

BERT G. FRAGNER, RALPH KAUZ and FLORIAN SCHWARZ (eds.)

WINE CULTURE IN IRAN AND BEYOND



ÖSTERREICHISCHE AKADEMIE DER WISSENSCHAFTEN  
PHILOSOPHISCH-HISTORISCHE KLASSE  
SITZUNGSBERICHTE, 852. BAND

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VERÖFFENTLICHUNGEN ZUR IRANISTIK  
HERAUSGEGEBEN VON BERT G. FRAGNER UND FLORIAN SCHWARZ

NR. 75

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# WINE CULTURE IN IRAN AND BEYOND

With the editorial assistance of Bettina Hofleitner

Verlag der  
Österreichischen Akademie  
der Wissenschaften



Wien 2014

**OAW**

Vorgelegt von w. M. BERT G. FRAGNER  
in der Sitzung vom 29. August 2013

Umschlaggestaltung:  
Bettina Hofleitner, unter Verwendung einer Fotografie von Max Klimburg,  
Two informants with an *urei* in Nisheigram, Waigal (1976)

Diese Publikation wurde einem anonymen, internationalen  
Peer-Review-Verfahren unterzogen.  
This publication has undergone the process of anonymous, international peer review.

Die verwendete Papiersorte ist aus chlorfrei gebleichtem Zellstoff hergestellt,  
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ISBN 978-3-7001-7554-4  
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Österreichische Akademie der Wissenschaften, Wien  
Druck und Bindung: Prime Rate kft., Budapest  
<http://hw.oeaw.ac.at/7554-4>  
<http://verlag.oeaw.ac.at>  
Printed and bound in the EU

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# Introduction

BERT G. FRAGNER, RALPH KAUZ, FLORIAN SCHWARZ

Young man, don't drink, but if you drink, repent, and don't drink on Fridays, and here is how you drink in the proper manner. This is the advice of a 15<sup>th</sup>-century Persian manual on good manners.<sup>1</sup> It contains, in a nutshell, the challenges which students of the culture of wine in Iranian and Persianate culture are facing. When looking at wine consumption from a normative-prescriptive angle, one gains a picture that is difficult to reconcile with evidence for banqueting as social practice or with references to wine in literary traditions. This could be said for many cultural phenomena. Yet the apparent paradox of strong historical and literary evidence for a culture of wine in a predominantly Muslim society such as Iran gives this phenomenon a particular twist.

As Bert Fragner puts it in his contribution to this volume, a certain degree of affinity between "wine" and "Iranians" is a widely perceived phenomenon. This perception merits Iran to be put center stage of inquiries into viticulture and wine culture in Asia. A mighty stream of symbolic references to wine and its consumption meanders through Iranian visual and literary art. Solid and continuous evidence underscores the social and economic relevance of the production, trade, and consumption of wine in the Iranian cultural sphere.

The apparent opposition between the omnipresence of references to wine and Iran's Islamic heritage and presence has produced certain patterns of interpretation which have proven surprisingly persistent. These patterns share neat distinctions between "Islamic" and "non-Islamic" dimensions of Iranian culture. These argumentations are not altogether unfounded; yet framing the question of wine culture merely within an Islamic discourse bears the risk of missing many shades, or occasionally to be misled entirely. For example, the explanation of alcohol consumption as an inherited extra-Islamic pattern of Turko-Mongol military and court elites, when carried to far, not only isolates this cultural practice from developments of "Islamic" elite milieus in a hardly justifiable way. It has led also to far-reaching and widely accepted conclusions often grounded in modern attitudes to alcohol

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<sup>1</sup> Shojā', *Anis al-Nās*, ed. Iraj Afshār (Tehran, 2536/1977), 189–204.

rather than historical evidence. The present volume tries to frame the exploration of Iranian viticulture and wine culture more widely. It assembles specialized studies and interpretative essays ranging from the question of the origins of viticulture and winemaking and the trade of wine between the Iranian plateau and China to viticulture and wine consumption in 20<sup>th</sup>-century Kafiristan, from the place of intoxicating beverages in hadith to the nature and function of wine in classical Persian poetry and Iranian architecture, from the ambiguities of alcohol in pre-modern Persia to the challenges of modernity and colonial penetration. It thus aims at taking the non-simultaneity and interlacing of the different dimensions of this phenomenon into fuller account.

One should therefore not expect an encyclopedic overview of viticulture or of the production, marketing and consumption of alcoholic beverages in Iran and its wider Asian context, nor should one look for systematical comparative studies. Rather the volume turns the spotlights on issues where different aspects of viticulture and wine culture in the wider Iranian cultural sphere meet and intersect. In a more general way one may read the volume as a whole as an attempt to bridge across conventional divides between literary studies and history, between art history and social history, between history, anthropology and archaeology. Even though the majority of contributors may describe themselves as historians, this volume does not represent an attempt to prioritize history over other approaches to Iranian culture. If the “historical” writ large runs through the volume, it does so in an engaged conversation with philology, literature, art and anthropology.

What is Iran’s place and role in the early history of the cultivation of grape-vine? The initial motivation to rethink the history of viticulture, wine production, and wine consumption in Iran in a wider Asian context came from important new archaeological findings and insights. Patrick McGovern discusses the archaeological evidence for the emergence of viticulture and of alcoholic beverages based on grapes in the Caucasus/Taurus/Zagros region and in China. Peter Kupfer follows with an interpretative essay on the place of grape wine in Chinese culture. Ulf Jäger looks at the role of Sogdian traders in the communication of viticulture and wine culture between the Iran, Central Asia and China. Max Klimburg’s discussion of wine culture in 20<sup>th</sup>-century Kafiristan is an example for the persistence and adaptation of traditions of viticulture, winemaking and wine consumption in the Iranian sphere.

