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The worlds of wine: Old, new and ancient

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Abstract

As the world's seventh largest wine producer (OIV, 2017), China plays a significant role in the world's wine industry. Classified as neither New or Old World it was recently classified into a "New, New World Category" (CNCCEF, 2009 Lawrence, 2016). This paper presents an overview of the Chinese wine industry using evidence from literature of archaeological finds and documents to propose a new category extending the New or Old World definitions. We propose classification of the Chinese wine industry as Ancient World, a term which might also be useful in other producing nations such as Greece and Georgia.

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China has a long history of growing grape vines, in fact it is one of the places of origins of the *Vitis* genus (Li, 2008). There are more than 80 species of *Vitis* plants in the world, 42 of which are native to China, such as *Vitis amurensis* in North-eastern, Northern and Central China, *Vitis flexuosa* in Central and Southern China, *Vitis davidii* in Central and Southwestern China, and *Vitis flexuosa*, widely distributed throughout China (Li, 2008). Fossils show that the *Vitis romanetti* existed in Linqu County, Shandong, China 26 million years ago, facts making it hard to define China using the category of New World wine producer.

1. The classification of wine producing countries

Humans encountered the wild Eurasian grapevine (*Vitis vinifera sylvestris*) upon exiting Africa in the area of modern Lebanon around 60,000 to 100,000 years during the Paleolithic

period (MacNeil, 2015). Methods of winemaking and storage were invented in the Neolithic period around 8500 to 4000BCE (Cavalieri et al., 2003). Western scholars believe that the tomb of Ptah-Hotep built 6000 years ago depicts the scenes of viticulture, grape harvesting and winemaking in ancient Egypt, thus marking the beginning of human wine making (MCGovern et al., 1996; Jane, 2011; Vine, 1981).

From 800BCE, wine making was evident in Greece and then spread to other Mediterranean areas including Southern Italy, Campania, Calabria and Sicily during the Classical Period (600BCE–400BCE) of Greek colonization (Bode, 1992). The knowledge of grape growing and wine making techniques of the Greeks were brought from the Nile Delta area. The first wine trade recorded happened in the 600BCE, when wines made in Asia Minor were imported through Marseilles to the Gaul area (now France) by Greeks along with their viticulture and oenology technologies (Laufer, 1940).

The Romans learnt their viticulture and oenology techniques from the Greeks and implemented them across the Italian peninsula. The expansion of the Roman Empire led to viticulture and winemaking technologies spreading westward

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throughout most of Europe, particularly France, Spain and Germany, areas now classified as the “Old World” of wine (Miller, 2010; Su 2005). Between the 17th and the 19th centuries, Spanish and British colonists introduced viticulture and winemaking technologies to countries like South Africa, Australia, New Zealand and the Americas, countries now classified as “New World” wine producers (Piperno, 2011; Wilson, 1957; Chen, 2009; Mamoru, 2007).

The classification of the wine producing nations became universal as publications such as “The World Atlas of Wine” claimed that the wine producing countries could be divided into two worlds: “Old World” and “New World” (Johnson and Robinson, 2014). According to the “World of Atlas of Wine”, Old World countries are traditional wine producing countries around the Mediterranean area including Greece, France, Italy, Spain, Germany, Portugal, Austria and Hungary. New World countries are wine producing countries settled after European colonial expansion and include the United States, Australia, New Zealand, Chile, South Africa, and Argentina. As a binary categorization, it has deficiencies that overlook history and uses a very Continental European bias.

The French Foreign Trade Advisory Committee (CNCCEF, 2009) published “Move towards the Wine World of 2050”. In addition to the “Old World” and “New World” classification, CNCCEF defined the “New New World” as the latest countries producing significant quantities of wine such as China, Brazil, India, Eastern Europe and North Africa. Following the definition of the CNCCEF, China has been viewed as “New New World” in the world wine map, despite the fact that grape growing and wine making in China date back to between 7000BCE and 9000BCE. Winemaking technology and wine culture are rooted in Chinese history and the definition of “New New World” is a misnomer that imparts a Euro centric bias onto wine history and ignores fact. In order to address this misunderstanding, we propose that Chinese wine does not belong to the “New New World” but to a new category of “Ancient World” wine producer.

