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Alcoholic Beverages in China:
Terminology, History, and Cultural Significance

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ABSTRACT

Jiu, a catch-all term for a range of alcoholic beverages, names an important and complex aspect of Chinese food culture. From its beginnings in ancient history, *jiu* went on to designate a wide variety of alcoholic drinks, extended further as fermentation and distillation techniques developed. The various categories and types of *jiu*, however, make it a difficult concept to accurately convey in English. This essay seeks to define *jiu* and propose a suitable translation, as well as to explore the etymological history and significance of *jiu* in China and abroad.

The history of *jiu* in China will be surveyed, focusing on its interaction with the Silk Road. In addition, the origins of a well-known but not well understood item, *jiuniang*, will be explored in such texts as the *Huangdi neijing* and *Qimin yaoshu*. Original translations of passages mentioning items that might be *jiuniang* will be offered. A case study of *jiu* in the Dunhuang Manuscripts highlights the intersection of *jiu* with lay people in Medieval China. Translations of lay society circulars concerning *jiu* will enable us to explore its impact on its associations with Dunhuang.

Keywords: *jiu*, alcohol, *jiuniang*, Silk Road, Dunhuang manuscripts

INTRODUCTION: WHAT IS *JIU*?

Before discussing the significance of *jiu* 酒 in China, it is first essential to define what it is and pinpoint an appropriate English translation. But any definition of *jiu* is not without its problems, and any individual English word may not fully grasp all aspects of *jiu*. For example, a descriptive definition for *jiu* is found in Paul Kroll et al.'s *A Student's Dictionary of Classical and Medieval Chinese*:

1 gen. term for alcoholic beverages produced through fermentation, incl. those with infusions or spices that sometimes lend various colors such as rose-pink or amber. Although most drinks designated by this word are made from cereals and are thus akin to beer, from Western Han times it also ref. grape-wine (first brought from Central Asia) and “burnt-wine” (brandy), the former becoming esp. popular during Tang times; use “wine” as preferred rendering for its inclusiveness; to use “ale” is misleading as it ref. only to a specific type of beer which is actually most similar to → 醴 𩚑¹

This comprehensive definition serves to orient the reader to the term *jiu* and its complexities. Importantly, it highlights the fact that *jiu* is both a general designation (a term for all beverages that are products of fermentation) and also has various specific meanings. The latter half of the definition attempts to pinpoint, supported by conceptual evidence, one specific English term for a type of *jiu*.

An appropriate term should account for the material from which *jiu* is made, how *jiu* is produced, and the function *jiu* plays in society, as well as be both spatially and temporally accurate. Part of the challenge is that *jiu* has changed conceptually over time. For example, in the Shang (1600–1046 BC) and Zhou (1046–256 BC) periods, *jiu* generally was a “beer-like” fermented beverage, but during the Tang and Song, many kinds of *jiu* were in fact grape wine. Throughout the literature, scholars have proposed a variety of different English terms for translating *jiu*. But terms such as “ale” and “grog” each incorporate only a certain aspect of the drink. The word “ale” describes fermentation without hops but generally conveys a notion of “beer” to an English speaker, though that is not wholly accurate. “Grog” colloquially denotes any kind of alcohol, but it originates in and still suggests a rum-based naval

¹ Paul Kroll et al., *A Student's Dictionary of Classical and Medieval Chinese*, 2nd ed. (Brill, 2017) s.v. “酒 *jiu*.”

tradition. There are more common and accurate translations that are used frequently, such as “beer” and “wine.” “Beer” denotes an alcohol that is brewed from cereal grains, and that covers a broad spectrum of varieties of *jiu*. Yet not all types of *jiu* are cereal-based. “Wine” is perhaps the most frequently used translation, given the similarity of *jiu* to wine as it is used in other cultures. The function of *jiu* in Chinese gastronomic, religious, and aesthetic culture is akin to wine in European and other cultural traditions, affirming the use of “wine” as an appropriate conceptual translation.² However, translating *jiu* as “wine” in English is not without problems: the foremost conception of “wine” is as a grape-based fermented beverage, and *jiu* encompasses more than that.