This leads to another general question: How were cultural patterns of alcohol production and consumption accommodated into Iranian society in the



processes of Islamization? Stephanie Brinkmann studies materials from Qur'an and hadith not primarily from a normative or lexicological point of view, but keeps a close look on the dynamic formation of the corpus and its interpretation in the historical process. How far reach alcoholic consumption patterns socially and culturally in the course of Iranian history? Each focusing on a different period of the Islamic history of Iran – one might conventionally call them medieval, early modern and modern –, Willem Floor, Rudi Matthee and Bert Fragner map the social practice of alcohol consumption and the cultural reactions (in the sense of a process, not a response) it entailed. Dariush Borbor approaches the same fundamental question from the intersection of the social, cultural and physical spaces of wine consumption in his cross-epochal study of the influence of wine culture on architecture. How does cross-cultural contact and non-Muslim political domination affect the production and consumption of alcoholic beverages in Persianate societies? Florian Schwarz tries to disentangle the intriguing dialectical processes triggered by the Russian conquest of Central Asia. How do alleged severe alcoholism and successful military and political leadership go together? Giorgio Rota and Morris Rossabi, in their respective studies of the Safavid and Mongol imperial courts, recreate a multifaceted picture of royal drinking and banqueting that challenges the simple link between elite alcoholism and political decline. What do we make of the abundant imagery of wine in Persian poetry? Undoubtedly the most conspicuous locus of wine in Iranian culture is literature, more specifically poetry, the focus of the two concluding contributions. Mehr Newid sets the stage with a tour d'horizon of the place of wine in Persian poetry. With his considerations on the nature and functions of wine in classical Persian poetry, Ahmad Karimi-Hakkak returns the quest for the ambiguous place of wine in Iranian culture to where most of us may first have met it: in the aesthetic – but by no means a-historical – realm of literature.

The tensions between the historical and the aesthetical appraisal of references to wine in Iranian literature, art and material culture which have haunted students of history, religion, art history and literature alike for so long remain evident in this volume. These should be, however, fruitful tensions, as different approaches to the study of Iranian and Persianate culture increasingly open up to engaged conversations.

The present volume is the outcome of a symposium held at the Institute of Iranian Studies of the Austrian Academy of Sciences in Vienna on 16th-17th September 2010. The editors of the volume are grateful to the Soudavar Memorial Fund, Geneva, whose generous support made the symposium pos-

sible. We are obliged also to the Department of International Relations of the Austrian Academy of Sciences for its support of the symposium. We wish to thank all participants for their contributions and discussions which have enriched the symposium and are reflected in this volume, and the authors for agreeing to thoroughly revise their papers for publication. We also thank the anonymous reviewers for their useful comments. All remaining shortcomings of the volume are ours. These acknowledgements would not be complete without a word of thanks to the Austrian Academy of Sciences Press, the book production team of the Austrian Academy of Sciences, and Bettina Hofleitner of the Institute of Iranian Studies without whose tireless efforts this book would never have been published.

# Iranian Wine at the “Dawn of Viniculture”

PATRICK E. MCGOVERN

My recent book on *Uncorking the Past* (2009/2010) provides a good starting point as well as a summary of the interdisciplinary research on ancient wine that my laboratory and others have been engaged in over the past twenty years. This book is more than just about wine – it traces alcoholic beverages around the world as far back in time as possible. It tries to show how far we’ve come in understanding the origins and biocultural importance of alcoholic beverages world-wide since our species came “out of Africa” some 100,000 years ago.

In dealing with ancient wine, the main lines of evidence are:

- (1) Archaeological evidence, with the emphasis on well-excavated, well-preserved, and well-published sites. Scientific analyses of the pottery sherds, grape seeds, and other remains that survived the millennia are essential;
- (2) Organic or biomolecular archaeological evidence, which is the focus of my laboratory at the Penn Museum;
- (3) Textual and artistic evidence, whether an ancient Egyptian fresco or the writings of a Roman or Greek writer such as Pliny the Elder or Columella, who devote nearly half of their works to wine and the vine, demonstrating the importance of this subject. Literary statements or artistic motifs cannot be accepted at face value, since they are not written or composed after the fact, unlike archaeological and chemical data, and sometimes incorporate legendary and fanciful elements;
- (4) Ethnographic and ethnohistorical evidence. Traditional viniculture provides interpretative insights into how best to interpret the archaeological, textual, artistic, and chemical data.
- (5) Experimental archaeology. After developing a scenario of how an ancient wine was made, we can process modern natural products, which are genetically as closely related to the ancient ingredients as possible, by the hypothesized ancient methods. We can then assess the extent to which these techniques work, and, perhaps most importantly, discover whether

the wine tastes any good. Our ancestors had much the same sensory organs and brains as we do, and would have had similar predilections to ours, even if cultural preferences (sweet, sour, etc.) change from time to time.

Experimental archaeology provides an entree into the past not only for the archaeologist and scholar, but also for the general public who gain an appreciation for innovative (and sometimes) tasty accomplishments of our ancestors. In collaboration with Dogfish Head Brewery in Delaware and other individuals and microbreweries, we have carried out a variety of experiments on ancient wine, including vinifying in goat wineskins and adding herbs, spices and tree resins, which are described in ancient literary works and inscriptions and have been attested in our chemical analyses, to wine made from cultivars genetically close to the Eurasian grape (*Vitis vinifera*).

The earliest alcoholic beverage that we have thus far chemically confirmed and re-created is from the early Neolithic site of Jiahu in the Yellow River Valley of China, dated around 7000 B.C. It combined a native Chinese grape species, along with hawthorn fruit, honey, and rice. Although more archaeological and chemical evidence is still needed to bolster the theory that Middle Eastern grape wine dates back this early (see below), it can be proposed that a kind of “prehistoric silk road” ran across Iran and Central Asia during the Neolithic period. Such a route might well have provided a conduit for ideas to flow in both directions, however fragmentary the process and however short the distances involved from oasis to oasis. That in turn might have led to the domestication of grains (barley and wheat in the west, and rice in the east) and the production of fermented beverages on a large scale at about the same time.

