

RECIPES IN EARLY MODERN EUROPE

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Recipes were central to medicine and science in early modern Europe. Although the word commonly is limited to the preparation of food today, early modern individuals drew on recipes to make medicines, ink, dye, pigment, food, beer, liquor, fake gems, fireworks, metal alloys, and for a variety of technical procedures. They can be found in just about every kind of early modern text, in both printed books and manuscripts. In addition to dedicated recipe collections, they also appeared in sources ranging from herbals to alchemical manuscripts to books on metallurgy and gunnery. They were even scribbled in the margins and empty pages of other early modern books and on tiny slips of paper included in letters or passed hand-to-hand. On the most basic level, a recipe is simply a set of instructions for making something – a cake, a medicament, a dye, a metal alloy, etc.

Once neglected, recipes are now widely considered to be an important record of early modern medico-scientific knowledge and experimentation.¹ They provide a window on a world of activity: making, re-making, experimenting with different methods, eliminating poor results. Sometimes they provide valuable information on individuals whose perspectives and experiences have been ignored in the story of history, such as women, artisans, and domestic help. Recipes can show us ideas and assumptions about the human body, pharmacology, nature, and matter, and they can give us insight into early modern social networks and trade networks, material culture, social and cultural expectations, and the impact of colonial expansion.

At the same time, recipes can be frustrating texts that reveal little of their context or meaning – one reason why it took so long for historians to devote significant attention to them. Often recipe books simply contain long strings of recipes with no additional information. It can be very difficult to ascertain the original author of any given recipe, or how many hands it passed through before appeared in writing. Even if a recipe is attributed to a particular

¹ Early contributions to the history of recipes include Stannard, "Rezeptliteratur Als Fachliteratur"; Pollock, *With Faith and Physic*.

person, it is often impossible to know whether the person writing down the recipe received it directly from that source or from a third party, or indeed whether that source created the recipe or received it from someone else.² Some recipes were probably meant to be read just for fun.³ Historians thus need to use great care in studying recipes. From the mid-1990s through the first decade of the 2000s, historians of science and medicine began to take recipes seriously as a genre of practical writings, in part led by William Eamon's groundbreaking book, *Science and the Secrets of Nature* (1994).⁴ In particular, scholars focused on women's medicine and science turned to recipes as an important genre of women's medical writing.⁵ More recent work has shown the centrality of recipes in a variety of fields, accessed by princes, physicians, painters, and potters. They are now an established part of the canon of early modern science.⁶

WHAT IS A RECIPE?

The English word "recipe" is derived from the Latin verb *recipere*, "to receive" – and indeed, a common early modern English term was "receipt." Exchange and transfer were thus built into the noun, although the Latin word "recipe" had been used to indicate a medicinal formula since antiquity. In other European languages, recipes could be known as "secrets," "arts," "skills," and "experiments." These terms hint at a range of assumptions and practices attached to the material text.

All recipes require certain common elements to be functional: a purpose (what the recipe is for), a list of ingredients, the quantities and measurements of those ingredients, any necessary equipment, and an explanation of how to make it and how to use it.⁷ Today, it is typical to have all of these elements in recipes – and often photos of the finished product or diagrams of particular techniques. Recipes today have a relatively standard form, with a title, a list of ingredients and their measurements, and instructions for each step, often numbered. In early modern Europe, however, there was no standardized way to convey

² DiMEO, "Authorship and Medical Networks."

³ Eamon, "How to Read a Book of Secrets."

⁴ Eamon, *Science and the Secrets of Nature*. Works on recipes from this era include Jones, "Formula and Formulation"; Rankin, "Duchess, Heal Thyself!"; Leong, "Making Medicines in the Early Modern Household"; Pennell, "Recipes and Reception"; Leong and Rankin, eds., *Secrets and Knowledge in Medicine and Science*; DiMEO and Pennell, eds., *Reading and Writing Recipe Books*.

⁵ See especially Green, "Books as a Source of Medical Education"; Green, "The Possibilities of Literacy"; Hunter, "Women and Domestic Medicine"; Hunter, "Sisters of the Royal Society."

⁶ Elaine Leong, *Recipes and Everyday Knowledge*; Rankin, *Panacea's Daughters*; Smith et al., "The Making of Empirical Knowledge."

⁷ Stannard, "Rezeptliteratur Als Fachliteratur," 70; Eamon, *Science and the Secrets of Nature*, 131–33.

recipes in writing. Much of the necessary information was often missing or sparse. Some recipes were just lists of ingredients, with no indication of what should do with them. Others might include brief instructions such as “grind into a powder,” or “distill it.” These incomplete recipes generally point to the writer’s familiarity with the techniques and materials. They functioned as memory devices for the author and would have relied on tacit knowledge for specific processes. Even recipes that did give more information often required significant background knowledge: how finely should you chop herbs? How much was in a “handful”? What kind of still should you use for distillation? How long should you stir that salve? These missing details point to the existence of a significant oral and mnemonic tradition of recipes that did not ever make it into written record.

Conversely, some early modern recipes contain copious additional information that is not strictly necessary to make a recipe but adds helpful context. This kind of information exists today too: most recipe blogs include a story about the recipe, and some cookbooks do as well. These stories sometimes mention the person who gave the author the recipe, and they nearly always explain the broader meaning of the recipe to the author. While early modern recipes rarely contained stories, many named the person from whom the recipe was received and specific instances in which it was used. One of the most common “efficacy phrases” at the end of recipes is the Latin “probatum est”: it has been tried.⁸

A seventeenth-century recipe book belonging to the Okeover and Adderly families, which contains the signature of Elizabeth Okeover Adderly (1644-1721), provides a good example of how these principles played out in practice. One recipe in this book reads:

⁸ Jones, “Formula and Formulation”; Pugliano, “Pharmacy, Testing, and the Language of Truth.”

