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Iron Gall Ink Recipe

Terms

books of secrets Early modern compilations of recipes and "secrets" (medical, technical, household).
gum arabic
vitriol (copperas, green vitriol, Eisenvitriol)
olive oil
Galls

- We read the Iron Gall Ink recipe in the *The Secrets of the Reverend Master Alexis of Piemont*, one of the great bestsellers of the sixteenth century, first published in Venice in 1555. [1]

Ingredients:

- Gum Arabic (binder)
- iron sulfate ("vitriol" Green vitriol / copperas (Iron(II) sulphate))
- Oak galls / gall nuts (source of tannins)
- Oil (to fry the galls)
- wine

Pictures https://albums.ente.com/?t=SRJ59NPNVJ#CB5gZ8PTUEnymEK8AsyWrS16gbMU1W1fXkSMgy6cpixr

Questions

1. Did Isaac Newton make his own ink? (mid-seventeenth century)? Did he use this method?
2. What was the provenance of vitriol, Galles, olive oil, and *Arabick Gum* in the 16th and 17th centuries?

Galls were mostly Levantine imports ("Moreover, I have been three times to the Levant", Don Alexis unto the Reader)[1].

3. Was the ink mainly used for writing or for printing?
4. When was this method of ink-making discovered?
5. The invention of printing with movable type is often seen, together with the Protestant Reformation, as underpinning drastic social changes in early modern europe. Why not the invention of ink-making?
6. How expensive were these ingredients?

Notes

The invention of printing "changed the boundaries of cultural participation" (Shapin, p. 127)

Comments:

The printing press was created in the 15th century.

Notes towards the "hands-on" essay.

The workshop on Iron Gall ink-making didn't so much answer questions that I already had, but instead raised new ones that I never would have had if I hadn't tried to reproduce the recipe. Making

[1] https://drive.vjbe.net/2026-10-11-alexis-1595-preface-reading-edition.txt

the ink made the text look underdetermined: How long should we fry the galls for? How much is a "good hand breadth"? How do we tell whether we "have need" to "boil it a little"? These are reminders that, in many cases, the knowledge we need to perform our tasks and duties lives in the heads and practices of our fellow-creatures, not in the words in the library.

This underdetermination also reminds us that, while Piemont may have done Science a great favour by codifying the knowledge obtained by interviewing "poor women, artificers [craftsmen], peasants, and all sorts of men"[2], the knowledge obtained still stubbornly resists explicit codification.

The lab-grade iron(II) sulfate, and vitriol, and gall nuts naturally raised the question about the provenance of the ingredients for middle age ink, which otherwise would not have occured to me. In fact, even if they had occured to me I would have been at a disadvantage by the fact that the modern names and old names only occasionally coincide[3]. The suspicion that many of these ingredients relied on extensive trade networks with the middle east was confirmed by the Preface of the *Secrets*, in which *Alexis of Piemont* recounts his extensive travels[4].

Is it a problem that we did not use the same materials as our 16th century predecessors?

The fact that we had four translations of the text available to us convinced me that Fors is right by saying that "in the best cases there will be a dynamic relationship between library and laboratory" (Fors 2016). Comparing the translations allowed us to capitalize on the translator's *tacit knowledge* to resolve passages that were unclear to us in the English translation. I will give an example sentence, where the illegible phrases have been highlighted.

Version	**Text**
English (Ward, 1595)	Ye shall take good Galles, and breake them in three or foure peices, that is to saye, stampe them slightly, and put them in a frying panne, or some other such panne with a litle oyle, frying them a little, then take a pound of them, and put it in some vessel leaded, pouring into it as much white wine as will cover it over, more than a good hand breadth
French (year)	Prens noix de galle tresbonne, & les romps en trois ou quatre pieces, c'est a dire, estampe les legerement, & les mets en une poelle de fer, avec un peu d'huile, les faisant quelque peu frire, puis en prens une livre & la mets en quelque vaisseau plombé, y versant du vin blanc, tant qu'il les surmonte plus d'une grande paulme
Reading	*stampe* = *estampe*: pound lightly; *such panne* = an **iron** pan; *vessel leaded* = lead-glazed pot; *hand breadth* = *paulme*, a palm's width.

Table 1: The first step of the ink recipe in the English and French versions of the *Secrets*. Highlighted phrases that are obscure in the English are clarified by the French.

Further questions that I may have been less likely to ask if I were confined to the library were:

1. "Was the ink mainly used for printing or writing?"
2. "Was it expensive?"
3. "Would people make their own ink or would they buy it?"

[2] https://drive.vjbe.net/2026-10-11-alexis-1595-preface-reading-edition.txt

[3] gumme Arabicke = gum arabic; vitriol = Iron(II) sulfate

[4] "Moreover, I have been three times to the Levant, and at sundry times have travelled almost all other parts of the world, without resting or sojourning at any time in one place above five months.". It may very well be that Alexis is exaggerating; nonetheless it tells us that medieval audiences may have considered knowledge more credible when it came from extensive travels https://drive.vjbe.net/2026-10-11-secrets-alexis-preface-travels.pdf (bottom of page 1 / highlighted passage)

4. “When was the iron gall method discovered?”
5. “Why is iron gall ink considered as significant as the printing press in increasing the dissemination of knowledge”?

These questions brought me back to the library, discovering the Compleat history of Drugs[5], explaining the provenance of these materials.

Further reading:

- The preface of the *Secrets* [1]

Iron Gall Ink:

- https://travelingscriptorium.com/2013/03/21/iron-gall-ink/

Bibliography

[1] G. Ruscelli and W. Ward, *The Secrets of the Reverend Maister Alexis of Piemont : Containing Excellent Remedies against Diverse Diseases, Wounds, and Other Accidents, with the Maner to Make Distillations, Parfumes, Confitures, Dying, Colours, Fusions, and Meltings ...* in Francis A. Countway Library of Medicine–Medical Heritage Library Digitization Project. London: P. Short for T. Wight, 1595. [Online]. Available: https://archive.org/details/secretsofreveren00rusc

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[5] https://dn760008.eu.archive.org/0/items/compleathistoryo12pome/compleathistoryo12pome.pdf