This hypothesis might help to explain the marked similarity between the ancient Chinese “alcoholic beverage” pictogram, showing a jar with three drops falling from its rim, and the proto-Elamite/Sumerian sign for “beer” in ancient Mesopotamia, which incorporates a similarly shaped jar with pointed base. A prehistoric connection between western and east Asia might also help to account for why some ethnic groups in China still drink their cereal beers through multiple drinking-tubes from a single large jar, like the ancient Mesopotamian peoples did thousands of years ago.

## PREHISTORIC WINES FROM IRAN

In a very real sense, my research into ancient wine begins with Iran. I organized a conference on “The Origins and Ancient History of Wine” at the Robert Mondavi Winery in the spring of 1991 (McGovern, et al., 1995). The star of the show at the conference was a rather nondescript pottery jar (McGovern 2003/2007: fig. 3.1) from Godin Tepe, dated to about 3500–3000 B.C. It provided us with the earliest chemical evidence for wine at the time. That the vessel came from high up in the central Zagros Mountains of Iran, which now outlaws alcoholic beverages, made it all the more intriguing!

Our chemical analyses of a reddish residue inside the jar showed the presence of tartaric acid, the finger-print or marker compound for grapes in the Middle East, and a tree resin. In other words, we had discovered a resinated wine, in which the resin acts as an anti-oxidant to keep the wine from going to vinegar. Although widespread in antiquity, this tradition is only perpetuated today in Greece as *retsina*.

The then-earliest wine jar came from the so-called Deep Sounding at Godin Tepe, a complex of buildings and rooms, surrounding a central courtyard, which were exposed at the top of the mound and dubbed the “oval”. When Virginia Badler, who was preparing a dissertation on the Late Uruk (Chalcolithic) levels at Godin first came to us with the jar, we were skeptical that we could identify preserved organic residues of wine which had been “aged” 5000 years or more. But she proved to be right (Michel, et al. 1993).

Archaeological Chemistry or Biomolecular Archaeology is what made our identification of ancient wine possible. In short, a revolution in scientific techniques over the past forty years has enabled a re-examination and, in many cases, a re-writing of the history of fermented beverages generally and wine specifically. We are just at the beginning of this process, which promises many more discoveries—hopefully in Iran!--and perhaps some new taste sensations.

The principal chemical technique that we now employ to identify tartaric acid, which has been absorbed as a liquid into pottery fabric of vessels, is liquid chromatography tandem mass spectrometry or LC/MS/MS (McGovern, et al. 2009). This acid and its more insoluble potassium and calcium salts readily precipitate out from solution and make up much of the lees that one sees in an unfiltered wine. We employ an array of other instrumentation to detect additives to the wine.

Since tartaric acid is found in large amounts only in grapes in the Middle East, its dominant presence in the Godin sherd and residue pointed to a grape product, most likely wine since once the grapes have been expressed as a liquid (obvious from the narrow mouth on the vessel and the accumulation of residue on the bottom of the jar), it will quickly ferment to wine in the warm climate of the Middle East.

The Late Uruk period is important because the earliest development of a complex society of city-states in the southern Tigris-Euphrates valley and adjoining lowland areas occurred then – that of the proto-Sumerians and proto-Elamites – based on irrigation agriculture of cereals, dates, and other plants. The first writing with pictographic signs appeared in which the signs depict the thing or concept that was being conveyed. For example, one clay tablet at Godin Tepe from the oval had incised on its surface the sign for “pottery vessel” or *dug* in ancient Sumerian; this jar sign also forms the basis for the “beer” sign (*kaš*). Three circles, each representing the number 10, and three vertical strokes, representing 1, accompanied the *dug* sign on the tablet, and indicated that altogether thirty-three jars were recorded. We might also ask what these vessels contained – perhaps a wine, barley beer or something more exotic – but this information is not provided on the tablet.

The finding of the Godin tablet is one indication that the oval was in fact built by lowlanders. The symmetrical layout and well-constructed niched and recessed walls of the buildings in the oval, as well as a considerable amount of lowland pottery excavated there, also support this hypothesis.

But why should lowlanders be interested in living up in the mountains of Iran at Godin Tepe? It is known that extensive trade ties developed between the lowland and highland regions in the Late Uruk period. And semi-precious stones such as lapis lazuli from Afghanistan, metals including copper, silver and gold, even such mundane goods as wood which were unavailable in the Tigris-Euphrates valley, were exploited in the uplands. Godin is located along a major ancient trade route, what later became the famous Silk Road going from China to the Mediterranean – indeed, it lies on the hypothesized “prehistoric silk road” which I mentioned above. It was thus ideally situated to serve as a proto-Sumerian or proto-Elamite administrative and trade center.

Raw materials, such as lapis lazuli, were put to good use in lowland Mesopotamia. One amazing artifact referred to as the Royal Standard (see McGovern 2003/2007: 159–160, pl. 7), for example, was made of lapis lazuli and shell. It comes from the Early Dynastic Royal Cemetery at Ur in the Lower Tigris-Euphrates Valley of southern Iraq, dated to about 2600–2500

B.C. One side of the piece, called the “Peace Standard,” depicts the victory celebration following a military conquest, the so-called “War Standard” shown on the reverse. The peace scene shows the king sitting placidly on his throne, goblet in hand, facing six of his generals or high officials who salute the king with their goblets raised. Can we know what he and his comrades were drinking? Our chemical analyses (Badler, et al. 1996) have shown that the beverage in the cups or goblets and the long-spouted jugs, such as that seen on the lower image of the Peace Standard, was wine.

