

## RETSINA, MIXED FERMENTED BEVERAGES, AND THE CUISINE OF PRE-CLASSICAL GREECE

The origins of winemaking and viticulture in Greece are shrouded in the mists of human prehistory. If winemaking is best understood as an intentional human activity rather than a seasonal happenstance, then the Neolithic period, from about 8500 to 4000 B.C., is the first time in prehistory when the necessary preconditions for this momentous innovation came together. Once humans were settled into permanent villages in the Neolithic period, based on the first domesticated plants and animals, the conditions were ripe not only for experiencing and elaborating upon wine's psychotropic effects, but also for developing more predictable means of assuring a better quality wine and a more productive grapevine. Pottery, which was invented at this time, was ideal for forming shapes such as narrow-mouthed vats and storage jars, for producing and keeping wine.

The Archaeological Chemistry Laboratory of the Museum Applied Science Center for Archaeology (MASCA), under the direction of Dr. Patrick E. McGovern, has provided the earliest chemical confirmation of wine inside pottery jars from the Neolithic site of Haji Firuz in the northern Zagros Mountains of Iran, dated c. 5400-5000 B.C. This finding implies that wine had already been incorporated into the economic, social and religious fabric of human life, a phenomenon which is now expressed in many cultures around the world. Wine was evidently part of everyday "Neolithic cuisine," which includes many other foods and beverages—including bread, beer, and many meat and cereal entrees—that we enjoy today. Moreover, Neolithic peoples already had an appreciation for the preservative and medicinal properties of tree resins, which were added to their

wines. The use of wine and tree resins continued to expand in later times, until it dominated the pharmacopoeias of literate civilizations of the ancient world, in particular Greece.

Greek villages, like those in upland regions of the Near East, were possibly already producing wine in the Neolithic period. Pips or seeds of what have been identified as the wild Eurasian grape (*Vitis vinifera sylvestris*) have been recovered from Franchthi Cave in the Argolid of the Peloponnese, dating to the late Palaeolithic/Mesolithic periods (c. 11,000 B.C.), and sites throughout Greece have yielded such evidence for the Neolithic period proper. As yet, however, no Neolithic remains have been found of the domesticated grapevine (*Vitis vinifera vinifera*), which was the *sine qua non* for large-scale production and today accounts for almost all the wine that is produced around the world.

From an archaeological and historical standpoint, a good case can be made for a single origin of the domesticated grapevine in a northern upland region of the Near East, such as the Caucasus, the northern Zagros, or eastern Taurus Mountains. From here, viticulture probably spread out to other parts of the Near East, Egypt, and Greece during the Chalcolithic and Early Bronze periods (c. 4000-2160 B.C.). Prestige exchange of wine and special wine-drinking ceremonies among elite individuals, as can be documented for Mycenaean palace life and as best exemplified by the Classical Greek symposium, encouraged the adoption of winemaking and the successive transplantation or cloning of the domesticated grapevine in areas where even the wild grape had never grown. For example, a thriving royal winemaking industry had been established in



the Nile Delta of Egypt by c. 3000 B.C. The limited production of wine, coupled with its range and subtlety of tastes and bouquets which improve with age, contributed to the value of this unique beverage wherever and whenever it has been drunk.

The chemical research that has been carried out by the University of Pennsylvania laboratory and Prof. Dr. Curt Beck's laboratory at Vassar College, in preparation for this exhibit, have shown that the large pithoi in some 80 storerooms of an extensive Early Bronze II (c. 2200 B.C.) at Myrtos Phournou Koryphe on Crete contained wine. This wine was probably resinated. It should be emphasized that modern Greece is the only region of the ancient world that still carries on the ancient tradition of adding a tree resin to wine, which dates back at least 7000 years. Grape remains, which might have provided added flavor or coloration, were found in some of the "noble jars" at Myrtos. Dark reddish residues, probably representing the pigmentation from a red wine, were noted on the vessels' interiors. Several features of these jars — holes drilled through their lower sides to decant off the wine and clay appliques forming rope designs — are common for wine jars of earlier and later date elsewhere in the ancient Near East.

By the Middle Minoan II period (c. 1900-1700 B.C.), resinated wine was probably used in cooking, because it is attested inside a tripod cooking pot (EUM-30) from Room 3 of the Monastiraki palatial centre on Crete. As was common in later Greek and Roman cookery, wine was a popular ingredient in many different foods, including meat marinades, fish sauces, flavored cheeses, and desserts. Vinegar, another grape product in which the alcohol in wine has fermented to acetic acid, might also have been used in food preparation. The presence of a resin in EUM-30, which was a common additive to wine in antiquity, implies that wine, rather than vinegar, was used in the Monastiraki (and Apodoulou?) cooking pots. Most ancient wines were probably somewhat vinegary, and the tree resin helped to cover up off-flavors and odors, besides acting as a preservative.

