for a medicine called antimonial tincture of lily. Yet, the Flemish physician maintains, Paracelsus did not know that this could be done for all poisonous plants and animals by using the 'greater circulated salt' solvent. Indeed, all things lose their poison and acquire medical power if they are reduced to their *primum ens* (Ibid, p. 374).

The 'greater circulated salt', the same or similar as the universal solvent Alkahest, emerges as the primary substance capable of bringing about the medical inversion of poisons.<sup>5</sup> Van Helmont eloquently praises this alchemical key as that 'which returns all things into the *primum ens*, preserving their native endowments, erasing the original blemishes of bodies; once their inhuman ferocity is removed, they become capable of giving birth to great and inexplicable powers' (Ibid, p. 387). Ultimately, the Alkahest can lead to the creation of the supreme universal medicine, Butler's *lapillus*, which demonstrates the special providence of God toward mankind.

Thus, alchemy provides the key to remove poison from all things. However, not all essences are equally useful for the human body. Van Helmont supports the use of poisonous plants in medicine, but is ambivalent about animal poison. He believes, along with most medical alchemists of his time, that metals and minerals ordinarily deemed poisonous, like antimony and mercury, could be exploited for great health benefits. Yet he absolutely condemns the internal employment of arsenic in any form. Finally, he extols the virtues of poisonous 'sulphurs' of metals and minerals, which can be transformed into medicines that are particularly comforting to the body. Van Helmont lists many potentially deadly diseases healed by means of sulphurs (Ibid, p. 460).

## Conclusions

Van Helmont's interest in poisons was deeply linked with his belief in the power of medical alchemy. For the Flemish physician, alchemy was the apex of all knowledge, and was most effective in providing cures to diseases previously – and erroneously – thought to be incurable.

Undoubtedly, Van Helmont's understanding of alchemy derived from Paracelsus and Paracelsianism. This was particularly evident for poisons. Similar to Paracelsus, Van Helmont thought that poisons acted as a link between natural philosophy and medical-alchemical practice. They were tied with a grand vision of good and evil in the world and with an attempt at explaining the presence of evil in Christian terms. They were also meant to justify peculiar, and controversial alchemical practices.

We have seen that Van Helmont fundamentally subscribed to Paracelsus's universal poison theory, and the associated potent poison theory. Like Paracelsus, he believed that things had a 'poisonous' and a 'medicinal' side.

<sup>5</sup> On the Alkahest, see also Porto (2002), Hedesan (2016a, pp. 177-182).

He also believed the alchemy could separate these two aspects so that only the medicinal side remained. Finally, he also agreed that some substances have more power than others, and these hid great medicine within.

If the two men disagreed on anything, it was on the details of the philosophy behind the theory. Paracelsus sought universal theories that integrated man with nature. Van Helmont preferred to focus his attention on man exclusively, whom he found responsible for everything from death to disease and poison. Van Helmont's philosophy was essentially a human philosophy, targeted and justified by medicine.

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