



Alchemy in the
Vernacular: An Edition
and Study of Early
English Witnesses of
The Mirror of Alchemy

SARA NORJA

The author defended her doctoral dissertation *Alchemy in the Vernacular: An Edition and Study of Early English Witnesses of The Mirror of Alchemy* at the University of Turku, Faculty of Humanities, on 27 May 2021. Professor Peter J. Grund (University of Kansas) acted as the opponent and Professor Matti Peikola (University of Turku) acted as the Custos. The dissertation is available at <https://www.utupub.fi/handle/10024/151694>

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1. Alchemical texts as research material

Gold has fascinated people through the ages. The main goal of medieval and early modern alchemy was to transmute lead or other lesser metals into gold. Nowadays, gold can be created from other elements in tiny amounts – but this process requires nuclear reactions to work and is so expensive that it is not a worthwhile pursuit. If an alchemist from the Middle Ages were to time travel to the present day, they might indeed be disappointed. After all these centuries, the preparation of artificial gold is theoretically possible but practically useless. The subject of my doctoral dissertation, an alchemical work called *The Mirror of Alchemy*, reflects this interest in gold.

Alchemy was one of the first experimental sciences, and it can be considered the mother of chemistry. Alchemy has a long history from well before the start of the Common Era all the way to the present day, but it flourished in Europe especially from the 13th to the 16th centuries. The major aims of alchemy were to make gold and prolong human life.

The definition of science has changed through the ages, and present-day science differs from medieval science, for instance, in its very worldview. Alchemy is considered a pseudoscience today, but in my dissertation I view it as an early branch of science. I think that historical material should always be approached on its own terms. If we view alchemy from the point of view of present-day science, the results will not reflect the views of people from the past and may be ahistorical.

In the West, alchemy was first written about in Latin, but especially from the 15th century onwards, vernaculars such as English started to gain ground. At the time, unlike nowadays, English was far from being the dominant language of science. On the contrary, English was only just becoming a viable language of science along with Latin. At first, new scientific texts were not written in English; instead, it was very common to translate Latin scientific texts into English. This was one way in which people developed English scientific terminology and expressions. Alchemy was no exception here, as there are plenty of English texts that were originally translated from Latin. *The Mirror of Alchemy*, which I examined in my dissertation, is also a translation.

There are plenty of English-language alchemical texts from the Middle Ages and the early modern period, but despite their numbers, they have been the subject of very little linguistic research so far. One reason for this is that these texts have not been edited much at all – in other words, they are not available in printed or digital form, but only exist as original manuscript copies in various libraries and archives.

I became enamoured of medieval manuscripts over a decade ago. I consider it extremely important for such historical texts to be brought forth in a form that is readable for people of the present day. For instance, historical linguists need authentic historical material for their research. Their work is made easier if this textual material is available in a form that is as faithful as possible to the original manuscript text. Thus, in my research I also aimed to spotlight previously unresearched alchemical material and to show that researching alchemical texts is worth the effort.

2. *The Mirror of Alchemy* through a philological lens

In my dissertation, I examined the early English witnesses of *The Mirror of Alchemy*. My material consisted of seven manuscript copies from the 15th, 16th, and 17th centuries, as well as a printed version from 1597. The manuscript copies had not been studied before my dissertation, and the printed edition had only received a little attention. *The Mirror of Alchemy* is thus an example of how even a rather well-known alchemical work can vanish into the depths of archives if researchers do not pay attention to such material.

The Mirror of Alchemy is about ten pages long. It is thus quite short for a scientific work – medieval scientific works could be a hundred pages long or more. *The Mirror of Alchemy* can be called a basic introduction to alchemy. It begins with the definition of alchemy, and it moves from a more theoretical to a more practical level. At the end, there are even some instructions for how to make gold with the Philosophers' Stone: this is the instrument through which one substance is transmuted to another, such as lead to gold.

The English work originates in a Latin work called *Speculum alchemiae* (this also means 'mirror of alchemy'). The author of the Latin work is unknown; anonymity of this kind is perfectly normal for medieval texts. However, *Speculum alchemiae* was earlier considered to be the work of Roger Bacon, a famous 13th-century English Franciscan. It was common to increase the authority of alchemical texts by using a revered scholar's name in this way. However, even though Bacon was interested in alchemy, he did not write *Speculum alchemiae*.

I will now quote a passage from the first chapter of *The Mirror of Alchemy*, translated into Present-Day English: "Alchemy is a science that teaches how to transform all manner of bodies into each other by their proper medicine". This quotation reveals that for the writers and readers of this text, alchemy was indeed a science and not a pseudoscience. In other words, the work I studied shows contemporary views of the position of alchemy: it is a science, and indeed, *The Mirror of Alchemy* deals with alchemy in a scientific manner. This is not the same as the present-day scientific style of my dissertation, for instance. However, *The Mirror of Alchemy* is a good example of a medieval scientific text, and of the conventions of scientific language used in its time.

