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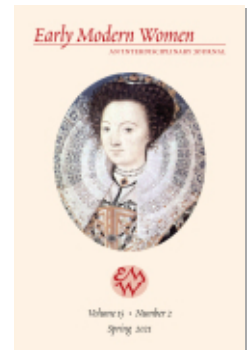
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Alchemy and Cultures of Knowledge among Early Modern Women

SARAH HUTTON

In this essay, I consider where alchemy sits in the spectrum of interests that make up women's knowledge in early modern Europe by considering evidence from a group of women whose work is not usually discussed in relation to alchemy: namely, philosophers. I shall examine the writings of Oliva Sabuco (b. 1562), Anne Conway (1631–1679), and Margaret Cavendish (1623–1673) to discover what their philosophy reveals about their engagement with alchemy and other branches of knowledge, such as medicine and pharmacology. In so doing, I argue that women not only had practical knowledge in these areas, but also engaged with them at a theoretical level.

Alchemy and Cultures of Knowledge

There are two obvious reasons for alchemy being a useful prism through which to consider the cultures of female knowledge in the early modern period. First, as Carol Pal reminds us, in the mid-seventeenth-century republic of letters, alchemy was just one form of knowledge in an epistemic culture “embracing everything from alchemy to agriculture, and open conversation wherein discussions could range in one breath from metaphysics to mining to millenarian theology.”¹ Second, alchemy was wide-ranging in its scope, encompassing a variety of ideas and practices that today are treated as separate disciplines. Alchemy was not *just* about the transmutation of metals or search for the *elixir*; rather, it was integrally

¹ Carol Pal, *Republic of Women: Rethinking the Republic of Letters in the Seventeenth Century* (Cambridge: Cambridge University Press, 2012), 207.

associated with medicine, pharmacology, mineralogy, and metallurgy. The scope of early modern alchemy extended from spiritual practices to the production of everyday materials such as dyes and medicines. This range is captured in the title of Isabella Cortese's *I secreti della signora Isabella Cortese, ne' quali si contengono cose minerali, medecinale, artificiose & Alchimiche* (1561). Alchemy in this broader early modern sense was very much a practical art, which involved hands-on investigation. But it was also supported by a body of theory, which shades into Hermeticism, Paracelsianism, and Rosicrucianism. Perhaps more than any other of the arts and sciences, it was associated with the ideal of *pansophia* or universal wisdom. Thus, female alchemical practitioners were, as Meredith Ray has put it, "custodians of an encyclopaedic array of scientific and medical knowledge that synthesizes the 'old' and the 'new' science."²

As Penny Bayer shows in her 2007 survey, research on women and alchemy has burgeoned since the 1980s.³ Once treated as a "Cinderella" of science, the study of alchemy has benefited from more inclusive approaches in the history of science, which also recognize the role of women.⁴ It is now clear that across Europe women engaged with alchemy in a variety of ways through their activities as practitioners, patrons, and authors, as well as translators, collectors, and domestic healers. These include women who practiced alchemy in a professional capacity, such as the French Paracelsians Marie de Meurdrac, Jeanne du Port, and Madame de Martinville.⁵ Interest in alchemy is found among non-professionals, such as Marie de Gournay and Katherine Ranelagh.⁶ At the top of the social scale, elite women, like the French queen Marie de' Medici and Queen Christina

² Meredith K. Ray, *Daughters of Alchemy: Women and Scientific Culture in Early Modern Italy* (Cambridge, MA: Harvard University Press, 2015), 12.

³ Penny Bayer, "From Kitchen Hearth to Learned Paracelsianism. Women and Alchemy in the Renaissance," in *Mystical Metal of Gold: Essays on Alchemy and Renaissance Culture*, ed. Stanton J. Linden (Brooklyn, NY: AMS Press, 2007), 365–86.

⁴ For a survey of developments, see Sarah Hutton, "Science and Natural Philosophy," in *The Routledge History of Women in Early Modern Europe*, ed. Amanda Capern (London: Routledge, 2019), 386–483.

⁵ Penny Bayer, "Madame de la Martinville, Quercitan's Daughter and the Philosopher's Stone: Manuscript Representations of Women Alchemists," in *Gender and Scientific Discourse in Early Modern Culture*, ed. Kathleen P. Long (Farnham, UK: Ashgate, 2010), 165–90.