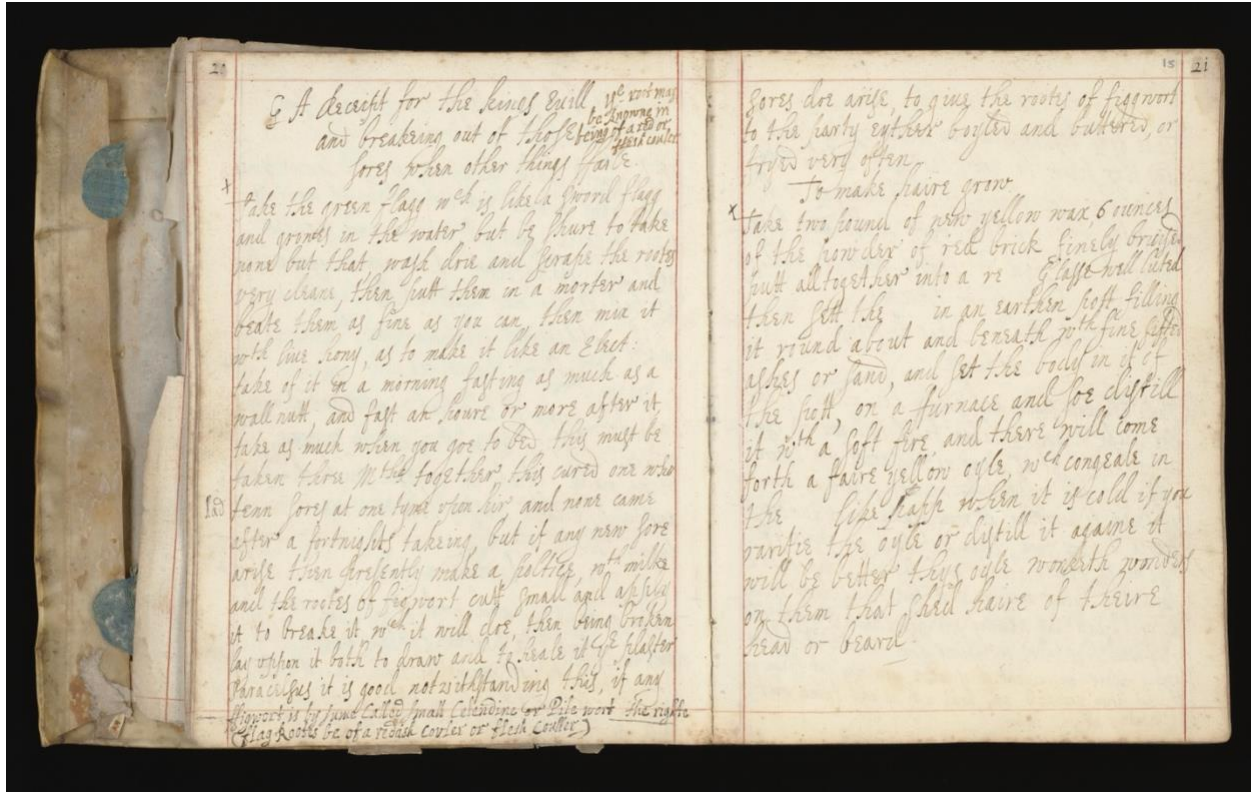


Figure 1: The Receipt Book of Elizabeth Okeover and others, c. 1675-1725. Wellcome Western Ms. 3712, fols. 14v-15r.

Take the green flagg w[hi]ch is like a sword flagg and growes in the water but be shure to take none but that wash drie and scrape the rootes very cleane, then putt them in a mortar and beate them as fine as you can then mix it with live hon[e]y, as to make it like an Elec[tuary] take of it in the morning fasting as much as a wall nutt and fast an hour or more after it, take as much when you goe to bed this must be taken three m[on]ths together. This cured one who had ten sores at one tyme upon hir, and none came after a fortnights takeing, but if any new sore arise then presently make a poultice, with milke and the rootes of figwort cut small and apply it to break it wch it will doe, then being broken lay uppon it both to draw and to heale it y^e plaster Paracelsus it is good notwithstanding this if any sores doe arise, to give the roots of figwort to the party eyther boyled and buttered, or fryed very often. (Note: ffigwort is by some called small Celendine or Pilewort, the flag rootes be of a redish couler or flesh couler).⁹

⁹ "Recipe book of Elizabeth Okeover and others, c. 1675-1725" Wellcome Library London, Western Ms. 3712, fols. 14v-15r. For more on Elizabeth Okeover/Adderly and this manuscript, see Leong, *Recipes and Everyday Knowledge*, 90-94; Aspin, "Who Was Elizabeth Okeover?"

On one hand, the author goes to great lengths to explain some aspects of this recipe, especially her care to convey the proper color of the flag root used as the main ingredient. At the same time, she leaves out some important information: what quantity of the roots to use; how much honey to mix in; how to make an electuary. In the second half of the recipe, in which she gives a contingency plan if the first remedy fails, she expects the reader to know how to make a poultice and what a Paracelsus plaster is. We can conjecture that she assumed her reader would know the basics of making electuaries and poultices, while she thought the flag root might be less familiar, although we would need additional evidence to know for certain.

It is important to recognize that we can identify neither the author of this recipe nor the compiler (the person who wrote it down) from the information given us. It is difficult to tell which member of the Okeover or Adderly family wrote this recipe down, and the compiler may simply have copied it from another source. Similarly, we have no way of surmising whether the recipe's original author, whoever it was, personally knew the woman or girl said to have been cured by this remedy. If the compiler received the recipe from someone else, this instance of healing might have occurred at quite a distance. However, one user of the book took care to squeeze in information on how to identify the flag roots at both the beginning and the end of the recipe, which suggests that she may have had a particular interest in this cure. Historians need to use great caution in the assumptions they make when analyzing recipes, but even so, they have much to tell us.

RECIPES IN MANUSCRIPT AND PRINT

Recipes almost certainly predated writing itself, and they can be found among the earliest texts from antiquity. In medieval Europe, handwritten recipe books functioned as important practical texts: for example, a medical recipe collection from the thirteenth-century German surgeon Ortoolf von Beierland was the most commonly reproduced text in Middle High German.¹⁰ Recipes can be found in just about every kind of medieval text. With the high cost of parchment and (eventually) paper, people scribbled recipes seemingly at random in the flyleaves, margins, and blank spaces of religious texts, romances, notarial documents, account books, and even music. In the words of Montserrat Cabré, they were “here, there, and everywhere.”¹¹

Standalone recipe collections became more common from the later fifteenth century, as paper prices fell and literacy rose. In the University of Heidelberg's current holdings of German medical manuscripts, around 60% of fifteenth-century medical manuscripts consist

¹⁰ Rankin, *Panacea's Daughters*, 66; Keil, ed., *Ein teutsch puech machen*.