In my dissertation, I examined *The Mirror of Alchemy* through a philological lens. Philology is an approach where texts are studied through close reading and trying to understand their context and content on a deeper level. My study approached the versions of *The Mirror of Alchemy* with the aim of understanding the smallest differences between the different manuscript copies and the printed edition. I also studied how *The Mirror of Alchemy*, as a translation, reflects the gradual shift of scientific language from Latin to English.

In addition, one of my main goals was to translate a previously unstudied manuscript version of *The Mirror of Alchemy*. This will enable the material to be used by scholars. The manuscripts have previously only been readable

in the libraries they are held in, and reading them requires skills in reading centuries-old handwriting in addition to knowing Middle English. In this case, editing means that I have typed up the text onto a computer, taking care to show the essential features of the original manuscript. The edition also includes a commentary explaining the most difficult passages, a glossary, and other aids to the reader. Reading the edited *Mirror of Alchemy* requires skills in Middle English, so this is a specialised scholarly edition. It will bring researchers additional material for future studies.

There are many phases when editing a centuries-old manuscript text. The material I studied consists of handwritten books whose size varies from about the size of a modern hardback to that of a coffee table book. I visited libraries in the UK and Denmark to examine the manuscripts first-hand, since my approach is material-based and thus examining the physical manuscripts was necessary. I took photographs of the manuscripts in order to later transcribe the texts on the basis of those photographs. I analysed the handwriting in the manuscripts – the handwriting, in the case of *The Mirror of Alchemy*, differs quite a lot due to the 200-year time span of the manuscripts. I checked my transcriptions many times in order to eliminate errors. All of this happened hand in hand with my analysis of the text.

3. Results of the study

My dissertation places *The Mirror of Alchemy* in its historical and textual context. Historical background is especially essential for a reader's understanding in the case of historical material. Because *The Mirror of Alchemy* has come down to us in many different forms, it was also important to determine the textual relationships. I also compared the English versions to extant Latin manuscript copies and printed versions.

Comparison of the texts showed that they can be divided into four different groups, which in this case means four different translations. Two of the translations are based on Latin manuscripts; the third is based on a French printed edition, and the fourth on a Latin printed edition. The translations are independent of each other. The translations are also in part from different versions of the Latin source text. These translations, from a time period spanning about 200 years, also reveal that *The Mirror of Alchemy* was of interest

also during the scientific revolution in the 16th and 17th centuries. The main reason for there being several translations of the work is that later translators were not aware of the existence of earlier translations. Alchemical theories remained rather similar in their basic form from the 15th to 17th centuries, so older texts could be read even two centuries after they had been written.

I also examined the four translations of *The Mirror of Alchemy* from the point of view of vocabulary. I studied how their source texts, that is, the different Latin versions (and one French version) affected the scientific terminology of the English translations. The different translations use various translation strategies, so they exhibit different ways of creating an English text on the basis of a Latin source text. Loanwords are a very common strategy. Some of the differences between the four translations are also due to language change over time. English changed a lot from the 15th to 17th centuries in terms of vocabulary as well as syntax. My study also revealed about ten Middle English words that are not in dictionaries. A linguistically interesting example is *occultatyffed*, which means ‘hidden’. The form of this word is quite uncommon and it is not found in dictionaries, but based on the Latin *Speculum alchemiae*, it has its origin in the Latin word *occultatus*.

4. The importance of alchemy for historical linguistics

My study opens up the field of alchemy to linguists. As my results show, even a rather short text such as *The Mirror of Alchemy* can offer new knowledge on early English lexis, for instance. Alchemy is thus a fruitful subject for lexicologists in addition to people studying the history of science. My opponent Professor Peter J. Grund is a trailblazer in the study of English-language alchemical texts, and it has been a pleasure to continue on the path he has beaten. I have also found my own ways to further the rise of alchemical texts as research material. My goal is also to encourage other researchers to take up alchemical texts as linguistic material. There are vast numbers of alchemical texts in English, and they feature rich and previously unstudied linguistic material. They can reveal much about the development of scientific language.

For a long time, alchemy has been an obscure topic in English language studies, and people have been somewhat wary of approaching it. One reason for this is that alchemical texts have been considered difficult and even

impenetrable. However, thinking like this can lead to a vicious circle: if alchemy is not studied from a linguistic point of view, its enigmatic nature is emphasised. The more alchemical texts are discovered, edited, and studied, the more understandable alchemy will become.

I hope that my dissertation shows that it is absolutely worthwhile to study alchemy also from a linguistic point of view. Digging deeper into these texts of course requires digging deep into the historical and scientific sides of alchemy in order for researchers to understand the content of their textual material. However, this task is very much worth the results. The more editions we have of alchemical texts, and historical linguistic studies on them, the more we will know about alchemy overall, and about the meaning of alchemy for English historical linguistics.

I have still not learnt how to make gold through *The Mirror of Alchemy*, but I have at least curated this abundant material for others to use. I hope that this field of study will provoke a broader interest in scholars so that English-language alchemy can escape the dark chambers of history and be brought to light. **N**

SARA NORJA
UNIVERSITY OF TURKU