

Mongol-era Stills: Spread and Impact of a New, Portable Technology with Examples from China, Korea, the Volga and Istanbul

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The Mongol Empire and its successor states are associated with substantial cultural and technological exchanges across Eurasia and among them was the spread of portable and easily usable distillation technology (even in a yurt by women), using types of stills still found today to make “moonshine” and occurring as far afield as Iceland and western Mexico where East-Asian-type stills, Chinese and Mongolian, were introduced via the Manila Galleon for the local production of mescal from the Philippines.

Appearing along with the new type of technology were entirely new categories of alcoholic beverages, that are relatively well-documented in our sources, including fortified wines and brandies (particularly distilled kumiss), fully-distilled brandies, and vodkas. These were almost universally called *arakhi* (or *arkhi*) after an Arabic word first popularized by the Mongols and first mentioned in the *Yinshan zhengyao* 飲膳正要, “Proper and Essential Things for the Emperor’s Food and Drink,” presented to the Mongol court in China in 1330. These new beverages included the first Japanese and Korean distilled liquors, also initially called *arakhi*. The new technology was based upon previously existing Chinese technology of long standing, much of it connected with Taoist alchemy as described by Needham et al., and possibly first used for the distillation of mercury, but substantial improvements were made to it during the 13th and 14th centuries when stills became lighter and simpler and more efficient.

To understand these developments, the proposed paper will examine, comparatively, and trace the history of some specific stills found in various parts of Eurasia slightly before, during and after the Mongol era to illustrate their character and how they relate to each other and possible evolutions in still technology. Examined first will be two stills recovered from north China by archaeologists and discussed by Luo. The earliest of the recovered stills, possibly from very end of the 12th century, i.e., just before the Mongol invasions, and still relatively primitive, is a bronze still from the Bairin Left Banner comprised of a round boiler, a gutter from which a pipe leads off with the distillate and a condenser on top from which another pipe leads off in this case as an input to provide cooling water for the distillate to condense. This still is a variant of what Needham calls a Chinese-type still. A second archaeological still, a 13th century still, is similar with a round boiler, a circular gutter with a pipe leading off but with a piston connected to the condenser which has a tighter fitting convex bottom. The piston allows pressure to be maintained delivering cooling water efficiently also increasing pressure inside the style with a favorable impact upon the quality of the distillate. This is also considered a Chinese-type still.

Coming from the end of the period but also from East Asia is a surviving still once belonging to Choson king Sejong (1418-50). This is a further evolution of the second recovered north Chinese stills discussed above. It has a mount, under which a fire can be produced, a round boiler with a pipe leading off, and a condenser with what appears to be another piston feed. In this connection it should be mentioned that the Korean national drink, *soju*, was not only originally called *arakhi*, but we have specific written evidence that *soju/arakhi* was first produced following the Mongol lead and to meet a Mongol product demand. The Mongols then occupied Korea in connection with their plans against Japan. Thus King Sejong’s still provides living proof of Mongol technology in use to produce a Korean drink, in this case made from rice rather than fermented mare’s milk.

The last stills discussed in the paper are offered by way of comparison. Two are 18th century, from the Kalmucks, and have been described by German ethnographer Peter Pallas. The one is a Mongolian type still, as designated by Needham, with an internal boiler and only one pipe

leading off. The other also has a single pipe but this is cooled by a wrapped serpentine, a device used in parallel European distillation technology and this still thus represents a mixture between east and west. Finally, an undated still from the Islamic Technological Museum in Istanbul shows a variant of the East Asian still with the same elements and two pipes in this case adapted for use in alchemy. This is only one example from a rich Turkish tradition.