¹¹ Cabré, “Women or Healers?,” 37.

largely or solely of recipes. That statistic rises to over 90% for the sixteenth century.¹² All across Europe, a growing interest in recipes developed into a vibrant manuscript tradition of practical recipe notebooks from artists, metalworkers, painters, and other artisans, as well as domestic recipe books full of entries for medicine, food and basic household necessities such as ink and soap.

There was no standardized format of the “recipe book” as there is with today’s cookbooks. Instead, householders often included a mishmash of recipes for various products in their recipe collections, with no differentiation. A recipe for lemon cake might sit on the same page as a recipe for ink and a recipe for a cough syrup. In some cases, however, specialization had already begun to occur by the early modern period. German-language manuscripts containing only medical recipes dated back to the Middle Ages and became common at the German courts in the sixteenth century. While mixed alchemical-medical manuscripts were common across Europe, mixed alchemical-food manuscripts were not.¹³

As print technologies spread across Europe in the second half of the fifteenth century, old and new genres of recipe books flourished in print. Recipes could be found in books ranging from respected Latin treatises to herbals to distillation manuals to short popular pamphlets. Vernacular how-to books, which frequently contained recipes, were reliable enough bestsellers that printers deliberately sought them out. In Germany, a popular set of technical recipe books called the *Kunstbüchlein* or “little books of skills” went through over a dozen editions between 1531-33 and continued to be reprinted into the seventeenth century.¹⁴ Italian “books of secrets,” which included instructions and recipes for the arts of alchemy, dyeing, metallurgy, perfumery, pharmacy, and distillation and became a popular print genre in Italy from the mid-sixteenth century.¹⁵

¹² Rankin, *Panacea's Daughters*, 66–67.

¹³ The Codices Palatini germanici at the University of Heidelberg contain numerous medicine-only manuscripts. See Matthias Miller and Karin Zimmermann, eds., *Die medizinischen Handschriften unter den Codices Palatini germanici 182-303*, 2005, <http://www.ub.uni-heidelberg.de/archiv/5709>; Rankin, *Panacea's Daughters*, 71–74. The first dedicated cookbooks began to be printed in the late fifteenth century. See, e.g. *Kuchemeysterey* (Nuremberg: Peter Wagner, 1486); *Le Viandier* (Paris: 1486); *This Is the Boke of Cokery* (London: Richard Pynson, 1500).

¹⁴ Eamon, *Science and the Secrets of Nature*, 106–14.

¹⁵ Eamon, *Science and the Secrets of Nature*, 134–37.

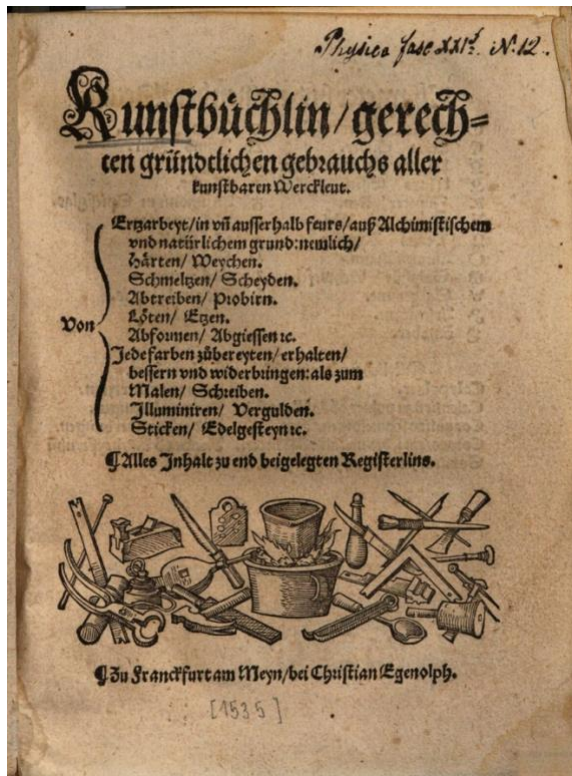


Figure 2: An early frontispiece of the *Kunstbüchlin* (1535), with a woodcut of technical instruments. Bayerische Staatsbibliothek.

Books of secrets and other recipe collections were also translated from their languages of origin into other European vernaculars. One of the earliest and most popular Italian books of secrets, the *Secrets of Alessio Piemontese* (Venice, 1555), went through dozens of editions in nearly every European language.¹⁶ England boasted of its own popular books of secrets tradition, in part translated from Latin, Italian, and German, and in part home-grown.¹⁷ Other recipe genres, too, traveled across the different languages of Europe. As mobile and malleable units of knowledge that could be tucked into letters and added to existing collections, recipes counted among the most sought-after and easily transferrable scientific documents.

There was substantial overlap between the manuscript and print traditions of recipes. Most printed recipe collections originated in the manuscript tradition, and some made those ties explicit. In 1594, the German physician Oswald Gabelkover published a book of medicinal recipes drawn largely from handwritten recipes received from acquaintances in Württemberg and Bavaria. When the book was translated into English in 1599, the long title

¹⁶ Eamon, *Science and the Secrets of Nature*, 136.

¹⁷ Kavey, *Books of Secrets*.

emphasized that the recipes had been compiled “out of Manye Highe, and Common Persons Written Physick-Boockes.”¹⁸ While the printing press allowed for the quick spread of popular bestsellers like the books of secrets, emphasizing ties to the manuscript tradition could be advantageous. Conversely, readers often copied recipes from printed books into their manuscripts, and they added their own handwritten recipes in the blank spaces of printed recipe books.¹⁹ Understanding these diverse and interlocking traditions of manuscript and print is crucial when studying early modern medical and scientific recipes.

MEDICINAL RECIPES

Recipes were central to medical practice across various healing professions and ranged from long Latin formulae to scribbled notes in vernacular languages. Physicians wrote prescriptions for apothecaries to fill and included recipes in their case studies. Apothecaries kept extensive pharmacopoeia (books of simple and compound medicines, often including recipes for how to prepare them), while surgeons prized recipes for salving wounds and soothing skin diseases. In the domestic sphere, recipes represented the center of household medicine. Men and women of all walks of life exchanged remedies by word of mouth, and literate householders often kept written books of recipes. Recipe collections represented a rare genre of medical writing to which women were also respected contributors.

