

Appendix A

Armenian recipes for parchment-making

Matenadaran MS 1849, AD 1440

Advice on parchment

Take these hides: hide of a young goat, domestic or wild, wild sheep, foal, hare, roe deer, calf. Take the lime, strain (*refine*) well, and add water. If the hide is thin, you make it (*lime liquor*) watery, if thick make it (*lime liquor*) dense. When it is done, remove the hair, wash it, and add pure and fresh lime (*liquor*). When it (*the hide*) becomes dense, as you stretch it, it gets thinner. Take it, wash it, and pull it on the rack with a cord. Take the scrapper and scrape off the flesh side until the meat is finished (*cleaned*) and the surface is nice. Remove the water and put (*it*) to dry under the sun. Then dry-scrape the hair side. Coat the parchment with egg white and white flax. (*For*) three days in the water the flax flows as honey, (*with this?*) coat the flesh (*side*) and scrape with a scrapper.

Translated from: Harutyunyan, A. 1941. *Paints and Inks According to Old Armenian Manuscripts* (in Armenian). Yerevan, p. 77.

Matenadaran MS 551, 1650 AD

Take the flax seeds, place them in the pot, and soak, then clarify (*strain*). Mix the finely ground lime with water, and cover (*with it*) the paper in a thin layer - the paper will be like parchment. Or cook with that water the (*wheat*) starch, and cover with starch the paper - it will be like parchment.

Translated from: Harutyunyan, A. 1941. *Paints and Inks According to Old Armenian Manuscripts* (in Armenian). Yerevan, p. 45.

Jerusalem MS 1136, unknown date

Advice on making parchment

First, select the hides of goat, calf, deer, wild sheep, hare, and fish. These are the hides from which parchment can be made. Sieve the lime finely, throw away the stones, pour into the vat, and add water. Know, that if the hides are large, prepare thick lime liquor, but if small, then prepare watery lime liquor. Put the hides in water and remove dirt. Then put them in lime liquor and leave until the hair comes off easily. Remove the hair, wash (*the hides*), and put them back into freshly prepared lime liquor. Keep for a few days, and change (*the liquor*) again.

Wash off the big hides from lime and put them into a thick liquor prepared of pigeon droppings for two or three days, then take them off, wash thoroughly, and put them back again into a

freshly made liquor. It removes the dirt. After, take all the hides out of lime, wash them with water, and pull them onto a rack. Scrape both sides well to remove the water and leave them to dry out. Once dry, scrape off the flesh side with a scraper and smooth it well.

After all this, take the egg white and mix it with water. Or, take the white flax seeds, clean them, and add the water. In three days, it will become a flowing mass like honey – with this, you can coat (*the parchment*).

After this, pull the hides onto the rack, and rub the coating with a clean cloth. Then, take (*smooth*) the coating with a scraper, from top to bottom, to dry fast the coating. Then, brush with lime, as you brush the paper, and place them in the sun to dry. Then, do not do it on the coated surface, do it on the hair side.

Another recipe for parchment is to receive the ink well and to keep the script intact: (*take*) alum, gum, and fish glue. Soak the gum and fish glue, grind them together, and add the alum. Pour (*wrap*) it in a cotton cloth, and rub once on the surface of the parchment, as the lime. Leave it, let it dry, and write on each side.

Translated from: Bogharian, N. 1969. *Grand Catalogue of St. James Manuscripts* (in Armenian). Armenian Convent Printing Press, Jerusalem, Vol. 4, pp. 212-213.

Matenadaran MS 7322, 1694 AD

Take good hides of young goats - up to 20 pieces or more, also take one part of lime and dissolve it in three parts of water and stir with a stick. Place the hides in a vat, add the lime liquor, add water to the undissolved part of the lime, mix it, and add it too. Repeat this three times until the lime is completely dissolved. If the liquor does not cover the hides, add water until they are (*entirely*) covered with lime liquor. Leave the hides in the liquor for five days, until they are ripe (*ready*). A sign that the hides are ready will be that the hair will be easily pulled out. Remove the hair and wash the hides well with running water until there are no traces of lime. A good wash and complete removal of traces of lime are very useful.

After complete washing, take the hides, pull them onto the rack, and remove the water, meat, and fat parts from the flesh side, as well as any dirt. Place it to dry in the sun on the front side (*hair side*). After drying, stretch it again onto the rack, and scrape with a sharp knife. Then take a porous stone (*pumice*) that is found in the village of Agar, rub and scrape the hides from the flesh side.

To make the skins smoother and softer, take flax seeds, add them to water, and leave for two to three days, so that (*the solution*) thickens like flour glue, then strain through a cloth, coat the parchment with (*that*) liquid and scrape.

Translated from: Galfayan, Kh. 1975. The Technology of Parchment Making According to Methods of Armenian Craftsmen (in Russian). *Artistic Heritage: Conservation, Research, Restoration*, no 1, Moscow, pp. 75.

Latin recipes for parchment-making

“*Mappae Clavicula*”, 9th century

Parchment from ox-hide

If you want to make parchment from ox-hide, put the hide in lime and let it lie there for three days. Then stretch it on a rack and scrape it on both sides with a razor. After it has been scraped, let it dry. Make whatever you want by cutting with a little carving tool, and afterwards paint it with pigments.

Transcribed from: Smith, C. S. and Hawthorne, J. G. 1974. *Mappae Clavicula: A Little Key to the World of Medieval Techniques. Transaction of the American Philosophical Society, New Series, Vol. 64, no 4, p. 64.*

“*Scedula Diversarium Artium*”, Theophilus Presbyter, 12th century

Take goat skins and stand them in water for a day and a night. Take them and wash them until the water runs clear. Take an entirely new bath and place therein old-lime and water mixing well to form a thick cloudy liquor. Place the skins in this, folding them on the flesh side. Move them with a pole two or three times each day, leaving them for eight days (and twice as long in winter). Next you must withdraw the skins and dehair them. Pour off the contents of the bath and repeat the process using the same quantities, placing the skins in the lime liquor and moving them once each day over eight days as before.

Then take them out and wash well until the water runs quite clean. Place them in another bath with clean water and leave them there for two days. Then take them out, attach cords and tie them to the circular frame. Dry, then shave them with a sharp knife after which leave them for two days out of the sun. Moisten with water and rub the flesh side with powdered pumice. After two days wet it again by sprinkling with a little water and fully clean the flesh side with pumice so as to make it quite wet again. Then tighten up the cords, equalize the tension so that the sheet will become permanent. Once the sheets are dry, nothing further remains to be done.

Transcribed from: Reed, R. 1975. *The Nature and Making of Parchment*. Leeds: Elmete Press, p.74.

“*De Animalium Natura*”, Conradus de Mure, 13th century

Likewise concerning skin: how parchment may be made from it

The flayed skin from the calf is placed into water. Lime is mixed in which bites into all the raw skin. This should fully clean it and remove the hairs. The circular frame on which the skin is stretched is made ready. Let it be placed in the sun so that the fluid is removed. Approach with the knife which tears away the flesh and hairs. It quickly renders the sheet thin.

Transcribed from: Reed, R. 1972. *Parchment: Its Nature and Mode of Production*. Chapter 5 in: *Ancient Skins, Parchments, and Leathers*. Seminar Press, London, p. 134.