Cylinder seals from the Ur cemetery of the same period also show what at first appears to be a rather strange vessel – a large, wide-mouthed jar seemingly sprouting branches. Our chemical analyses have borne out that we are witnessing barley beer-drinking here. The “branches” are drinking-tubes or “straws”, actual examples of which have been excavated from the Ur tombs, made of lapis lazuli, gold, and silver. The straw enabled the drinkers to penetrate through an accumulation of grain hulls and yeast, floating on the surface of the liquid, and reach the beverage below.

Our discovery at Godin led to a spate of new ancient analyses over the past two decades, including two wine jars (McGovern, et al. 1996) from another important site in Iran, Hajji Firuz Tepe, which predate the Godin jars by 2000 years, going back to ca. 5400–5000 B.C.

Hajji Firuz, farther north in the Zagros Mountains from Godin Tepe, was among the first permanent, year-round settlements of the Neolithic period in the Near East. These villages were a direct result of humans taking control of their food resources by domesticating a variety of plants and animals. The invention of pottery around 6000 B.C. gave more impetus to the process, since special vessels for preparing and storing wine and other foods and beverages in stoppered jars could now be easily made. What can be termed a Neolithic cuisine emerged. A variety of food processing techniques – fermentation, soaking, heating, spicing – were developed, and Neolithic peoples are credited with first producing bread, beer, and undoubtedly an array of meat and cereal entrées that we continue to enjoy today.

What better place to look for evidence of wine dating to the Neolithic period than my home-base at the University of Pennsylvania Museum, which has one of the best collections of well-documented excavated artifacts in the world. After the Mondavi conference, I simply asked a Neolithic archaeologist, Mary Voigt, if she had ever noted intriguing residues on any of the Neolithic pottery she had excavated in 1968 at Hajji Firuz. She remembered some yellowish residues on the bottom of a narrow-mouthed jar. This jar and five others (fig. 1) had been set into recesses in the clay floor and lined up

along the wall of a kitchen, where an oven and cooking vessels were also found. Each jar had a capacity of about nine liters when full. Mary had thought the residue might be from a dairy product, such as milk or yogurt. A chemical analysis at a time when chemical techniques were less sensitive, however, was negative. The sherds then lay in museum storage for twenty-five years.

Once we re-excavated the sherds from storage, we went to work using more modern methods to solve the archaeological puzzle of what the jars originally contained. Again, we were able to show that the Hajji Firuz jars held a resinated wine.

Of course, if oxygen remains available, fermentation can continue and eventually the acetic acid bacteria will convert all the wine to vinegar – this is called “wine disease,” which any competent winemaker, even one living in the Neolithic period, wants to avoid. Although cork was not yet available, raw clay stoppers function the same way, absorbing liquid and expanding to seal off the mouth of the jar. Such stoppers were found in the vicinity of the wine jars at Hajji Firuz. The tree resin additive, which also fends off wine disease, made it virtually certain that the jar originally contained wine.

Although we first analyzed a jar sherd with a yellowish deposit, another jar had a reddish residue that also tested positive – perhaps, it was the red to go with the white, although we are yet to prove this chemically.

#### THE “WINE CULTURES” OF THE MOUNTAINOUS NEAR EAST, AND BEYOND

On current evidence, the northern mountainous region of the Near East, including the northern Zagros Mountains where Hajji Firuz is located, the Caucasus and the Taurus Mountains of eastern Turkey, was a “hotbed” of experimentation during the early Neolithic period from about 8500 B.C. down to 6000 B.C. (for details, see McGovern 2009/2010: Ch. 3). For example, excavations at Çayönü on the upper Tigris River yielded wild grape seeds, dating back to around 9000 B.C. and associated with a long sequence of monumental cult buildings which had been “ritually” buried during the Neolithic.

Most recently, the construction of dams along the Tigris and Euphrates have led to an ambitious salvage archaeological program, and the results have been truly astounding at sites such as Göbekli Tepe and Nevalı Çori, which date as early as ca. 8500 B.C. Today, the barren terrain of calcareous hills and valleys might not appear to be conducive to viticulture. But excavations paint a different picture of a *terroir* generally characterized by an iron-



rich red loam, so-called *terra rossa*, whose porosity and mineral content would have been ideal for growing grapes in antiquity.

What are believed to be religious shrines or temples Göbekli Tepe and Nevali Çori are amazingly adorned with 3-dimensional sculptures and architectural elements, including birds of prey serving as headdresses for female figures or deities, a male with a snake slithering down the back of his head, and an array of naturalistic depictions of animals, e.g., an aurochs (wild ox), fox, and crane which adorn a pillar.

Most important for the issue of early viniculture, many stone goblets and bowls have been recovered from these sites and others in the region. One carved goblet depicts a male and female dancing with a turtle on a festive occasion, perhaps a wine celebration? Schematic snake and bird motifs are also very common on such goblets.

The stone used to make these bowls was chlorite, a clay mineral with highly adsorbent properties. We are now in the process of analyzing the copious amounts of ancient organics retained in pores of this mineral, to determine what the vessels originally contained. Grape wine, based on positive results for tartaric acid using two of our chemical techniques, is the best possibility, but LC/MS/MS confirmation is required to be certain.

These bowls could well be important as the earliest evidence for wine having been prepared, drunk, and offered to the gods. Such vessels led on to the earliest pottery, beginning around 6000 B.C., which included larger jars and sieves, ideal for processing and storing wine, and decorated with clay appliqué like those on jars from Georgia, dated around 6000 B.C. or some two thousand years later than the chlorite bowls and goblets from eastern Turkey. One appliqué shows a stick-like figure apparently dancing beneath a vine which is festooned with grapes, perhaps in celebration of the grape harvest or another occasion.

