

# JOHANN KONRAD DIPPEL, 1673-1734

by

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DURING the sixteenth and seventeenth centuries there flourished a school of medical chemistry known as Iatrochemistry, the main object of which was to search for new medicines rather than to seek to turn base metals into gold. Throughout this period numerous accounts were written about the wonderful curative properties of various chemical substances, usually metals and their derivatives, and gold, mercury, and antimony were each claimed to be the long sought after panacea.

At about the end of the Iatrochemical period there appeared a drug having a foetid smell and an unpleasant taste called Dippel's Animal Oil, for which its discoverer, Johann Konrad Dippel, claimed the properties of a universal medicine. This drug was included in the pharmacopoeias right up to the beginning of the nineteenth century, and the purpose of the present study is to show what manner of man Dippel was, and in what circumstances his assertion was made.

Johann Philip Dippel, schoolmaster and pastor at Niederramstadt, was the fourth generation of Lutheran clergy in the Dippel family. About 1670, religious persecution caused him to uproot his home and seek refuge at Frankenstein, and here Johann Konrad was born at the castle on 10 August 1673.<sup>1</sup> In spite of its romantic name, Frankenstein Castle is an unexciting ruin about one mile south of Darmstadt, overlooking the Odenwald. Pastor Dippel planned that Johann Konrad should become the fifth preacher in the family and to that end he undertook the boy's earlier education himself. Later young Dippel went to Darmstadt Gymnasium (Rector Otto Georg) where his name is first on the roll of distinguished old boys.<sup>2</sup> There, at the age of nine, he began to express doubts about the Catechism.

At the age of seventeen and a half, in 1691, Dippel entered the Faculty of Theology at Giessen. With his flair for disputation he soon established a reputation for brilliance, which in its turn brought adulation from fellow-students and from tutors: this, says Adelung, was the cause of his later waywardness.<sup>3</sup> That Dippel was no ordinary student is evident from his choice of a title for his M.A. thesis, *De Nihilo* (1693).

After graduating, Dippel left Giessen for Wittenberg and Strasbourg where he preached, practised palmistry, and expounded his philosophy. He had not yet given any time to the serious study of alchemy, but this did not deter him from lecturing on that subject also. Here perhaps is the first sign that he was to fall into the trap set by his own nimble intellect. Sir Walford Davies once remarked that whenever he was given the recipe for a pudding, his instinct was immediately to set about writing a cookery book: part of the tragedy of Dippel's life is that he wrote too many cookery books. The Strasbourg period lasted only two years;

having killed an opponent in a duel, Dippel was forced to flee the district and returned to Giessen, this time as house tutor at the ducal court.

The Lutheran Church was at that time divided into two camps, the Orthodoxists who required conformity to the Lutheran creeds in belief and to the Lutheran liturgy in worship, and the Pietists who held that the good life was of more importance than intellectual assent to a creed. In his student days, Dippel had supported the Orthodoxists but during his court tutor period he became, nominally at least, a Pietist. This is a good point at which to examine the depth of conviction which led Dippel to change his theological stand so frequently.

It has been suggested that Dippel was profoundly influenced by Gottfried Arnold (1666–1714), historian and poet of Pietism, who was Professor of Divinity at Giessen, but the extent of that influence is probably exaggerated.<sup>4</sup> There is nothing in Dippel's later life to suggest that he had imbibed the character of the gentle poet whose *Vergiss mein nicht* inspired J. S. Bach to one of the loveliest of his Schemelli settings.<sup>5</sup> It is of course easy to understand that the man who had doubted the Catechism as a child might not sit easily under the yoke of the Orthodoxists. On the other hand, one of the tenets of the Pietists, laid down in Spener's *Pia Desiderata* was that opponents should be met with charity and understanding rather than with acrimony and violence, a requirement which Dippel was temperamentally incapable of meeting. Controversy was essential to his nature, and with the publication in 1698 of *Papismus protestantium vapulans* he took up that position of perpetual critic and accuser which he never relinquished. His contemporaries and those who came immediately after scarcely knew how to regard him. Adelung called him 'ein indifferentistischer Schwärmer'.<sup>6</sup> Mosheim, professor at Göttingen, gave up all hope of clarifying Dippel's position:

A man must have the gift of divination to be able to deduce a regular and consistent system of doctrine from the various productions of this incoherent and unintelligible writer, who was a chemist into the bargain, and whose brain seems to have been heated to a high degree of fermentation by the fire of the elaboratory.<sup>7</sup>