2. Ancient recordings of vine and wine in China

2.1. Archaeological findings

There are a number of discoveries of physical evidence to confirm China's ‘ancient’ wine producing status. In 1980, a sealed copper container filled with liquid was found in a tomb in Henan Province that dates back to 1200BCE; Peking University Department of Chemistry identified the liquid as grape wine (Henan Provincial Institute of Cultural Relics and Archaeology, 1999). In 2001, grape seeds were found on a site located in Jiahu (Henan Province); the seeds date back around 7000 to 9000 years, during the Neolithic Period (Zhang and Pan, 2002). Pottery with residues including tartaric acid and tartrate, winemaking specific residues, were tested with infrared spectroscopy and high-performance liquid chromatography technology, thirteen

were confirmed to contain wine components (McGovern, 2000). The grape seeds discovered on the same site infer that grapes were probably used for brewing the beverage. This is the earliest chemically attested instance of grapes being used in a fermented beverage (Lv and Zhang, 2013), a significant variance from the commonly accepted ‘history of wine’.

In the Jiahu site, different styles of vessel and pottery material were found as well, including coarse, clay, carbon, ceramic and mica. Different from the domestic dwelling pottery with flat bottoms, some of the pottery have sharp bottoms that suggest use as containers for fermenting wine (Helan, 1999). Relics of containers found in a tomb in Minfeng, Xinjiang Uygur Autonomous Region dating around 200BCE–400BCE are decorated with grape clusters and dried grapes. Minfeng is the ancient city of Niya, described by Marc A. Stein in his book ‘On Ancient Central Asian Tracks’ as “tidy plots of vineyards sites outside the courtyards of houses.” (Stein, 1993, p. 298).

2.2. Wine culture in China

According to Chinese records, alcohol making and alcohol culture in central and southern areas of what is now the Shanxi province, dates back to the end of Xia Dynasty (2070BCE–1600BCE). Shao Kang (also known as Du Kang), one of the emperors of the Xia dynasty was the first recorded winemaker. The alcoholic beverage Shao Kang made was from fermented grain mash along with different kinds of fruits. This mix most likely included grapes as Shanxi is historically one of the main wine grape growing areas in China.

The earliest written record of grapes in China is in the Shi Jing (The Book of Poetry) compiled by Confucius. Shi Jing contains 305 poems from the beginning of the Western Zhou Dynasty to the middle of Spring and Autumn Period (1100BCE–600BCE). Among the 305 poems the word “wine” (Jiu, alcoholic beverage) appears more than 60 times. It records how people enjoyed wild grape berries. Zhou Li is one of the 13 scriptures of Confucianism written in the Zhou Dynasty (1046BCE–256BCE) and edited in the Warring Period (476BCE–221BCE). In the “Zhou Local Official List” of Zhou Li (2014 edition, annotated by Xu, Zh., Chang, P.), it states that “the people who were in charge of Chang Pu area harvested and stored different fruits such as melon, grapes”, thus implying people in that time had their own vineyards and mastered the technique of fruit storage.

3. The development of *Vitis vinifera* varieties in China

The first official record of the *Vitis vinifera* grape in the Central Plains of China is in an area of the middle and lower reaches of the Yellow River with Henan Province as the core during the Han Dynasty. In the Han Dynasty, the Ambassador Zhangqian was appointed by Emperor Wu to unite with a nomadic confederacy- Yue Zhi to conquer the Xiongnu people. Although Zhangqian did not succeed, he brought back valuable

reports of Roman goods such as glassware, wine and grapes he witnessed along the Silk Road of present day Uzbekistan (Wang, 2006). Viticulture techniques were then introduced to the Hexi Corridor (including now Gansu Province and Ningxia Hui Autonomous Region) and then to Xian, before moving into Northern, Northeastern and other regions of China.