In short, the upland region of the Caucasus, Taurus, and Zagros Mountains are all possibilities for the earliest domestication and the beginning of winemaking. These areas comprise the so-called “world center” of the Eurasian grape where its greatest genetic diversity is found. And this is where a “wine culture” consolidated itself in the Neolithic period and progressively moved southwards to Egypt through Lebanon, Syria, and Israel/Palestine, and to Shiraz in southwestern Iran along the spine of the Zagros Mountains.

A “wine culture” is self-evident to most southern and central Europeans, as well to Georgians in the Caucasus who have likely carried on their traditions for at least 8000 years. It can be defined as a culture in which everyday meals, social events and special celebrations from birth to death, including

rites of passage and major festivals, are marked by the drinking or offering wine. With time, viticulture comes to dominate the economy, religion, and society as a whole.

An excellent illustration of such a culture in antiquity is the Hittite empire of central Turkey. This great Indo-European power of central Turkey was still unknown until the beginning of the 20th c., aside from several mentions in the Bible. Yet, it was an equal to ancient Egypt and Assyria in the mid- to late 2nd millennium B.C. Near East. Based on excavations and texts, we know that the Hittites had vast royal vineyards surrounding their capital city of Boğazkale, ancient Hattusha, which produced an unending flow of wine, enjoyed by the king, his retinue, and, of course, the gods. Row upon row of gigantic wine jars or *pithoi*, which stood between 1–2 meters tall, filled the storage rooms of the palaces. Exquisite rhyta or drinking-horns in silver and gold were used to present wine to the gods at festivals throughout the year.

#### THE NOAH HYPOTHESIS

With evidence of very early wine from Hajji Firuz and elsewhere in the mountainous Near East, it was starting to look likely that the winemaking industry took off in the Neolithic period, and if this were true, then it was likely that the wild Eurasian grapevine (*V. vinifera sylvestris*) was taken into domestication then, like so many other plants and animals at this time. Six jars in the Hajji Firuz kitchen, assuming they all contained wine—some fifty-five liters – were the “smoking gun”. The house with the six jars of wine was an ordinary residence, and if the amount of wine in it was multiplied many times over by houses throughout the settlement, then a lot of wine, much more than could be produced by gathering wild grapes, must have been produced.

What makes the domesticated vine so desirable is that it is hermaphroditic, i.e., the male (stamen) and female (pistil) parts are located on the same flower – so the plant produces much more fruit on a predictable basis than the wild vine. This self-fertilizing plant could then be selected for larger, juicier and tastier fruit and fewer seeds, and cloned by transplanting branches, buds, or rootings. This assumes further that humans had discovered how to propagate the vine horticulturally, since its seeds are genetically too variable. But how early was the vine domesticated and did it happen in only one place, perhaps at Hajji Firuz or somewhere else in the upland region of the Near East where the wild grape thrives? DNA studies of ancient and modern grape are now in progress, and the answer has begun to emerge.

Any debate about the Noah Hypothesis boils down to whether the Eurasian grapevine was domesticated in only one place at one time and then transplanted from place to place, or whether it was domesticated in many different places and times, including Europe. The Noah Hypothesis is an apt phrase to describe a one-time origin of viniculture in one place, because the biblical patriarch’s first goal, after his ark came to rest on Mount Ararat, was to plant a vineyard and then make wine (Genesis 8.4 and 9.20). Like the Eve Hypothesis, which claims to trace all of humanity to an original human “mother” in East Africa (whether 2 million or 200,000 years ago) on the basis of mitochondrial DNA lineage trees, a DNA investigation of the Eurasian grape would seek the ultimate progenitor of modern domesticated grape varieties.

To test the Noah Hypothesis, we have focused on the three mountainous areas where the wild grapevine thrives: the Caucasus Mountains where a “wine culture” had emerged by at least 6000 B.C. and grape seeds of the domesticated type have been found in Neolithic villages; the Taurus Mountains of eastern Turkey where stupendous Neolithic sites have been found recently (above), predating those in the Caucasus, and where einkorn wheat and probably chickpea and bitter vetch – so-called founder plants for the Neolithic period – were first domesticated; and, of course, the Zagros Mountains. You might say that we’re looking for the viticultural Garden of Eden. There’s a lot of territory to cover in these mountains, and we’ve only been sampling archaeological materials and grapevines for about ten years.

Our search for wild vines in eastern Turkey in 2005 illustrates how arduous the process can be. Climbing steep cliffs above the raging torrent of the Tigris in spring, we sought out our prize and were rewarded. In one locale, a hermaphroditic plant was positioned between a wild male and female vine, exactly the situation that an early viticulturalist would have needed to observe and select for.

There now appears to be very good evidence from our investigation (Vouillamoz et al. 2006) and a recently published paper by Myles et al. (2011) that the great grape of Burgundy, Pinot Noir, and other important European cultivars are related to the wild Eurasian grapevine of the mountainous Near East. In other words, *Vitis vinifera* must have been first taken into domestication somewhere in that extended region. It was then transplanted one step at a time southwards through the Fertile Crescent and westwards across the Mediterranean to France and other Mediterranean countries. Because the grapevine is highly promiscuous, it crossed with wild vines as it went and produced the thousands of grape cultivars and wine

which we know and enjoy today.

### CONCLUSION

We already know a lot chemically and archaeologically from Neolithic sites in eastern Turkey and the Caucasus. What we really need, going forward, is have similar research carried out in Iran.

Iran in antiquity was preeminently a “wine culture” with its Persian kings and Bacchic poets like Omar Khayyam or Hafiz, who hailed from Shiraz. Recently, I happened upon an Iranian, Mitri Faravashi, making wine for David Bruce, one of the best producers of Pinot Noir in the Santa Cruz region of California. Mitri told me that “yes, wine is still made in Shiraz,” using traditional techniques of stomping the grapes on the roofs by only virgin women and running the juice to fermentation jars in the basement. He claimed that one wine he had tasted there recently, made from a native clone, was the best that he had ever had, and that is saying a lot coming from someone who makes excellent Pinot. Perhaps, someday, we will know how the true Shiraz grapevine was established there, the extent to which it harbors the DNA of other great varieties such as Pinot Noir, and how it became synonymous with the finest wine in the world.