⁶ E. F. Secret, "Marie de Gournay, Alchimiste," *Bibliothèque d'Humanisme et Renaissance* 35 (1973): 526–23; Michelle DiMeo, "Katherine Jones, Lady Ranelagh (1615–91): Science and Medicine in a Seventeenth-Century Englishwoman's Writing" (PhD diss., University of Warwick, 2009).

of Sweden, had their own facilities for alchemical practice. Important evidence comes from writings generically known as receipt books, or recipe books, some of which were published: for instance, those by the aforementioned Isabella Cortese. There are also examples of technical writings on alchemy by women — for example, Anna Maria Zieglerin's manuscript on the noble art of *alchimia*, and Marie Meurdrac's *La Chymie charitable et facile, en faveur des Dames* (1666).⁷

This evidence is all good testimony to the practice of alchemy. However, it is one thing to be engaged in chemistry and alchemy at a practical level, but another to propound philosophies which embrace or explain them. Alisha Rankin and Bruce Moran have noted that German aristocratic practitioners present "empirical method without theoretical explanation" and with "little focus on universalizing principles or an underlying natural philosophy."⁸ Of course, the underlying alchemical and medical philosophies (e.g., Galenic, Paracelsian, Helmontian, Hermetic) can be deduced from receipts and handbooks, but that is not the same as intellectual engagement at a theoretical level. Absence of theory plays into the prejudice that women were mere "empiricks" — a view that was frequently aired in early modern times, an example being the appropriation and denigration, by men, of Joanna Stephens' medication to cure gallstones, as Stephen Clucas has shown.⁹

We should not, however, assume that paucity of sources indicates that women did not think about what they were doing and did not seek to explain it. A variety of factors might account for the lack of sources for women's philosophical or theoretical engagement with alchemy. Illiteracy was certainly not one of them. Aside from the problem that so many records have been lost, we have to confront the convention of anonymity for women who published and their reluctance to publish in print. Customary secretiveness about alchemical knowledge may be another factor. Another reason for the paucity of women's theoretical interest in

⁷ Tara Nummedal, "Alchemical Reproduction and the Career of Anna Maria Zieglerin," *Ambix* 49 (2001): 56–67; Lucia Tosi, "Marie Meurdrac: Paracelsian Chemist and Feminist," *Ambix* 48 (2001): 69–82.

⁸ Alisha Rankin, "Becoming an Expert Practitioner: Court Experimentalism and the Medical Skills of Anna of Saxony, 1532–85," *Isis* 98 (2007): 52; Bruce T. Moran, "German Prince Practitioners: Aspects in the Development of Courtly Science, Technology, and Procedures in the Renaissance," *Technology and Culture* 22 (1981): 273.

⁹ Stephen Clucas, "Joanna Stephens's Medicine and the Experimental Philosophy," in *The Birthing of Modern Science*, ed. Judith P. Zinsser (Dekalb: University of Northern Illinois Press, 2005), 141–58.

alchemy may be that we have not considered a broad enough range of sources, particularly theoretical writing by women in other domains.

In fact, reflections on practice and theory were not unknown. In addition to the previously mentioned female practitioners who wrote treatises, there are cases where women's receipt books discuss aspects of their subject and record notes on more theoretical matters. For example, Sarah Horsington's notebook (begun in 1666) includes reflections on physiology and many descriptions of experiments.¹⁰ Penny Bayer has observed that Lady Margaret Clifford "engaged with alchemy at the most complex intellectual level" and that her enquiries extended "into the disposition of humane creatures and natural causes."¹¹ Receipt books and practitioners' manuals are not the only source for theoretical reflections on alchemical and alchemy-related matters. It is well established that other forms of writing testify to their knowledge of alchemy, for instance women's letters, writings on education, and literary writings by women.¹² An underexplored group of texts are philosophical writings by women. Admittedly there were not many, but it is worth asking the question of whether within the broad context of the cultures of knowledge alchemy impinges on the thinking of women philosophers.

Natural Philosophy

In the remainder of this essay, I illustrate ways in which the philosophical writings of Oliva Sabuco, Margaret Cavendish, and Anne Conway testify to their knowledge of alchemical and medical theory. These were women who did think about causality in the natural world and who elaborated philosophical systems. There is no space to give a full account of their respective philosophies, so I shall confine myself to highlighting some details which suggest not just awareness of alchemical and medical theories but theoretical engagement with them.

¹⁰ See Lynette Hunter, "Mothers and Sisters of the Royal Society," in *Women, Science and Medicine: Mothers and Sisters of the Royal Society*, ed. Lynette Hunter and Sarah Hutton (Stroud, UK: Alan Sutton, 1997), 178–97, at 191–94.