There is evidence of Emperor Wei Wen (187BCE–226BCE) describing the flavors and health benefits of drinking grape wine with his royal doctors (Cao, 1998 edition). Further evidence of the growth of wine culture in China happened in the Tang Dynasty (618–907BCE), with poets like Li Bo and Wang Han writing poems relating grape wine with life in the palace, military garrisons and villages. Suggestive of the value of grape wine around this time, there is record of Mengtuo using one HU of grape wine (around 26 × 750 ml bottles of grape wine) in exchange for a mayoral appointment in Liangzhou city (Li, 2016).

China's economy boomed under the Song Dynasty (960–1279BCE) as more Chinese tea, silk textiles and spices were exported along the Silk Road more commodities like jade, grape wine and perfumes were imported. Around this time, northern nomadic tribes experienced unrest and frontier wars were common; with the emergence of three distinct states, Song, Liao (present day Mongolia) ruled by Qidan, and Jin State rule by Nvzhen. As a result of the border wars, grape wine became scarce and the associated wine culture declined.

Genghis Khan conquered the Jin State in 1211BCE. Kublai Khan, a grandson of Genghis, established the Yuan Dynasty (1271–1368BCE). The Yuan government issued tax

regulations with grape wine 3.3% compared to grain wine at 6% in order to stimulate the growth of the wine industry. The book “Marco Polo's Travels” (1275–1292 BCE) described vast vineyards in Shanxi in Yuan Dynasty.

Shi Huo Zhi, during the Ming Dynasty (1368–1644BCE), recorded that grain wine enjoyed the same taxi rate as grape wine. Due to economic decline, alternative higher strength alcohol and a variety of other factors, grape wine gradually lost its competitiveness to other beverages in China.

The period from the late Qing Dynasty (1644–1911BCE) to the National Government period saw a transition of wine making in China. Zhang Bishi, who was born in Guangzhou, Southern China, moved to Indonesia as a successful business man and then was Consul for the Qing Government of China. He established Changyu Winery in Yantai in 1892 and introduced 120 *Vitis vinifera* varieties to China. After that a series of wineries were established including Shang Yi Winery set up by French Catholics in 1910, Yi Hua winery set up by Chinese in 1921, Chang Bai Shan winery and Tong Hua winery set up by Japanese in 1936 and 1937 respectively (Fig. 1).

Since the establishment of the People's Republic of China, grape and wine production in China has increased. Changyu Winery sent a production report to Chairman Mao and upon reading the report Chairman Mao, in 1961, declared that China should put more effort in developing the wine industry and let people drink more grape wine (instead of Baijiu) (Su, 2003). In the late 1950s and early 1960s, hundreds of table and wine grape cultivars were imported from Bulgaria, Hungary and the Soviet Union. In 1985, a British merchant established Hua