Scholarly physicians included recipes in texts of all sorts: herbals, formularies, didactic pharmaceutical manuals, *consilia* offering medical diagnosis and advice, and general medical compendia. Many of these medicinal recipes rested on a long tradition stemming from ancient and Arabic medical texts. Recipes represented an important part of the wave of medieval medical translations from Arabic and Greek into Latin. For example, an influential collection of pharmaceutical recipes produced in the medical center of Salerno, Italy in the early twelfth century, known as the *Antidotarium Nicolai*, was compiled out of several Arabic sources.²⁰ There was no clear dividing line between medieval and early modern recipe texts, and Greek, Roman, Arabic, and medieval Latin authorities remained highly influential. This influence even reached into pharmacies in New Spain in the era of European colonization.²¹ Some medieval physicians also compiled lists of recipes gained from practical experience,

¹⁸ Oswald Gabelkover, *Artzneybuch, darinnen ... vast für alle des menschlichen Leibs Anligen unnd Gebrechen ausserlesene und bewehrte Artzneyen* (Tübingen,; Bey Georgen Gruppenback, 1594); Oswald Gabelkover, *The Boock of Physicke Wherin ... Most of Them Selected, and Approved Remedyes, for All Corporall Diseases, and Sickneses, Which out of Manye Highe, and Common Persons Written Physick-Boockes, Are Compacted, and United Together*, 1599.

¹⁹ Leong, “When the Tallamys Met John French”; Leong, “Papering the Household.”

²⁰ Goltz, *Mittelalterliche Pharmazie und Medizin*.

²¹ De Vos, *Compound Remedies*.

known as *experimenta* – including highly regarded doctors such as the Spanish physician Arnau de Villanova, a professor of medicine in thirteenth-century Montpellier.²²

Early modern recipes tied to physicians and apothecaries built on these precedents. New print genres of physicians' case studies, known as *curationes* (Cures) or *observationes* (Observations), often included medical recipes.²³ The pharmacopoeia's function as a list of drugs permitted in a particular city or region solidified as a genre in the seventeenth century and usually included recipes for making compound medicaments.²⁴

Medicinal recipes reached far beyond scholarly spheres. Literate men and women all over Europe evinced an avid interest in collecting medicinal recipes, from princes and princesses to merchants, artisans, and housewives. Physicians and other medical professions did not have a monopoly on cures: in fact, most medical treatment began in the home, and people avidly traded, compared, and compiled remedies. While recipes from physicians and prominent aristocrats were particularly prized, medicinal recipe collections cite an astounding range of individuals as contributors: barbers, midwives, tailors, cooks, bakers, merchants' wives, soldiers, blacksmiths, herb gatherers, surgeons, town mayors, with no distinction regarding gender or class. Many domestic recipes collections overlapped with and intersected with scholarly recipes. Physicians appear frequently in domestic collections, and physicians also sought out remedies from their local communities.²⁵

WOMEN'S MEDICAL RECIPES

Recipes represent the only extensive genre of women's medical writing in early modern Europe, and they point to the prominent role women often assumed as medical practitioners within the domestic setting.²⁶ The earliest records of women's recipes come from religious houses and the princely courts. A woman named Guteline of Esslingen, mostly likely a nun-scribe, completed a compendium of recipes and other medical texts in 1321.²⁷ Nuns in Renaissance Italy were important sources of both medical recipes and pharmaceutical

²² McVaugh, "The Experimenta of Arnald of Villanova"; McVaugh, "The Experience-Based Medicine of the Thirteenth Century."

²³ Pomata, "Sharing Cases"; Pomata, "Observation Rising."

²⁴ See especially Crawford and Gabriel, eds., *Drugs on the Page*; Pugliano, "Pharmacy, Testing, and the Language of Truth."

²⁵ Stolberg, "Learning from the Common Folks."

²⁶ Cabré, "Women or Healers?," 18–31; Rankin, *Panacea's Daughters*, chap. 2; Green, "The Possibilities of Literacy."

²⁷ The compendium is now known as the Speyrer Arzneibuch. University of Heidelberg Library, Cod. Pal. germ. 214. Beach, *Women as Scribes*.

products.²⁸ Similarly, aristocratic women increasingly became known for their recipes and their cures. The prominent Italian countess Caterina Sforza (1463-1509) kept a recipe collection viewed as valuable enough that her secretary made a copy and a separate index.²⁹ The German countess Dorothea von Mansfeld (1493-1578) became widely known for her pharmaceutical skills, and her recipes can be found in manuscript recipe collections across the German-speaking regions.³⁰ Recipes attributed to Lady Katherine Ranelagh (1615-91), sister to chemist Robert Boyle, were highly prized in English-speaking circles.³¹ But these examples are just the tip of the iceberg: from the late Middle Ages through the nineteenth century, thousands of literate women across Europe kept recipe books, traded recipes with other women and men, and made remedies based on those recipes.

Today, early modern women's medical recipes are found chiefly in the hundreds of handwritten recipe manuscripts that survive in archives across Europe. The vast majority of women's recipes were never published, but a handful of collections ended up in print. A book of secrets attributed to the mysterious Lady Isabella Cortese, first published in 1565, became exceedingly popular in Italy, although no historian has been able to find a real Isabella.³² In 1600, the Duchess Eleonora of Württemberg (1532-1618) had her collection of recipes published in the city of Torgau in Saxony, in an opulent, folio-sized volume clearly aimed at wealthy and aristocratic readers.³³ In England, recipe books associated with various prominent gentlewomen, which usually included a mix of medical, culinary, and household recipes, became a popular print genre from the 1650s.³⁴

²⁸ Strocchia, *Forgotten Healers*.

²⁹ Ray, *Daughters of Alchemy*, chap. 1; Barker and Strocchia, "Household Medicine for a Renaissance Court."

³⁰ Rankin, *Panacea's Daughters*, chap. 3.

³¹ DiMeo, *Lady Ranelagh*.

³² No figure named Isabella Cortese has been found, leading historians to suspect that the author may have been a male humanist. See Lesage, "La littérature des 'secrets' et I segreti d'Isabella Cortese"; Ray, *Daughters of Alchemy*, chap. 2.