The same bewilderment was felt by Hagenbach, the historian of Lutheranism:

One is doubtful whether to place him in the class of pietists or of rationalists, of enthusiasts or of scoffers, of mystics or of freethinkers.<sup>8</sup>

The kindest judgment is that of Pillet:

Comme il cherchait moins à découvrir la vérité qu'à triomphé dans la dispute, il changea plusieurs fois de partie.<sup>9</sup>

It was at this stage that Dippel commenced the serious study of alchemy and medicine. Paradoxically, his conversion from theology to alchemy was effected by a pastor from Giessen, who gave him two alchemical books in the belief that Dippel would understand them better than he could. One of the books contained several alchemical texts including *Experimenta* by Raymond Lully: the other was Wilhelm Postel's *Velamen apertum*.<sup>10</sup> Dippel read the Lully first, and immediately decided that gold-making was not too difficult an art. So certain

was he of success that he bought a house and small estate, entirely on credit, where he might work in peace at transmutation surrounded by a few friends. His first preparation was spoiled when, after eight months of continuous heating, his crucible cracked in the fire: with it were shattered his hopes of early success, and pressure from his creditors caused him once more to go into hiding.

About 1700, Dippel became interested in the oil obtained by the destructive distillation of animal parts. The preparation of ammonia from hartshorn, and of medicinal oils from animal refuse were commonplace practices for two centuries before Dippel. References to Gesner, Libavius, and Glauber are quoted by Thorpe,<sup>11</sup> and numerous passages in *The Sceptical Chymist* show that Boyle was familiar with the distillation of flesh, blood, horn, and even of eels in their entirety.<sup>12</sup> More specifically, Johann Poppius had published a book in Frankfurt in 1617 entitled *Chymische Medecin von dem Nutz und Gebrauch der destillation Oelen, Extracten, Quintis Essentilis, Aquis Vitae, Balsamis, Floribus, Salzen und Wassern, auf den Mineralibus, Animalibus und Vegetabilibus*.

The oil came to be associated with the name of Dippel through his claim that in it he had discovered a universal medicine: a large part of his M.D. thesis (*Vitae animalis morbus et medicina suae vindicata origini*, 1711) is devoted to establishing this claim. Yet several of his contemporaries held views scarcely less optimistic. Macquer wrote that, animal oils . . . have the reputation of being an excellent medicine and a specific in the epilepsy,<sup>13</sup> and Peter Shaw in his annotated translation of Boerhaave's *Elementa* described these empyreumatic oils as 'anodyne, soperiferous, and resolving, good in fevers, and grateful to the nerves, and cure intermittents by being rubbed externally along the backbone, before the cold fit.'<sup>14</sup> Towards the end of the eighteenth century the oil fell into disrepute as a medicine, as is shown by Diderot's sarcastic comment:

Huile animale de Dippelius . . . destinée à l'usage interieur, est une huile empyreumatique animale, rectifiée par quarante ou cinquante distillations successives, et vantée comme un spécifique éprouvé contre l'épilepsie. Si cette vertue est confirmée par des observations décisives, ces observations ne sont pas encore publiques.<sup>15</sup>

Completing the work of Unverdorben and of Anderson, Weidel and Ciamician published a complete analysis of Dippel's oil.<sup>16</sup> A glance at the list of principal constituents is enough to convince one of the heroic nature of the cure.

With the death of Pastor Dippel in 1704, Johann Konrad ceased to hope for either university or Church appointments, and removed himself to Berlin to follow an alchemical career. There, in company with J. G. Rosenbach, he set up a laboratory for gold-making, said by Adelung to have been a palatial establishment. An incident which occurred in 1705 throws light both upon Dippel's standing as an alchemist and upon his perspicacity. Domenico Manuel Cajetano, a Neapolitan peasant who had earned his living as a goldsmith and as a conjurer, and who now posed as a count, was summoned to demonstrate transmutation before King Frederick I. Dippel was chosen to be one of the referees, showing how quickly he must have gained the King's confidence. Cajetano's conjuring trick was quickly unmasked by Dippel: but we must not

overrate his shrewdness, for a few days later he was completely hoodwinked by the same adventurer's apparent transmutation of a large quantity of mercury into silver.<sup>17</sup> Nevertheless, these incidents suggest that Dippel was always eager to watch a visiting alchemist at work: it is also significant that he was one of the few who were able to give a description of the shadowy Lascaris.<sup>18</sup> This is in marked contrast to his attitude towards fellow-theologians; it may even indicate that he adopted a more rigorous approach to the truth in alchemy than in theology.