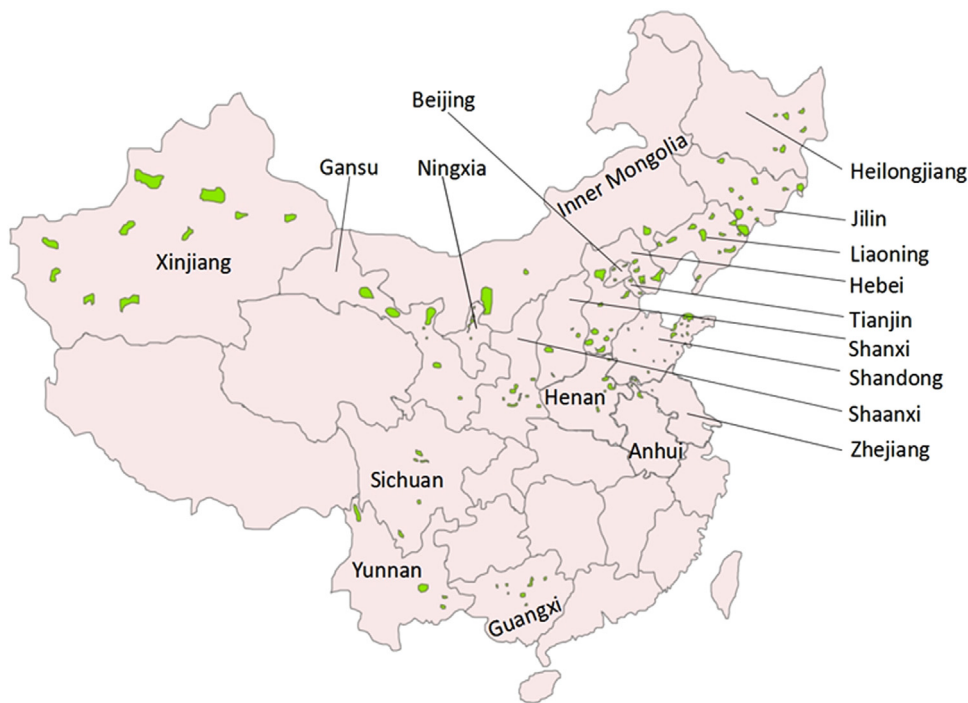


Fig. 1. Wine Regions in China (2017). Note: Green areas are the specific wine regional locations.

Table 1
Grape wine development in China.

Dynasty	Time	Affair
Xia Dynasty	2070BCE–1600BCE	The first winemaker, Shao Kang, recorded historically.
Shang Dynasty	1075BCE–1046BCE	Records of Emperor Zhou live in the palace with “ponds of wine and forests of meat”.
From Zhou Dynasty to Spring & Autumn, Warring Period	1046BCE–221BCE	《Shi Jing》 the first time described grape berries in China. 《Zhou Li》 has the first record of grape wine in China.
Han Dynasty	226BCE–220CE	From Silk Road, Zhangqian brought Eurasian grape to China.
Wei, Jin and the Southern and Northern Dynasties	220 CE–581CE	The development of winemaking technology and the formation of culture wine.
Tang Dynasty	618CE–907CE	Blossoming of wine culture
Yuan Dynasty	1271CE–1368CE	Wine making and wine culture reach its apex period
Ming Dynasty	1368–1644CE	Grape wine declined in China
Qing Dynasty	1644–1911CE	Zhang Bishi established Changyu in China
The People's Republic of China	1949–	Globalization and Innovation

Dong winery, the first “Chateau Style” wine estate in China. Pernod Ricard set up Dragon Seal (Long Hui) winery in Beijing in 1987. From the mid-1990s, the grape industries development was encouraged by the Chinese government and many wineries were established. The wine industry in China has grown incrementally in the past 20 years.

4. China, the ancient world of wine

China is the only nation remaining of the four Ancient Civilizations (Ancient Egypt, Ancient Babylon, Ancient India and China). It also enjoys a rich history in grape wine from both native and Eurasian grape varieties. This paper uses the historical development of Chinese grape wine using evidence from literature of archaeological finds and official documents to show that China has a wine history tracing back more than 7000 years and has had a wine culture across its dynasties throughout its history. A summary of Chinese grape wine development is presented in Table 1.

The contemporary grape wine industry in China restarted from the 1950s. It has experienced rapid growth in the last recent two decades and became the world's seventh largest wine producer. China is one of the origins of the *Vitis* genus and are native to almost half percent of the species of *Vitis* plants in the world. From the chronological description of the grape wine development in the Chinese history, it shows that wine and wine culture has never disappeared from China.

The paper disagree with the wine origin category viewpoint of CNCCEF (2009) and Lawrence (2016) to classify China as “New, New World”. In addressing this, this paper presents an overview of the Chinese wine industry using evidence from literature of archaeological finds and documents to propose a new category extending the New or Old World definitions. This paper proposes that China's history of grape wine should not see it designated as “New New World”, but instead as “Ancient World”, a category that might also be used for other producers such as Greece and Georgia.