³³ Eleonora of Württemberg, *Sechs Bücher Ausserlesener Artzney und Kunst Stück fast vor alle deß Menschlichen Leibes Gebrechen und Kranckheiten* (Torgau, 1600).

³⁴ The gentlewomen included Frances Stuart, Duchess of Lennox and Richmond (1578-1639), Elizabeth Grey, Countess of Kent (1582-1651), Queen Henrietta Maria (1609-59), and Alethea Howard, Countess of Arundel (1585-1654), among others. The books attributed to them were, respectively, Owen Wood, *Choice and Profitable Secrets Both Physical and Chirurgical: Formerly Concealed by the Deceased Dutchesse of Lenox* (London, 1656); *A Choice Manual of Rare and Select Secrets in Physick and Chyrurgery* (London, 1653); *The Queens Closet Opened.: Incomparable Secrets in Physick, Chirurgery, Preserving, Candyng, and Cookery* (London, 1656); [Philiatros], *Natura Exenterata: Or Nature Unbowelled by the Most Exquisite Anatomizers of Her* (London, 1655).

All of these printed volumes attributed to women were brought to publication by men, and with the exception of Duchess Eleonora, the extent to which they can be connected with the purported female author is questionable. It is unclear whether Isabella Cortese even existed. Most of the works associated with English gentlewomen appeared posthumously, and it is unlikely that the women in question had much of a role in bringing their recipes to print. Indeed, many or most the recipes may not have been theirs at all. Nevertheless, these printed books traded on the authority of aristocratic women's names, even to the point of potentially inventing female authors. Publishers' interest in citing female authorities underscores the perception that women had a particular expertise with medical recipes.³⁵

RECIPES IN THE HOUSEHOLD

The popular recipe books attributed to gentlewomen were part of a larger genre of printed recipe books aimed at householders. These books were by no means limited to a female audience. While some were specifically aimed at women, such as Hugh Plat's *Delightes for Ladies* (1600), many others addressed male heads of household. A popular genre of "housefather literature" (*Hausvaterliteratur*) in Germany, which instructed the male *paterfamilias* how to run his household, sometimes included recipes for medicine and practical household necessities.³⁶

These print genres reflected the large manuscript tradition of domestic recipes, which was not limited to medicine. Domestic recipe collections often included a little bit of everything – medicine, food, practical household items, beer, veterinary medicine, orchard and garden care, cosmetics, and even party tricks. They drew on techniques ranging from cookery to gardening to distillation and other alchemical processes. Both women and men collected and compiled books of recipes, and although recipes frequently traveled in same-gender circles, they also regularly crossed gender lines. Indeed, recipe collections often were a collaborative household endeavor that involved both spouses along with wider family networks.³⁷ They could pass from mother to son or father to daughter, in addition to the more common mother-daughter/father-son lines of transmission.

ALCHEMICAL AND CRAFT RECIPES

As in the case of medical recipes, alchemical recipes were found in many different settings, both learned and popular. A dedicated tradition of written alchemical recipes dates back to the third century CE, and the medieval and early modern periods saw an increasing interest

³⁵ Leong, *Recipes and Everyday Knowledge*, chap. 6; Spiller, "Printed Recipe Books."

³⁶ Alisha Rankin, "The Housewife's Apothecary in Early Modern Austria."

³⁷ See especially Leong, *Recipes and Everyday Knowledge*, 24–32.

in both medical and transmutational alchemy.³⁸ Basic alchemical techniques such as distillation and sublimation could be found in many medical recipes, and books explaining distillation techniques usually included recipes. Alchemy was also closely connected to metallurgy and thus influential on recipes for smelting, metal alloys, assaying, etc. Household recipes for cosmetics, cleaners, dyes, and pesticides often involved chemical ingredients and techniques.

The most famous figure in early modern medical alchemy is the iconoclastic Swiss physician Theophrastus Bombastus von Hohenheim (1493-1541), known as Paracelsus, who rejected traditional Galenic theories of the four humors in favor of a chemical understanding of the body and alchemical cures. His approach garnered numerous followers and inspired recipes in both manuscript and print traditions, especially in central Europe, France, England, and Scandinavia.³⁹

Paracelsus and his disciples were far from the first voices advocating alchemical cures. The longstanding notion of the Philosopher's Stone as an elixir of life had received widespread attention in the medieval European alchemical tradition, especially in the works of Franciscans Roger Bacon (c. 1219-92) and John of Rupescissa (1310-1366) and in alchemical writings falsely attributed to the Catalan Franciscan Raymon Lull.⁴⁰ These writings had a significant impact on early modern recipe traditions. The German apothecary-surgeon Hieronymus Brunschwig (1450-1512) relied heavily on this tradition in his two highly influential distillation manuals that included numerous recipes and spawned dozens of offshoots and translations.⁴¹ Long before Paracelsus's works were widely known, alchemically inspired recipes had become common. As far-fetched as it may sound, purported recipes for the Philosopher's Stone circulated all over medieval and early modern Europe, sometimes in verse form.⁴²

The search for the Philosopher's Stone and other alchemical elixirs inspired a dynamic interest in recipes. The papers of German Paracelsian Leonhard Thurneysser (1531-96) contain correspondence with other alchemically inclined practitioners across Europe, many of whom sought his recipes. One letter from the Swiss Paracelsian Johann Huser, written in

³⁸ Principe, *Secrets of Alchemy*, 10-12, 53-54, 81.

³⁹ Webster, *Paracelsus*; Moran, *Paracelsus*; Kahn, *Alchimie et Paracelsisme*; Rampling, *The Experimental Fire*; Starkey, *Alchemical Laboratory Notebooks and Correspondence*.

⁴⁰ Moran, *Distilling Knowledge*; Matus, *Franciscans and the Elixir of Life*; Pereira, "Medicina in the Alchemical Writings Attributed to Raimond Lull"; Getz, "Roger Bacon and Medicine."

⁴¹ Rankin, "How to Cure the Golden Vein"; Taape, "Hieronymus Brunschwig."

⁴² Timmermann, "Doctor's Order."