Further evidence about Dippel's relationships with other chemical workers emerges from the story of Prussian blue:

It happened (as Macquer relates from Stahl) in the following manner. A manufacturer of colours named Diesbach, who usually prepared a lake of cochineal by mixing a decoction of this substance with alum and some green vitriol, and by precipitating the mixture with a fixed alkali, being one day in need of fixed alkali, borrowed from Dippel, in whose laboratory he worked, some salt of tartar from which that chemist had several times distilled his animal oil, and observed that the lake precipitated by means of this alkali instead of being red was a fine blue colour. Dippel, to whom he related the appearance, knew that it must have been caused by his alkali, and attempted to produce the same effect by giving the same quality to fixed alkali by an easier process. In this he succeeded.<sup>19</sup>

This occurred in 1704 but was not reported in the literature until 1711.

In 1707 Dippel left Berlin for Holland and began to study medicine at Leyden. Here is one more sign of his orthodoxy in science contrasted with his supreme heterodoxy in theology. For when Dippel graduated M.D. at Leyden (1711), the Professor of Medicine there, who presumably saw his thesis, was Hermann Boerhaave, 'perhaps the most celebrated physician that ever existed, if we except Hypocrates'.<sup>20</sup> It now seemed that a period of settled respectability might begin, as Dippel bought a house outside Amsterdam and began to practise medicine. Alas, the old propensity for acrimony asserted itself once more, and three years later we find him again absorbed in a series of political escapades culminating in seven years imprisonment on the Danish island of Bornholm.

On his release (at the request of the Queen of Denmark) he went first to Christiania, as the guest of the wealthy merchant Hofmeister (in 1726), and later in 1727 to Stockholm as physician to the Swedish court. Although he was received there with great ceremony, his powers of judgment seem to have begun to decline. As evidence of this we may note an incident that occurred during the last year of his imprisonment. A number of small gold figures had been excavated, on Bornholm, and shown by Jacob de Melle to be old Scandinavian idols. Dippel published a refutation of this, claiming the figures to be of Ancient Egyptian origin!

The remainder of the old philosopher's life was lived out in comparative obscurity in Sweden and North Germany. As a guest of the Duke of Wittgenstein-Gützwow, he was provided with a laboratory at Wittgenstein Castle near Berleburg, and here he was found dead in bed on 25 April 1734. A last flamboyant gesture of fantasy in the face of reality was his prediction, a few months before his death, that he would live until 1808. Death was probably caused by a stroke,

but many who knew him declared him to have been poisoned: this indicates, if nothing more, the conditions under which he lived and the dangers which threatened him throughout his life.

Dippel wrote over seventy works, most of them under the pseudonym of Christianus Democritus, and all of them are rare. Giessen, his first University, has preserved only two and these of minor importance. Strasbourg has twenty-five, including the *Art of Distillation (Analysis cramatis harmonici hyper-metaphysico-logico-mathematica, das ist, Chymischen Versuch zu distilliren per decensum, per ascensum per latus . . . 1729)* and the *Egyptian Figures (Eroffnete Muthmassungen und merckwürdige Gedancken uber Herrn Jacobs von Melle Commentatiuneulam . . . Hamburg, 1725)*. Leyden has only the M.D. thesis, while Amsterdam has six works, including the *Art of Distillation*. In Britain, the chemical and medical works are available in the Ferguson and Young collections at Glasgow.

Having quoted Mosheim's hysterical outburst against Dippel the theologian, it is fitting to conclude with the same professor's kindlier judgment of Dippel the chemist.

Dippelius was an excellent chemist and a good physician; and this procured him many friends and admirers, as all men are fond of riches and long life, and these two sciences were supposed to lead to one and to the other.<sup>21</sup>

At least it may be said that, unlike the Vicar of Bray, Dippel rarely gained any material advantage from his changes of theological and political colour.

#### CONSTITUENTS OF DIPPEL'S ANIMAL OIL

Major Constituents	Minor Constituents
Butyronitrile	Methylamine
Valeronitrile	Ethylamine
Hexonitrile	Aniline
Isohexonitrile	Pyridine
Deconitrile	Picolines
Palmitonitrile	Lutidines
Stearonitrile	Quinoline
Pyrrole	Phenol
Methylpyrrole	Propionitrile
Dimethylpyrrole	Valeramide
Hydrocarbons	Toluene
	Ethylbenzene
	Naphthalene

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