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# Rethinking the History of China's Grape Wine Culture

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## IN SEARCH OF THE ORIGINS OF EURASIAN WINE CULTURE

During the past hundred years and especially within recent decades the research on the so-called “Silk Road” reveals more and more evidence about the significance of this giant Eurasian network for the material and immaterial exchange between prehistoric societies and ancient civilizations. Ideas and know-how have been transferred across large distances between an unparalleled complexity of ethnic groups, cultures, nations, religions and languages. In spite of intensified ongoing research in China and Central Asia within the past few years, it seems that plenty of spectacular discoveries and new insights are still waiting to be brought to light.

One of the areas hardly explored as yet is the development and history of fermentation technologies and production of alcoholic beverages since prehistoric times across the Eurasian continent. Having had the chance to meet leading representatives of the rapidly developing grape wine world in China and to visit several Chinese wine areas and companies during the past years, I first started to take a keen interest in Chinese wine culture under the aspect of the current awareness of wine and wine consumption as a new cultural phenomenon in China's modernizing and globalizing society. Subsequently, turning to the historical aspect, I started to research China's ancient wine culture, discovering that startling connections and parallels can be found between China and Central Asian and also Middle Eastern Cultures – not only two or three millennia ago, but even as early as the Neolithic period, i.e. dating back 10,000 years or more. On the other hand, it is a fascinating fact that in many ways the history of Chinese wine culture is unique and one of the oldest or most probably even the oldest in the world.

It is amazing that recent discoveries on wine production in the Neolithic period were made simultaneously on the two ends of the Silk Road, i.e. in the Caucasus and in Central China. During a research expedition along the Silk Road across 16 countries undertaken in 2008, I found interesting indica-

tions that in different periods and civilizations along this network – from today's Georgia, Armenia, Iran, Turkmenistan, Uzbekistan, Tajikistan, Kazakhstan, and Kyrgyzstan to Western and Central China – grapes and grape wine acted as an incentive in using natural fermentation processes and in the production of alcoholic beverages for magical, religious and social purposes. In certain societies, as in Old Persian and Central Asian Zoroastrianism and in China's Shang and Zhou Dynasties, grape wine and fermented beverages occupied a predominant position in religious and daily life. There are many analogies in wine production and consumption in the ancient societies living along this large belt between Eastern Europe and China. It seems very likely that there must have been connections and most probably an intensive exchange along this Eurasian network since at least as early as Neolithic times; thus it existed long before the Silk Road, and perhaps could be labelled *Ancient Wine Road*. Nevertheless, much research still has to be done, especially from an interdisciplinary perspective, combining evidence from archaeological, historical, anthropological, religious, linguistic and philological studies.

There are several examples which apparently need more investigation in the future:

Somehow puzzling is the rich variety of so-called rhyta, i.e. drinking horns, produced from different material, like horn, ceramic, glass, silver, gold, jade, glass, ivory, wood, bamboo etc., and in all kinds of artistic forms, mainly human and animal heads, often with vine tendril and grape ornaments. They have been found between Europe and China, and even as far as Korea, since the fourth or third millennium BC until the Middle Ages. The most elaborate rhyta were produced in Persia during the Achaemenid Empire (sixth to fourth centuries BC), from where they spread to the West to the Middle Eastern and Mediterranean Cultures and also to the East reaching their high-tide in China during the Tang Dynasty (seventh to tenth centuries) – the period of the busiest exchange with Central Asian empires. One of the richest collections of prehistoric and ancient rhyta and wine vessels can be seen in the National Museum in Teheran (Iran Bastan). We might conclude that in all ancient cultures where grape wine was prominent the use of rhyta became common, probably in most cases for libation purposes within quite different religious contexts – in Shamanistic, Zoroastrian, Greek-Bactrian, Roman, Christian, Manichaean as well as Buddhist cults. Though many articles have been published about single pieces and archaeological finds, never-



theless, cross-cultural and interdisciplinary approaches are still lacking, especially from the viewpoint of grape wine history.<sup>1</sup>

The case is the same with wine vessels, goblets, bowls, jugs and jars which were found more or less in all wine cultures along the Silk Road, such as huge jars called *kvevri* in Georgia, *kara* in Armenia and *hum* in Central Asia. Also the wine goblets found in Mediterranean, Persian, Bactrian, Sogdian, Turkish, Gandharian-Indian and Chinese hemispheres show startling similarities, which will be a challenge for detailed comparative investigation. And ancient wines presses, too, usually carved in rocks or built with stones, have almost the same shape all along the Eurasian wine culture belt – from Eastern Europe, especially Georgia and Armenia, to Central Asia and Western China – and were operated in the same traditional manner of mashing the grapes by foot. Another universal feature can be found in the architecture of wine cellars, the so-called *Madustan* in Central Asia. Obviously, there is still much potential for future research to be done from this perspective.

Another interesting field is mythology, in which creators of wine and wine gods or goddesses play an important and even similar role in cross-cultural and cross-religious contexts, e.g. Noah in the biblical tradition, Dionysos in Greek, Bacchus in Roman and Osiris in Egyptian culture, Dukang 杜康 or Yidi 仪狄 in China and many others as well as their hybrid forms, sometimes symbolized in the ornaments of the rhyta.

Finally, it is well documented that the Iranian-speaking Sogdians who spread their influence mainly as tradesmen in the whole of Central Asia and China between the sixth century BC and the ninth century AD cultivated wine production and consumption mostly in connection with their religious Zoroastrian cults. Hardly any research has been done as yet concerning their crucial function in Eurasian wine history.

