

Ecology of cobalt blue pigment in Medieval Iran

In the early thirteenth century, Genghis Khan, the first Great Khan of the Mongol Empire, conquered vast territories across what is now the Middle East and Asia, establishing an empire from China to Egypt. While the Mongols assimilated into the cultures of the societies they conquered, they also introduced their own aesthetic preferences into this cultural amalgamation. A notable example of this is their appreciation for blue, especially when combined with gold, which they used as a symbol of wealth and power. This preference led to the production of a unique type of ceramic in the thirteenth century, known as *lajvardina*, named after its resemblance to the color of lapis lazuli (*lajvard* in Persian). Interestingly, the blue pigment in *lajvardina* ceramics was not derived from lapis lazuli but was instead extracted from cobalt ores found in a few mines in Iran. This mineral was referred to as *Suleymani* (attributed to Solomon) in a thirteenth-century Persian treatise on ceramics authored by a member of a renowned family of potters, Abolqāsem ‘Abdollāh Kāshānī.

The attribution of the discovery of cobalt blue to Solomon, and recognizing him as the first to extract it, suggests a new perspective on this pigment as a valuable ingredient in medieval Persia that could only be achieved through supernatural powers. By analyzing the descriptions of *Sulaymani* (cobalt ore) and *lajvard* (lapis lazuli) in the Kāshānī’s treatise and considering the process of making cobalt blue pigment in the context of its natural environment, this paper argues that the value of this pigment was interconnected with its complex and challenging preparation process, from the extraction of minerals in the mountains to their purification in alchemist workshops.