References

- Bode, W.K.H., 1992. The ancient history of the making and development of wine. *Int. J. Wine Mark.* 4 (1), 36–43.
- Cao, P., Wei, J. annotation, 1998. Complete Collection of Wei Wen Emperor ed. Guizhou Publication Group, Guizhou.
- Cavaliere, D., McGovern, D., Hartl, R.L., Mortimer, M., Polsinelli, M., 2003. Evidence for *S. cerevisiae* fermentation in ancient wine. *J. Mol. Evol.* 57 (S1), 226–232.
- Chen, X., 2009. On the origin of grape and grape wine and their spread time and route to Xinjiang. *Ancient Mod. Agric.* 1, 51–61.
- CNCCEF, 2009. Wine in the world as we approach 2050[P]. Paris: 23~28.
- Henan Provincial Institute of Cultural Relics and Archaeology, 1999. Jiahua Wuyang, 1. Science Press, Beijing.
- Jane, G., 2011. The meaning of wine in Egyptian tombs: the three amphorae from Tutankhamun's burial chamber. *Antiquity* 85 (329), 851–858.
- Johnson, H., Robinson, J., 2014. The World Atlas of Wine Ed. Octopus Publishing Group, London.
- Laufer, B., 1940. Sino-Iranica: chinese contributions to the history of civilization in ancient Iran, with special reference to the history of cultivated plants and products. *J. R. Asiat. Soc.* 52 (4), 653–655.
- Lawrence, J., 2016. 'Final Frontiers: Wine's New New World', (<https://www.wine-searcher.com/m/2016/03/final-frontiers-wine-s-new-new-world>) (Accessed 08 September 2018).
- Li, H., 2008. Viticulture Ed. China Agriculture Press, Beijing.
- Li, H., 2016. Tai Ping Yu Lan, 10. Ruigu Guanzhong Press Co., Limited, Beijing.
- Lv, Q., Zhang, B., 2013. China's domestic grape and wine historical heritage during the Qin Dynasty. *J. Northwest AF Univ. (Social. Sci. Ed.)* 03, 157–162.
- MacNeil, K., 2015. The Wine Bible, 1. Workman Publishing, New York.
- Mamoru, K., 2007. Wine no sekaishi. Baihua Literature and Art Publishing House, Tianjin.
- McGovern, P.E., 2000. The Funerary Banquet of “King Midas”. Expedition the Magazine Penn Museum 21–29 (<http://www.penn.museum/sites/expedition/the-funerary-banquet-of-king-midas/>).
- McGovern, P.E., Glusker, D.L., Exner, L.J., Voigt, M.M., 1996. Neolithic resinated wine. *Nature* 381 (6582), 480–481.
- Miller, F.P., Vandome, A.F., Mcbrewster, J., 2010. History of Portuguese Wine. Alphascript Publishing.
- OIV, 2017. Press Release, (<http://www.oiv.int/public/medias/5681/en-communiqu-depresse-octobre-2017.pdf>), (Accessed 19 September 2018).
- Piperno, D.R., 2011. The origins of plant cultivation and domestication in the new world tropics patterns, process, and new developments. *Curr. Anthropol.* 52, 453–470.
- Stein, A.M., 1993. On Ancient Central Asian Track ed. Macmillan and Co., Limited, London.

- Su, Zh, 2003. New research on grapes and wine from Xinjiang to Inland. *J. Xinjiang Norm. Univ. (Philos. Social. Sci. Ed.)* 4, 88–92.
- Su, Zh, 2005. Grape cultural exchange between Ancient China and Western countries. *Yanshan Univ. J.: Philos. Social. Sci. Ed.* 6, 25–31.
- Vine, R.P., 1981. *Commercial Winemaking, Processing and Controls*, 1. Avi Publishing Company, Michigan.
- Wang, J., Wang, Y., 2006. Dissemination of European viticulture and winemaking in China. *Beijing Agric. Coll. J.* 1, 45–49.
- Wilson, I.A., 1957. Early Southern California Viniculture 1830–1865. *Hist. Soc. South. Calif. Q.* 39 (3), 242–250.
- Zhang, J., Pan, W., 2002. Henan wuyang jiahu spring 2001 unearthing bulletin. *Chin. Archeol.* 2, 14–31.