April 1578, specifically asked for recipes for potable gold and oil of camphor.⁴³ Meanwhile a bill from the apothecary Georg Scholl for costs incurred in 1577-78 demonstrated that Thurneysser was buying alchemical ingredients: camphor, gold and silver leaf, antimony, mercury sulfide, and sulphur, along with medical ingredients such as nutmeg and roses.⁴⁴

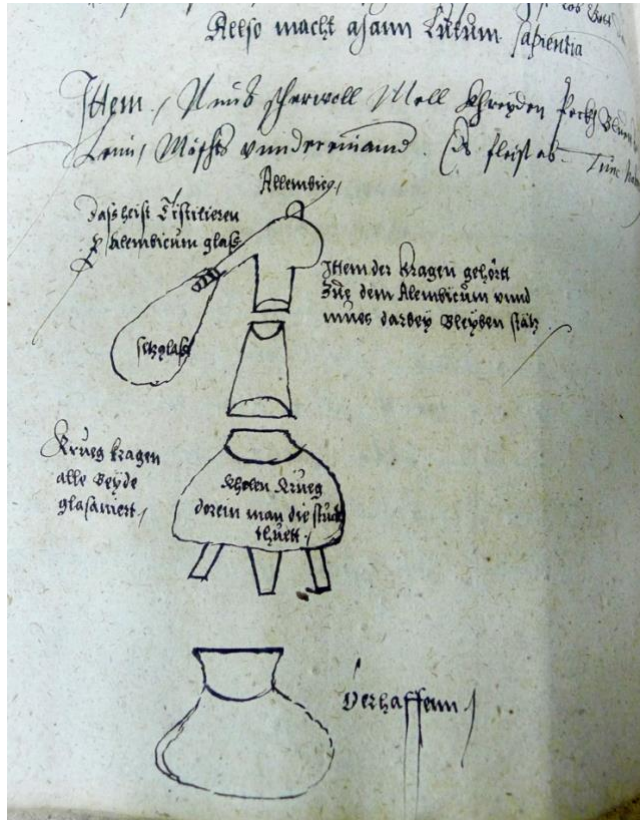


Figure 3: A recipe for lutum (glue) for an alchemical still, with illustration of the still. Papers of Leonhard Thurneysser, Staatsbibliothek Berlin, Ms.Germ. 99.

Traditional physicians who rejected Paracelsus also drew on alchemical techniques and recipes. A tenth-century Arabic alchemical treatise, which described processes of distillation, sublimation, and calcination, was highly influential on traditional Galenic pharmaceutical formularies in early modern Spain.⁴⁵ The German physician Andreas Libavius, sometimes hailed as the author of the first chemistry textbook, dismissed Paracelsus's theories but advocated for greater attention to alchemical techniques. The second half of his textbook,

⁴³ Staatsbibliothek Berlin, Ms. Germ. 99, fol. 143r.

⁴⁴ Staatsbibliothek Berlin, Ms. Germ. 99, fol. 28 r-v.

⁴⁵ De Vos, "Rosewater and Philosophers' Oil."

Alchemia [1597], gave recipes for alchemical medicines.⁴⁶ Many of the best-known names in seventeenth-century science, including Robert Boyle and Isaac Newton, kept their own books of alchemical recipes.

Alchemical recipes also overlapped strongly with the craft traditions. Leonardo da Vinci was fascinated by processes of changing the appearance of metals and left numerous recipes for his experiments with these techniques in his notebooks. Authors interested in metallurgy and mining, such as the Italian metallurgist Vanoccio Birunguccio (1480-1539) and the German Georg Agricola (1494-1555), drew on alchemical processes of combustion and calcination in their writings, including recipes.⁴⁷ Artisans relied on alchemical techniques for delicate metalwork, smithing, varnishing, weaponry, dyeing, painting, and making fake gems.

A fascinating recipe manuscript from early modern France gives an excellent window on craft recipes. Written by an unknown practitioner in Toulouse in the 1580s, the manuscript contains a mix of recipes for dyeing, coloring metals and wood, making imitation gems, casting metals, grafting, land surveying, animal husbandry, preserving fruits and plants, conserving food, distilling acids, and many more. The practitioner made numerous notes on his own experiments with the materials, demonstrating that these recipes were record of active use. The Making and Knowing Project at Columbia University, led by Prof. Pamela Smith, has done an extensive study, edition, and English translation of the manuscript.⁴⁸

RECIPES AND EXPERIMENT

The Toulouse practitioner made an unusually explicit connection between his recipes and his experimental practices, but he was far from alone in using his recipes as records of experiment. Many recipe collections from both domestic and professional settings contain markers of use in practice and of attempts to adjust and modify. Practitioners crossed out recipes that did not work, made notes on ingredients or techniques, and put small circles or stars next to recipes that worked. Recipes frequently included general efficacy phrases such as “tried” or “proven,” and sometimes they include specific details as to how the recipe was tested or altered.⁴⁹ Dr. Elaine Leong’s study of seventeenth-century English domestic recipe collections has shown that some householders had careful, refined systems for testing recipes. Sir Peter Temple, for example, kept three separate recipe books: two notebooks with

⁴⁶ Moran, *Andreas Libavius and the Transformation of Alchemy*.

