

THE CHYMICAL LABORATORY NOTEBOOKS OF
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INTRODUCTION

Few areas in the history of science stand to gain more by examination of laboratory notebooks than alchemy. The luxuriant imagery permeating early modern alchemical texts that were intended for manuscript circulation or publication is often absent from the dry recipes and processes described in the working notebooks kept by alchemists for their own personal use. In practical terms, this means that the notebooks, when they can be found, provide important tools of interpretation that allow us to penetrate the complex maze of symbolism often found in the “public” texts prepared for the eyes of others. More than this, the very existence of such notebooks belies the common opinion that alchemy was concerned more with visionary experiences and otherworldly speculation than it was with the facts of the laboratory. In the present paper, we shall compare the printed texts and laboratory notebooks written by one of the most famous alchemical authors of the seventeenth century in order to illustrate these points.

In 1667, a curious text filled with the extended conceits typical of early modern alchemy was published by the Dutch printing firm Janson and Weyerstraet of Amsterdam. The work, called *Introitus apertus ad oclusum regis palatium* (*An Open Entrance to the Closed Palace of the King*), and attributed to one “Eirenaeus Philalethes” (A Peaceful Lover of Truth) went on to become one of the most celebrated texts in the history of early modern alchemy: it was extensively commented upon by Isaac Newton, favorably received by John Locke, and diligently read by Robert Boyle.¹ Its author employs the full panoply of traditional alchemical cover-names – *Decknamen* – to describe the veiled processes that he employs. The author tells us that in order to make the Philosophers’ Stone, the agent of metallic transmutation, it is necessary to begin with a “chaos,” a primordial matter rather like Aristotle’s *protē hylē* from which one must make a special “sophic mercury.” The latter, when sealed up with gold and heated, is supposed to mature, eventually, into the Philosophers’ Stone. In order to capture the peculiar flavor of this text, let us consider the following passage:

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Let four parts of our fiery dragon be taken, which hides the magical Chalybs [steel] in its belly, and nine parts of our magnet. Mix [them] by means of torrid Vulcan, in the form of a mineral water, on which a scum will float which must be rejected. Throw out the shell and retain the kernel, purge thrice with fire and sun, which will be easy if Saturn has seen his own form in the mirror of Mars. Thus our chameleon or chaos will come to be, in which all secrets lie *in potentia*. This is the infant hermaphrodite, who was infected in his cradle by the rabid Corascene dog, whence he raves with perpetual hydrophobia, although water lies closer to him than any other natural thing. But he fears and flees it, Oh [horrid] fate! But there are in Diana's woods two doves, which pacify his insane rabies.²

Philaethes goes on to say that the rabid hermaphrodite must be assuaged with Diana's doves and then drowned in water. He will then re-emerge as a "blackening dog." After having turned into an eagle, the former dog must finally fly away from the dead doves seven times. The result will be a brilliant, solvent substance, the sophic mercury.

Some of these themes were in turn illustrated in the 1695 collection of Philaethes' *Opera omnia*, published in Modena (Fig. 1).

Beneath the coiled snake to the left, one can make out two dogs, one of them picking at a reclining figure. This is probably a reference to the above passage, where the rabid Corascene dog bites the hermaphrodite, who is then drowned by the doves of Diana, only to resurface as a blackening dog.

The rococo imagery of the *Introitus apertus*, with its language of venomous monsters, murderous gods, and ravening hermaphrodites was enough to make