¹¹ Bayer, "From Kitchen Hearth," 379–80.

¹² See, for example, Jayne Archer, "A 'Perfect Circle'? Alchemy in the Poetry of Hester Pulter," *Literature Compass* 2, no.1 (2005): 1–14; Sajed Chowdhury, "Hermeticism in the Poetry of Katherine Philips," *Women's Writing* 23, no.4 (2016): 465–82.

Oliva Sabuco de Nantes y Barrera (b. 1562)

Oliva Sabuco's *Nueva filosofía de la naturaleza del hombre* is a work of medical philosophy which was published under her own name in Madrid in 1587, with a dedication to the king highlighting its female authorship.¹³ Sabuco was evidently educated, probably by her pharmacist father. Her book mentions both classical and contemporary authors, and she certainly knew the history of medicine and contemporary Spanish medical writers. *Nueva filosofía* takes the form of seven separately titled discussions between three shepherds, Antonio, Veronio, and Rodonio, among whom the "shepherd-philosopher," Antonio, is dominant. Another interlocutor is an unnamed academically trained "doctor." Their discussions range over self-knowledge, cosmology, moral and sociopolitical concerns, and they include therapeutics. The fourth discussion is entitled "Proper Medicine through which Humans will be able to understand, control, and conserve their health." Taken together, these discussions expound a philosophy of medicine which focuses on emotional and physical health, maintained by harmony of soul and body — good health being vital to moral and spiritual well-being. Central to this is a unitary conception of the human being, in which the brain has a central function as the site of the soul and for sustaining the body by means of a vital fluid (*chilo*). As the interface between the brain and the rest of the body, the *pia mater* (the fibrous membrane covering the surface of the brain) is key to sustaining health and wellbeing.¹⁴ Sabuco draws from both ancient and modern medical theories and practices, while also critiquing shortcomings in both. Her criticisms of traditional and contemporary medicine won the praise of French alchemist and natural philosopher, Etienne Clave, and the Neapolitan physician-philosopher,

¹³ *Nueva filosofía de la naturaleza del hombre* (Madrid: Pedro Madrigal, 1587). This book was reprinted in 1588 and 1622. I refer to the English translation by Mary Ellen Waithe, Maria Colomer Vintrolá, and C. Angel Zorita, published as *New Philosophy of Human Nature* (1587) (Urbana: University of Illinois Press, 2007). On the controversial attribution of Sabuco's work to her father, see Mary Ellen Waithe and Maria E. Vintrolá, "Posthumously Plagiarizing Oliva Sabuco: An Appeal to Cataloging Librarians," *Cataloging and Classification Quarterly* 35, no. 3–4 (2003): 525–40. For Gianna Pomata the jury is still out: see Oliva Sabuco de Nantes Barrera, *The True Medicine*, ed. and trans. Gianna Pomata (Toronto: Iter, 2010).

¹⁴ For more details, see Sandra Plastina, "Oliva Sabuco de Nantes and her *Nueva Filosofía: A New Philosophy of Human Nature* and the Interaction between Mind and Body," *British Journal for the History of Philosophy* 27, no.4 (2019): 738–52.

Leonardo di Capua, both of whom regarded her as one of the “novatores” (innovators) in medicine.¹⁵

Whether Sabuco practiced alchemy *sensu strictu*, is not apparent from the text. But it is not insignificant that she was highly regarded by the French alchemist Etienne Clave. It has been suggested that she was a Paracelsian.¹⁶ However, she does not mention Paracelsus or the Paracelsian *tria prima*: salt, sulphur, and mercury. There is much about her treatments which sounds traditional: purgation, emetics, use of cupping glasses, and much of it is the kind of thing to be found in medical receipt books (for example, dietary advice and prescription of infusions and cordials).¹⁷ One of her most detailed prescriptions is for maintaining a healthy *pia mater*: she advises drinking fruit juices (“crabapple juice, sour quince and sour citron; or sweet and sour pomegranates”) and preparations which use minerals and other compounds (“the powder of the brain-comforting cordials such as ambergris, mother-of-pearl, emerald, gold, unicorn, [and] bezoar”).¹⁸ A distinctive feature of her book is that instead of spending time explaining the preparation of remedies, she sets them within a theoretical framework of her own conception. In Sabuco’s case, therefore, a practical interest in therapeutics does not exclude high-level theoretical reflections.