#### OLDEST WINE CULTURE IN CHINA?

New light on the history of grape wine production not only in China but also in human history in general was shed by spectacular discoveries of the renowned wine archaeologist and wine culture expert Patrick McGovern and his American-Chinese team at the end of 2004 and the beginning of 2005, revealing that traces of such production dating back to as early as 9,000 years ago could be confirmed in the central areas of the later Chinese em-

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<sup>1</sup> See Jäger (2006).

pire. This discovery obviously revolutionizes the view of the development of viniculture in several ways.

His chemical and spectrum analysis of ceramic vessels from the Neolithic site of Jiahu (賈湖), 7000 to 5600 BC, in the central province of Henan brought to light humanity's oldest traces of alcoholic beverages (tartaric acid and tartrate), most probably produced mainly from grapes used as fermentation catalyst. This discovery dates almost 2,000 years earlier than the hitherto oldest wine residues found by McGovern himself in 1994 in Hajji Firuz Tepe (5400–5000 BC) in today's Northwest Iran and much older than the grape wine culture in Egypt and Mesopotamia (3500–3000 BC) and Crete (about 2200 BC).<sup>2</sup>

What is still more interesting, the Neolithic site of Jiahu proves to be the most evident and perhaps oldest paradigm of the entanglement of wine and fermentation culture with the emergence of human creativity and civilization. In Jiahu not only China's oldest residues of wine production and fermentation technology has been found, but also the first traces of the use of rice and recently most probably the oldest music instruments (bone flutes) as well as the earliest prototypes of Chinese writing on tortoise shell. The connection with shamanist and burial ceremonies is evident.<sup>3</sup> From the technical point of view, the proof of grape wine residues like tartaric acid in an epoch when agriculture and more sophisticated fermentation methods were not yet developed shows that grapes had an important function in initiating fermentation processes and in the production of alcoholic beverages. Owing to increased archaeological activities and findings in China in the past few years, it does not seem impossible that new discoveries concerning the culture of fermented beverages, and especially of grape wine, will be made in the near future.

No doubt these discoveries made in China are going to shake the conventional *Noah Hypothesis*, which follows the legend of the Old Testament and former archaeological and historical evidence in supposing that the origin of wine culture lies in the Middle East, therefore excluding parallel developments in different parts of the world. The fact of the production and use of ceramic vessels for some kind of proto-wine almost 10,000 years ago in East

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<sup>2</sup> See McGovern (2003), pp. 14–15; McGovern (2009), pp. 28–42, 74–76; McGovern et al. (1997), pp. 5–16; McGovern et al. (2004 and 2005); Bower (2004); CIIC (2004); ORF (2004), University of Pennsylvania (2004) and Zhongguo Kexueyuan (2005).

<sup>3</sup> McGovern (2009), pp. 31–36.

Asia may as well lead to the conclusion that not only one of the first civilizations began to flourish in Central China, but also that Central China was the origin of fermented beverages, including grape wine. In light of this, the two alternative conclusions could be drawn, that (1) the history of the production of fermented beverages in China was an independent and isolated process, or more probable, (2) there must have been an exchange of products as well as know-how and technology across the Eurasian continent already in prehistoric times, i.e. some kind of prehistoric Silk Road, or better, "Wine Road".

A few thousand years later Chinese written resources convey the oldest evidence of grape wine production in the Western regions. Such passages can be found in the *Records of the Historians* (*Shiji* 史记) compiled around 100 BC and in the *History of the Han Dynasty* (*Hanshu* 汉书) compiled in the first century AD. For the first time in Chinese history, the Western Han Empire (206 BC to 23 AD) expanded its sphere of influence to as far as Central Asia and cultivated diplomatic and trade relations with the Western empires. In the latter source, it is recorded that General Zhang Qian (张骞, ?–114 BC) returned in the year 126 BC from one of his extensive expeditions on a mission started by the Han Emperor Wudi (汉武帝), which led him as far as the Central Asian empire *Dawan* (大宛) in the Ferghana Valley, the Persian Empire and the Caspian Sea, whence he brought back vine samples of a widespread kind of *Vitis vinifera* from which all modern species of cultivated vines in Western Asia and Europe are derived. In fact, the population of *Dawan* were the descendants of the Macedonian army under Alexander the Great two centuries before, and they had brought with them their Greek wine culture. One explanation of the name "Dawan", in another pronunciation "Dayuan", of which the first morpheme simply means "great", is that the second part of the name is derived from the "Ionians". The vine samples brought back by Zhang Qian and his men were planted and cultivated in the gardens of the imperial court in the capital of Chang'an 长安 (today's Xi'an 西安) and probably from there spread over the central empire.

The *Records of the Historians* testify that grape wine was produced on a large scale in *Dawan* and that large volumes of wine could be stored for ten years and more without deterioration. This recording supports the hypothesis suggested by the archaeological evidence that the professional and extensive production of grape wine had already developed to a rather high level in the

Western regions of China during the *Spring and Autumn Period* (春秋时代), i.e. around the middle of the first millennium BC.<sup>4</sup>

In Chinese literature and poetry, especially in the Pre-Tang and Tang period, i.e. around the third to the ninth centuries, thousands of examples of praising the enjoyment of alcoholic beverages (*jiu* 酒) and among them particularly referring to “grape wine” (*putao* 葡萄) can be found. Until today the most popular poem is “Song of Liangzhou” (*Liangzhou ci* 凉州词) from the eighth century:

葡萄美酒夜光杯  
欲饮琵琶马上催  
醉卧沙场君莫笑  
古来征战几人回

Drinking the magnificent wine of grapes in the night shining cups with desire  
But the lute rushes for departure on our horses  
Comrades, don't laugh when we lie drunken in the sand  
Since ancient times, how many did ever return from the battle fields<sup>5</sup>