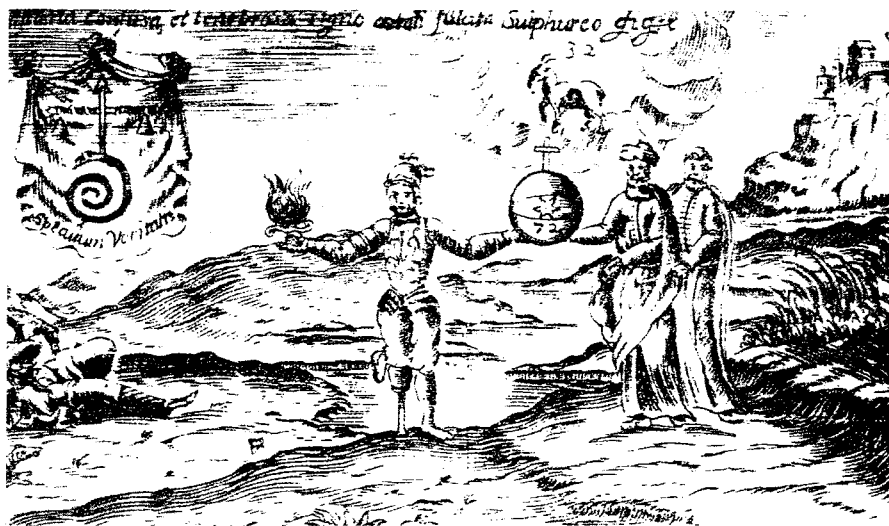


Figure 1. From [Eirenaeus] Philaethes *Opera omnia* (Modena: Fortunianus Rosatus, 1695).

Richard Westfall – attempting to explain Philalethes’ influence on Isaac Newton – turn despairingly to religious and extra-rational factors.³ Nor was he alone in invoking the irrational as a means of making sense out of such alchemical imagery. Betty Jo Teeter Dobbs, in her famous *Foundations of Newton’s Alchemy*, explicitly used the analytical psychology of Carl Jung to decipher the bizarre symbolism of alchemy, and her example has been followed more recently by Marco Beretta, Allison Coudert, and a host of other historians.⁴ Indeed, Jung himself commented on the very Philalethes passage that we just cited: Jung interprets the passage as a description of the healing of the unconscious and conscious minds by their unification in what he calls “the self.” Thus Jung says – “It is clear that [the rabid dog] refers to a psychic disturbance”⁵ The drowning of the dog and its subsequent apotheosis are symbols of the disturbed psyche transforming itself.

However tortured this interpretation may seem to the psychological agnostic, it perfectly reflects the widespread Jungian view that alchemy was not fundamentally concerned with the facts of chemistry, but was, rather, a sort of proto-psychology. Jung expressed this view programmatically as follows:

[In alchemy] we are called upon to deal, not with chemical experimentations as such, but with something resembling psychic processes expressed in pseudo-chemical language.⁶

According to the Jungian interpretation, alchemists were concerned less with chemical reactions than with psychic states taking place within themselves. The practice of alchemy involved the use of “active imagination” on the part of the would-be adeptus, which led to a hallucinatory state in which he “projected” the contents of his psyche onto the matter within his alembic.⁷ The Jungian alchemist literally “saw” his own unconscious expressing itself in the form of bizarre archetypal images, which were “irruptions” of the collective unconscious into his conscious mind. Because he views the primary role of alchemy in the light of the unconscious, Jung and his followers today pointedly devalue the chemical content of alchemical texts. The alchemist’s “experience had nothing to do with matter in itself,” and consequently, the attempt to decipher alchemical texts from a chemical point of view is quite “hopeless.”⁸

This position is rendered utterly untenable by the fact that the author of the *Introitus apertus* himself gave a chemical interpretation to the passage cited above. It is now an established fact that “Eirenaeus Philalethes” was actually George Starkey, a native of the New World and graduate of Harvard College who immigrated to London in 1650.⁹ In the early 1650’s Starkey was closely allied with Robert Boyle; the two prepared iatrochemical medicaments together, and it is clear from Starkey’s letters to Boyle that the latter subsidized Starkey’s research.¹⁰ The earliest of Starkey’s letters to Boyle, written in spring 1651, contains a section called “A Key into Antimony,” which Betty Jo Dobbs published from a Latin transcript in the hand of Newton, mistakenly thinking that it was a Newtonian composition.¹¹ In this “Key” Starkey reveals that the sophic mercury must be made from “star regulus of antimony,” a crystalline form of metallic antimony

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