The wine in the Monastiraki tripod cooking pot

EUM-30 was highly interesting for another reason: a specific compound that results from the toasting of oak wood, called cognac or whiskey lactone, was present. Either the wood was toasted to bend the staves for making barrels in which the wine was stored, or toasted wood chips were added to the wine to give it a distinctive taste, similar to what is done to produce fine Scotch today. Another possibility is that oak resin, derived from processing the bark as was done for tanning leather, was directly added to the wine. No wood barrels have been found in excavations prior to the Roman period, when it has often been argued that barrels were first invented under Celtic influence. Ancient ship-building, however, must have employed a similar technology, so that barrels might well have been introduced at a much earlier period. The ageing of wine in oak barrels, a long-standing European tradition, might even have been an earlier pedigree. California winemaking in the last few decades has "rediscovered" how French oak adds "more complexity" and "mellows" out the tannins, compounds found in grape skins and pips that give wine much of its taste, better than ageing in American oak barrels. Other more "primitive," ancient methods have since been adopted and gained wide acclaim for New World winemaking.

By at least 1480-1425 B.C. (Late Minoan I B) at Daskaloyianni, Chania on Crete, a different kind of beverage — combined resinated wine, barley beer and honey mead — was being drunk from or presented ceremonially in conical cups. The popularity of this mixed fermented beverage is most evident by Late Minoan/Mycenaean III, when it was being served in kylikes, e.g. EUM-111, at Armenoi (LM III A2, c. 1370-1340 B.C.) and a "beer mug", EUM-195, (LH III A2, c. 1370-1340 B.C.). The kylikes are of special interest, because they were depicted being "held high" on fresco scenes at Knossos and Pylos that have a clear ceremonial and/or religious significance. Wine was an important commodity in palace life, since the wine ideogram, showing a trellised grapevine that is related to an older Egyptian hieroglyph, appears often in Linear B texts at Pylos and Mycenae. Moreover, a



“honeyed wine” is referred to in one of Pylos texts. Nestor’s “toddy” (kykeon) in which grated cheese, barley and honey were mixed together with Pramnian wine might well hark back to the “Minoan ritual cocktail” of heroic times.

Intriguingly, later Greek writers and gourmands dismissed beer as a barbarian drink, and resinated wine came to be mixed only with water. Most scholars have thus assumed that beer was never drunk by the Greeks. Yet, barley grows well on thin soils, and was already cultivated as early as the Neolithic period in Greece. Bread-making, which employs many of the same techniques as beer-making, was well-established in ancient Greece, and, given the close contacts between Greece and Egypt where barley beer reigned supreme, the Greeks could have produced beer if they wanted. The available evidence, at present, suggests that they did not drink barley beer pure and simple, but mixed it with other fermented beverages. One may propose that this custom was introduced by peoples migrating into Greece from the north c. 1500 B.C. A mixed fermented beverage is documented in northern Europe in the 3rd millennium B.C.

The Classical Greek wine-set of krater, jug, ladle, and kylix/cup/mug/bowl had its origins in Middle-Late Minoan Crete, and served equally well for any combination of fermented beverages and/or water for more than 1500 years.

A mixture of resinated wine, honey, and barley was attested inside a tripod cooking pot (EUM-188) found at Chamalevri on Crete, a Late Minoan III C1 (c. 1190-1130 B.C.) site. Like the Middle Minoan cooking pot from Monastiraki (above), the assumption is that these were standard ingredients for foods, which could also be fermented into beverages.

Archaeological chemistry promises to open whole new perspectives on the exciting history of foods and beverages in ancient Greece. It has revealed that retsina dates back to the 2nd millennium B.C. and that it was probably aged in toasted oak barrels in c. 1700 B.C. By the end of the millennium, a mixed fermented beverage of resinated wine, barley beer and honey mead, which was possibly introduced from outside

Greece, was the preferred drink. Greeks of the 1st millennium B.C. returned to their roots, as it were, and mixed their retsina only with water. Honey, wine and barley were also popular ingredients in an emerging Greek cuisine, which laid the foundation for later Greek cookery as described by Arcestratus, Athenaeus, and others.

DR. PATRICK E. McGOVERN  
MASCA  
University of Pennsylvania Museum, U.S.A.