Today Chinese people usually still recite the first one or two lines when drinking a glass of tasty grape wine. But, strangely enough, only few of them know more about the poem, for instance its title, its age, and its author Wang Han (王翰), who lived around 1300 years ago during the Tang Dynasty (618–907 AD), the “Golden Age” of Chinese literature. Neither do most Chinese realize the often forgotten tragic end of these verses describing soldiers preparing for a desperate battle far in the West and contrasting with the delightful beginning. The most interesting fact about this hymn glorifying the beauty of grape wine is that it reveals that rice wine, spirits and tea were not the only cultural beverages in ancient Chinese tradition and also refutes the widespread opinion in the West and in China itself that grape wine had no tradition in China itself and that later on it became just another import product from Europe. The place Liangzhou mentioned in the title of the poem was a strategically important point in the middle of the Gansu corridor where all the economic and cultural exchange between China and Central

<sup>4</sup> See the contributions of Wei, Si “试论唐代以前葡萄种植及葡萄酿酒在我国西域地区的传播与兴起” / “Grape cultivation and winemaking in the Western Regions of China” and Su, Zhenxing “论古代中西交流中的葡萄和葡萄酒文化” / “On the exchange of ancient Chinese and Western grape and grape wine culture”, in: Kupfer (ed.) (2010), pp. 89–104 and pp. 163–174.

<sup>5</sup> The translations from Chinese are by myself.

Asia up to Europe took place. Since more than two thousand years and until the present the Gansu valleys have offered favorable soil and climate conditions for viticulture.

Wang Han, like many other literati of his time who not only received inspiration from grape wine but also engaged personally in viniculture and wine production, was a native of Taiyuan 太原, the capital of today's Shanxi Province. According to several reports, the area around Taiyuan and central Shanxi was presumably the largest wine-cultivating region in the heart of the ancient Chinese Empire during the Middle Ages. Today no traces can be found of this formerly flourishing culture, which reached its peak during Tang times.<sup>6</sup>

I may present as another example probably the very first poem in Chinese history describing grape wine, entitled "The delight of wine drinking" (*Yinjiule* 饮酒乐). It is one of the most magnificent poems describing wine in all its aesthetic and fascinating facets. But strangely enough, in spite of its beauty and unlike the first poem, it is not as well known among the Chinese. Also, hardly anyone is familiar with its age and its author. Its way of describing the delight of wine drinking together with friends in an exhilarating atmosphere bears a strong resemblance to the topics to be found in European and Persian poetry in later centuries:

葡萄四时芳醇，琉璃千种旧宾。  
夜饮舞迟销烛，朝醒弦促催人。  
春风秋月恒好，欢醉日月言新。

Fragrant grape wine through the four seasons  
Thousand glittering goblets for familiar guests  
Drinking the whole night, the dances slowing down, the candles extinguishing  
Awakening in the morning with the shaking sound of the lute  
Ever delicious wine in the spring breeze and under the autumn moon  
Intoxicating happiness, never-ending new conversations

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<sup>6</sup> During my visit at the wine company "Grape Garden" in Qingxu, south of Taiyuan, I was told about centuries-old vines still to be found in remote parts of the province and about tools and equipment for wine production in farmers' houses, as well as about autochthonous vine varieties mentioned in local historical records.

The poet, Lu Ji (陆基, 261–303), was a government official in his late years, i.e. around 300 AD during the Western Jin Dynasty in the capital Luoyang.<sup>7</sup> The motifs centered around the description of grape wine in this seventeen-centuries-old poem can be repeatedly found in later literary works: the extraordinary, transparent beauty and fragrance of grape wine which – unequalled by any other alcoholic beverage at that time – can be enjoyed through the whole year; the matching precious drinking vessels – perhaps resembling those common in Persia and Greece, the inspiring und communicative effects of grape wine and the easy, enjoyable awakening in the morning without a hangover. All these characteristics are often repeated in the literature of other cultures where grape wine plays a central role. And it is worth recalling the fact that this poem was written during the time when the Romans were exporting their wine culture to Central Europe.

Obviously, the Chinese word for “grape”, *putao* (葡萄), which also referred to “grape wine” and became popular since the beginning of the Han Dynasty, was borrowed from the Persian language (*bāde*). In the old records, different writing variants of this word can be found with the same pronunciation (蒲陶, 蒲萄, 蒲桃, 葡桃). In modern times the word for “grape wine” has been modified by adding the general term *jiu* (酒) for alcoholic drink, i.e. *putaojiu* (葡萄酒). Korea and Japan also adopted this word formation with the pronunciations *podoju* and *bodōshu*, respectively. The double meaning of *putao* in ancient times shows that the grapes being imported from the West were automatically associated with the product of grape wine.<sup>8</sup>

Experts proved that around 40 species of wild grapes have developed in China's temperate zones since the Tertiary period. This makes this part of the world, together with the Caucasian region, quite unique.<sup>9</sup> Hence it could be assumed that the Paleolithic population in these latitudes should already have been able to produce a fermented drink simply by collecting and storing grapes long before engaging in agriculture and grain growing. This so-called *Paleolithic Hypothesis* mentioned in McGovern's books (2003, 2009) is supported by legends from Southwest China and other regions that even

<sup>7</sup> See Zeng (1980), p. 100; Ying (1999), pp. 41–45. It is possible that only the first four lines are from Lu Ji, and that 300 years later a poet named Lu Qiong 陆琼 (537–586) added the last two lines. The sources give no definite answer to this question.

<sup>8</sup> See Zeng (1980), p. 100; Fei (1987), p. 36; Löwenstein (1991), p. 16; Ying (1999), pp. 39–41.

<sup>9</sup> See for instance Wan et al. (2008, 77): “China is one of the major gene centers of *Vitis* species origination. More than 35 *Vitis* species have their origin in China.”