Anne Conway (1631–1679)

Anne Conway’s personal history of chronic illness brought her into contact with a wide variety of healers and physicians, from Frederick Clodius and Valentine Greatrakes to Thomas Willis.¹⁹ It is well established that she came under the influence of a significant figure in the medico-chemical world: Francis Mercury Baptiste van Helmont. Conway took an active role in searching for cures and

¹⁵ Etienne Clave, *Paradoxe ou Traitez philosophiques des pierres et pierreries* (Paris, 1635), 186; Leonardo Di Capua, *Parere. . . narrandosi l’origine e il progresso della medicina, chiaramente l’incertezza della medesima si manifesta* (Naples, 1681).

¹⁶ Waithe et al., introduction to Sabuco, *New Philosophy*, 15. Waithe et al. also say that she was not an alchemist or herbalist (34).

¹⁷ Sabuco, *New Philosophy*, 158–59.

¹⁸ Sabuco, *New Philosophy*, 168.

¹⁹ See Sarah Hutton, Anne Conway, and Hutton, “Of Physic and Philosophy: Anne Conway, F.M. van Helmont and Seventeenth-Century Medicine,” in *Religio Medici: Medicine and Religion in Seventeenth-Century England*, ed. A. Cunningham and O. P. Grell (London: Scholar Press, 1996), 228–46.

scrutinizing the remedies prescribed. We have no evidence of her actually practicing alchemy or making her own medicines, though it is entirely possible that she might have done so.

Conway's only published book, *The Principles of the Most Ancient and Modern Philosophy*, is a work of vitalist metaphysics.²⁰ While claims have been made that this reflects her experience of chronic pain, it is less often remarked that her views are supported by observation.²¹ Here, I will consider just a couple of details which suggest an engagement with chemical medicine. First, her philosophy involves radical transmutation, where "creatures are mutable, and continually change from one state to another."²² These changes involve intermutation not only of such basic elements as earth, water, air, fire, and ether, but of minerals, metals, plants, and of one metal into another.²³ Furthermore, radical transformation occurs in patterns of degeneration and restoration, where creatures intermutate along a hierarchy of being in such a way that a man can become a brute, or a horse a human being. This process is spiritual as well as a physical: degenerating creatures become more solid or corporeal as they decline morally, while the restored creatures transform from a "hardened" more corporeal state to a more subtle composition as they are spiritually purified.²⁴

Transmutation or transformability is not of itself alchemical; however, there is one particular detail of Conway's account of the transformation process which suggests an awareness of medical ideas, namely her adoption of two significant medical metaphors: the metaphor of healing ("balm") and an analogy with fermentation. Conway describes the process of regeneration as a healing process comparable to Christ's redemptive power which she refers to as a "ferment." She writes, "In assuming flesh and blood, he sanctified nature so that he could sanctify everything, just as it is the property of a ferment to ferment the whole mass."²⁵

²⁰ Conway's treatise was first published in a Latin translation in 1690; an English translation was printed in 1692.

²¹ Sarah Hutton, "As we observe by continued Experience.' Experience and the Senses in the Philosophy of Anne Conway," in *Filosofe e scienza moderna*, ed. Sandra Plastina and Emilio de Tommaso, *Bruniana e Campanelliana*, Supplementi 43, Studi 18 (2019): 57–70.

²² Anne Conway, *The Principles of the Most Ancient and Modern Philosophy*, trans. Allison Coudert and Taylor Corse (Cambridge: Cambridge University Press, 1996), 24.

²³ Conway, *Principles*, 34.

²⁴ Conway, *Principles*, 43.

²⁵ Conway, *Principles*, 27. The Latin reads "tanquam pars fermenti ad fermendam totam massma."

By the time Conway composed her treatise, fermentation had become an important component of Paracelsian and Helmontian medicine. We know that she was steeped in Helmonianism, but another possible source is the medical philosophy of Oxford physician Thomas Willis, whom Conway at one point consulted. Willis's explanation of fermentation in his *De fermentatione* (1659) is helpful for understanding what Conway has in mind when she refers to fermentation.²⁶ According to Willis, fermentation involves a process of refinement or "attenuation" of larger particles of a body by more subtle ones, and thicker particles "by the Endeavour and Expansion of the more Subtil." The purpose is to complete alterations "designed by Nature" in order to achieve "perfection in the subject."²⁷ This fits Conway's account of the restoration of creatures to a purer state where the healing process entails refinement of their physical make-up.²⁸ Whether or not it was Willis's theory that she had in mind, what Conway does here is invoke a medical concept to articulate an aspect of her philosophy. To be able to do so required some measure of theoretical understanding, and testifies to the presence of chemical medicine in the spectrum of her intellectual interests.²⁹