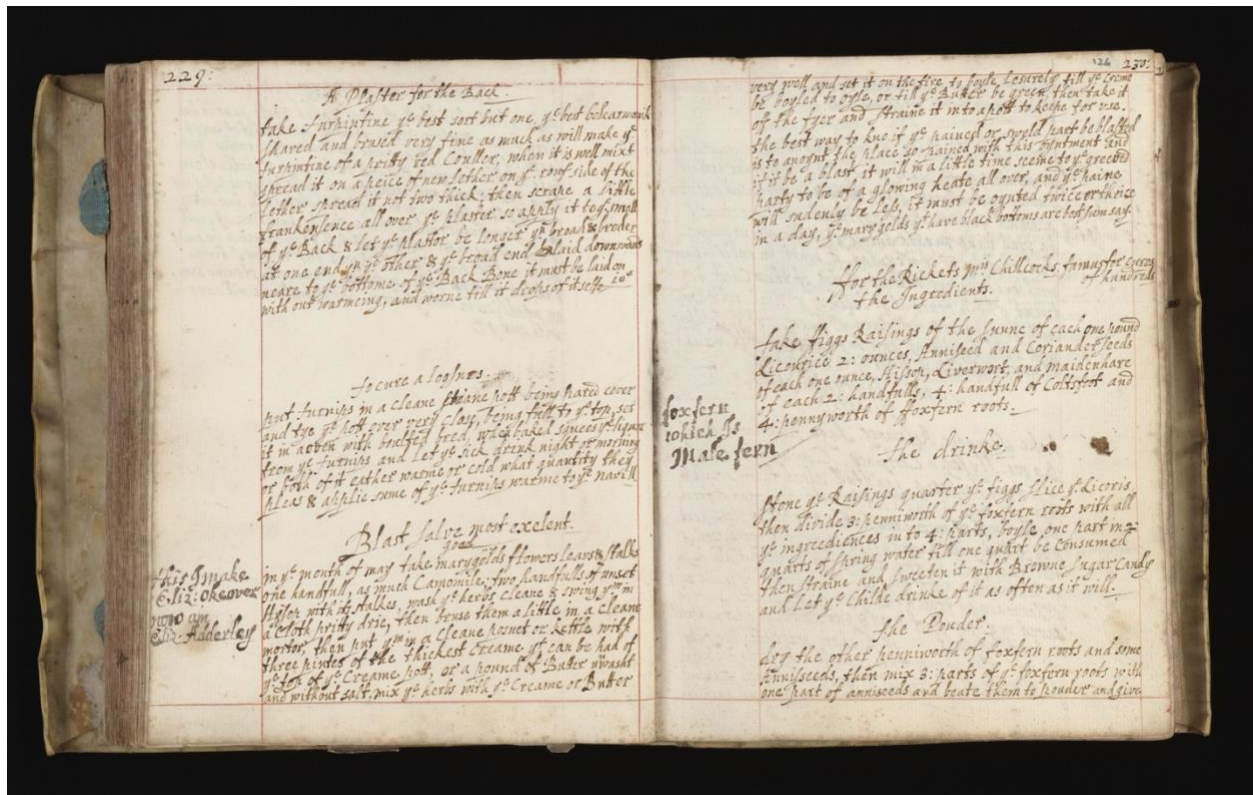
⁴⁷ Moran, *Distilling Knowledge*, 37–46.

⁴⁸ See, e.g., Smith et al., “The Making of Empirical Knowledge.”

⁴⁹ Rankin, *Panacea’s Daughters*, chap. 2; Leong, *Recipes and Everyday Knowledge*, chaps. 3-5.

recipes in progress, and a gift book for his daughter Elinor that included only refined and tested recipes.⁵⁰

The Okeover/Adderly manuscript mentioned earlier is replete with recipes that make reference to testing and trying. Some recipes contain markers of trying in the title, such as “for the stone Proba:” and “ffor the Colique Proba:” short for “probatum est.”⁵¹ In these instances, it is impossible to know whether the compiler herself tried these remedies, or whether she had received the recipes with the assurance that they were tried and proven. However, in other cases, as Leong notes, there are more specific markers of testing, ranging from marginal notations such as “I pro:” (for I proved this), to noting that a recipe was good. Twice in the book, Elizabeth Okeover Adderly wrote her full name by a recipe, noting that “this I make, Eliz: Okeover now Adderly,” as seen in the image below.⁵² This penchant for noting when recipes had been tried and found to be good underscores the pervasive interest in “tried” and “proven” recipes of all sorts across early modern Europe.⁵³



⁵⁰ Leong, *Recipes and Everyday Knowledge*, chaps. 3-4, esp. pp. 80-96.

⁵¹ “Recipe book of Elizabeth Okeover and others, c. 1675-1725” Wellcome Library London, Western Ms. 3712, 14-15.

⁵² Leong, *Recipes and Everyday Knowledge*, 91.

⁵³ Rankin, *Panacea's Daughters*, 39-43.

Figure 4: The Receipt Book of Elizabeth Okeover and others, c. 1675-1725. Wellcome Western Ms. 3712, fols. 125v-126r.

Recipes thus represented an important part of the broader interest in experimentation that gripped medieval and early modern European medical and scientific circles. Indeed, one Latin term for “recipe,” adopted in some vernaculars, was “experimentum.” This did not mean that recipes reflected scientific experiments as we know them today. In the early modern period, the words “experience” and “experiment” were roughly interchangeable, and the term “experiment” mainly indicated the realm of practice rather than theory. Nevertheless, many early modern recipes reflected a genuine interest in making new knowledge. Physicians and householders responded to illness by trying to find better cures; artisans sought to improve craft techniques; and people of all sorts recorded their fascination with natural processes. Authors emphasized when recipes had been tried, especially when they had personally witnessed the recipe’s success. Attempts to replicate results also appear in recipes or related documents. This emphasis on trying, witnessing, and repeating presaged (and undoubtedly helped solidify) more formalized processes of experimentation. These ad-hoc practices also continued long after the formation of formalized scientific societies.⁵⁴

RECIPES AND EMPIRE

The practice of collecting, compiling, trading, and testing recipes also reflected European colonial expansion from the fifteenth through the eighteenth centuries. Europeans had long prized spices such as nutmeg, cardamom, black pepper, ginger, and cloves for both food and medicine, which they imported from the Moluccas, India, China, Malaya, and other points to the east. Indeed, these ingredients were part of the original impetus for European colonial efforts, and Portuguese and Dutch outposts in Malaysia and the Indian subcontinent made some of these spices more affordable and accessible to Europeans. The unexpected “discovery” of the Americas brought a host of new medicinal substances: cinchona, sassafras, guaiac wood, mechoachan root, Peru balsam, copal gum, tobacco, and chocolate among many others. Sugar cane cultivation in the Caribbean, using the labor of enslaved Africans, also made sugar a more attainable ingredient for medicines and foodstuffs. In the famous *Encyclopedia* by French philosophes Denis Diderot and Jean le Rond d’Alembert, the entry for America, or the New World (1751), listed dozens of medical ingredients under the region’s main commodities.

Early modern recipes quickly reflected colonial expansion. The increased use of sugar in remedies and cookery was one of the earliest signs, and a handful of New World ingredients began to appear in sixteenth-century recipes from the upper classes, especially guaiac wood (made into a water for syphilis), sassafras (used for skin conditions and general health),

⁵⁴ Rankin, *Panacea’s Daughters*, chap 2; Leong, *Recipes and Everyday Knowledge*, chaps. 3-5.

mechoacan root (used as a purgative) and tobacco (smoked or incorporated into a plaster for a variety of complaints).⁵⁵ In the mid-sixteenth century, the merchant's wife Anna Welsler (née Adler, 1507-72) included a recipe for "how I have used the [guaiaic] wood water" in her collection of medical recipes. The first step called for "one pound of finely ground Indian wood," with the assumption that the reader would be able to obtain it.⁵⁶

By the seventeenth century, ingredients imported from both western and eastern colonies became more common.⁵⁷ Both coffee and chocolate entered the European pharmacopeia as medical substances, amid much debate. Chocolate, especially, inspired derision from some physicians, partially owing to its origins in indigenous Amerindian practices. Despite these discussions, Europeans gradually gained a taste for chocolate, as reflected in its increasing appearance in recipe collections.⁵⁸ Lady Ann Fanshawe (b. 1625), wife of the English ambassador Richard Fanshawe, copied down numerous recipes from her time in Spain and Portugal. In 1665, she recorded a recipe for chocolate and also sewed in a small image of a chocolate pot and whisk (called *molinillo*), which she noted as being from the "Indis." By the eighteenth century, chocolate pots – and various recipes for chocolate – were all the rage in Europe.⁵⁹ This quotidian domestic incorporation of indigenous Amerindian ingredients, equipment, and (more invisibly) preparation practices highlights the far-reaching tentacles of imperialism.

⁵⁵ Rankin, "New World Drugs and the Archive of Practice."

⁵⁶ Schloss Ambras Ms. Inv. PA 1474.

⁵⁷ Wallis, "Exotic Drugs and English Medicine"; Pennell, "Recipes and Reception"; Boumediene, "Jesuit Recipes, Jesuit Receipts"; Tigner, "Trans-Border Kitchens."

⁵⁸ Norton, "Tasting Empire"; Jones, "Exotic Edibles."

⁵⁹ Tigner, "Trans-Border Kitchens," 66; Pennell, "Recipes and Reception"; Norton, "Tasting Empire."

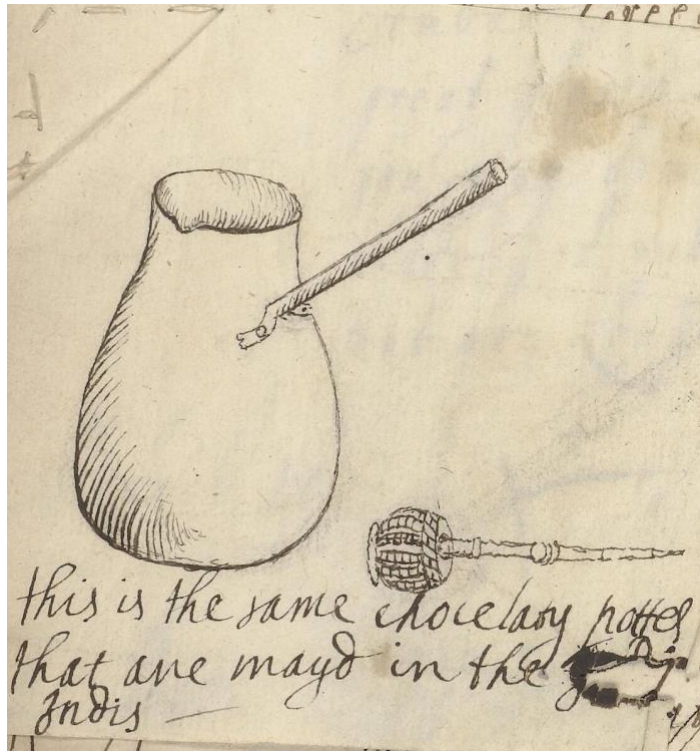


Figure 5: Lady Ann Fanshawe's sketch of a chocolate pot and molinillo from the Americas, 1565. Wellcome Library Western Ms. 7113.

STUDYING AND RECREATING EARLY MODERN RECIPES

Recipes are both a physical text and a set of instructions on how to make something. Historians thus use a mix of methodologies to study them. Careful textual work has brought the sheer number of recipe collections in European archives to light, as well as the interplay between manuscript collections and printed recipes. Some libraries and archives have engaged in projects to digitize manuscript recipe collections, including the University of Heidelberg Library, the U.S. National Library of Medicine, the Wellcome Library in London, and the Cambridge University Library. [The Recipes Project Blog](#), a longstanding forum for the study of recipes, publishes peer-reviewed posts about all aspects of recipes in the pre-modern world.

In addition to reading and examining recipe texts, some historians have also tried to recreate early modern recipes. Professor William R. Newman has recreated many of [Isaac Newton's alchemical experiments](#) in the context of his work on Newton's alchemy. The Making and Knowing project at Columbia includes both textual study and laboratory experiments. The project's participants have recreated most of the recipes in the Toulouse practitioner's recipe books. Numerous historians have incorporated recipe recreations into their classrooms alongside textual analysis. There are also new collaborations between historians and scientists. Dr. Stefan Hanß, a researcher at the University of Manchester, has collaborated with scientists to analyze recipe collections using biochemical analysis, in order to discover

what substances came into close contact with the text. Dr. Umberto Veronesi, in his PhD dissertation for the University College London, conducted scientific analyses of alchemical equipment in colonial Jamestown and the Ashmolean laboratory in Oxford. By combining archeological, scientific, and historical methodologies, he was able to document on-the-ground experimentation with alchemical recipes.⁶⁰

CONCLUSION

Material engagement with recipes – whether through recreation or modern scientific analysis – represents an expanding field in recipe studies. It is but one of the areas in which there will surely be additional research in the coming years. Recipes still have much more to reveal about the vast effects of European colonialism. Similarly, historians have only scratched the surface in examining the interplay between recipes and experiments and, indeed, the extent to which recipes *were* experiments. In medicine, the connection between recipes and actual therapeutic practice needs further study. In short, as far as the field has come in the last few decades, there is still significant work to be done and much we do not yet know. Two things are certain: recipes were central to European science and medicine, and the field remains an exciting and dynamic area of historical study.

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⁶⁰ Veronesi, "Archaeology and the Alchemical Laboratory."

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