Margaret Cavendish (1623–1673)

Unlike Anne Conway, Margaret Cavendish was skeptical about fermentation. In her *Philosophical Letters* (1664) she critiques Jan van Helmont's claim "that Ferment is a Primitive Cause, and a beginning or Principle of other things." Since it "proceeds from nothing," she cannot imagine "how that can be a Principle of material things, which itself is nothing." She quips that "if all the constitution and

²⁶ Thomas Willis's *Diatribæ duæ medico-philosophicæ, quarum prior agit de fermentatione* (London, 1659) was one of the most important works on fermentation theory in England. Many times reprinted in Latin, it was translated into English as *A medical-philosophical Discourse of Fermentation* (London, 1684), and included in Willis's *The Remaining Medical Works*, trans. Samuel Pordage (London, 1681).

²⁷ Willis, *Remaining Medical Works*, 10.

²⁸ Willis, *Remaining Medical Works*, 10.

²⁹ See Sarah Hutton, "Making Sense of Pain: Valentine Greatrakes, Henry Stubbe and Anne Conway," in *Testimonies. States of Mind and States of Body in the Early Modern Period*, ed. Gideon Manning (Cham, Switzerland: Springer International, 2020), 85–102.

nature of our body was grounded or did depend upon Ferment, then Brewers and Bakers, and those that deal with Ferments, would be the best Physicians.”³⁰

For Cavendish, natural philosophy and medicine were closely allied since natural philosophy “instructs men in the Rules and Arts of Physick.”³¹ Although she claimed that she had “neither learning, nor experience in Chymistry,” her writings suggest that she did in fact have direct knowledge because it figures at several points in her writings, in particular in *Philosophical Letters, Grounds of Natural Philosophy* (1668), and *Blazing World* (1666).³² In the latter the alchemists are “ape men” — a reference to Van Helmont’s description of “chymistry” as an “emulating Ape” of nature, something Cavendish mocks as absurd. She also describes chemists as workers “by Fire and Furnaces” and associates alchemy with Paracelsianism when she says that their first principles are “Salt, Sulphur and Mercury.” Although Cavendish is highly critical of alchemy, she agrees that chemists have produced useful medications (“there may be some excellent Medicines found out and made by that art”). However, she thought the effort disproportionate to the results: “the expence and labour is more then the benefit” and some of these medicines are ineffective. She is particularly scathing about “the Universal Medicine, and the Philosophers-stone or Elixir, which Chymists brag of so much.”³³

Cavendish’s critique of alchemy must be set in context with the fact that she formulated her own rival philosophy of nature, which she thought did a better job of explaining the composition of things and workings of nature than alchemical theories. Part of the purpose of her critique of Van Helmont and others is as a springboard for her own views. Even her negativity, therefore, is a form of engagement with chemical philosophies and testimony to their importance in her intellectual ambience.

³⁰ Margaret Cavendish, *Philosophical Letters: or, Modest Reflections upon some Opinions in Natural Philosophy* (London, 1664), 358–59.

³¹ Margaret Cavendish, “Epistle to the Reader,” *Philosophical and Physical Opinions* (London, 1663), sig. [b3].

³² Cavendish, *Philosophical and Physical Opinions*, 253. Stephen Clucas, “Margaret Cavendish’s Materialist Critique of Van Helmontian Chymistry,” *Ambix* 58, no.1 (2011): 1–12; Susan James, “Hermaphroditical mixtures: Margaret Cavendish on Nature and Art,” in *Early Modern Women on Metaphysics, Religion, and Science*, ed. E. Thomas (Cambridge: Cambridge University Press, 2018); Tien-yi Chao, “Between Nature and Art: The Alchemical Underpinnings of Margaret Cavendish’s *Observations upon Experimental Philosophy* and *The Blazing World*,” *EURAMERICA* 42, no.1 (2012): 45–82.

³³ Cavendish, *Philosophical Letters*, 362, 281, 284.

There is much more that could be said about the respective philosophies of Sabuco, Conway, and Cavendish in relation to medicine and alchemy. At a minimum this essay shows that philosophical writings by women, like literary writings by women, are a source for women's knowledge of alchemy and medicine. The work of the three women discussed here demonstrates a degree of engagement with alchemy and medicine at a theoretical level, indicating that alchemical and medical knowledge were integral to their intellectual horizons.