The word “alcohol” has been suggested as an English translation of *jiu*, but, while accurate, it does not emphasize *jiu* as a culturally significant beverage. “Brew” takes a middle ground between the aforementioned choices. According to the *Oxford English Dictionary*, “brew” is defined as “the action, process, or result, of brewing; the beverage.”³ Considering the varied applications for *jiu* throughout Chinese history, “brew” is a general yet descriptive term for the beverage. In addition, *jiu* is sometimes simply left untranslated, though that fails to make the meaning immediately clear to readers of English.

Throughout this paper the word *jiu* will be used rather than an English translation, for clarity in this context. English translations will be used only when it is necessary to highlight a specific aspect of *jiu* or to better communicate a specific concept.

THE ETYMOLOGY OF *JIU*

The character *jiu* 酒 is composed of Kangxi Radical 85 灬 (or less commonly 水) and Kangxi Radical 164 酉. *Jiu* is an example of a pictophonetic character, *xingsheng zi* (形聲字); pictophonetic characters consist of semantic classifiers and phonetic indicators that represent their meaning and phonology respectively. Kangxi 85, or “three-drops water,” is the semantic classifier, representing liquidity, the state of being aqueous, or moisture. The phonetic indicator is Kangxi Radical 164 酉, which is itself a

² H. T. Huang, *Science and Civilisation in China*. Volume 6: *Biology and Biological Technology*. Part V: “Fermentations and Food Science,” 149–150.

³ *Oxford English Dictionary Online* (Oxford: Oxford University Press), s.v. “brew,” n. 1.

character, *you*. Originally, *you* had the same meaning as *jiu*, and it is synonymous with it in many ancient Chinese texts from the Shang and Zhou era. *You* is a pictograph of a vessel of beer.

Table 1. Phonology of *jiu* and *you*^{4,5}

Character	Modern Standard Mandarin (MSM)	Early Middle Sinitic (c. 600 AD)	Tone (Middle Sinitic)
酉	yǒu	juw'	上聲 (Rising tone)
酒	jiǔ	tsuw'	上聲 (Rising tone)

Although in Modern Standard Mandarin (MSM) *you* and *jiu* have disparate pronunciations, their rendering in Early Middle Sinitic provides a more fruitful comparison. This enables a logical connection between the two as a root for a *xingsheng* or pictophonetic character.

Throughout early Chinese history, there have been multiple renderings of both *jiu* and *you*. Oracle Bone inscriptions, or *jiaguwen* 甲骨文, dated to the Shang dynasty in circa second millennium BC, show a highly pictographic rendering with a not-yet-standardized version of Kangxi 85 representing liquidity (Fig. 1A). During the Western Zhou, c. eleventh to eighth centuries BC, on a bronze inscription, *jinwen* 金文, the character *you* is used analogously to *jiu* and is still in a highly pictographic form (Fig. 1B).⁶ During the Qin dynasty, with the advent of small seal script *xiaozhuan* 小篆, the character *jiu* becomes more recognizable when compared with MSM (Fig. 1C). Similarly, on the Mawangdui bamboo manuscript *Recipes for Fifty-Two Ailments* 馬王堆帛書五十二病方, dated to the Han dynasty, second century BC, *jiu* looks stylistically similar to its rendering in MSM. However, there is also the alternate form of Kangxi 85 (Fig. 1D).

⁴ Wiktionary, s.v. 酒.

⁵ Wiktionary, s.v. 酉.

⁶ As in Fig. 1B, a pictograph of a jar of beer is used for *jiu*. This is similar to the original Sumerian graph depicting an upright jar of beer with a stem-like top and pointed base, which dates back to the fourth millennium BC. See R. H. Michel, P. E. McGovern and V. R. Badler, "Chemical Evidence for Ancient Beer," *Nature* 360, no. 24 (1992).

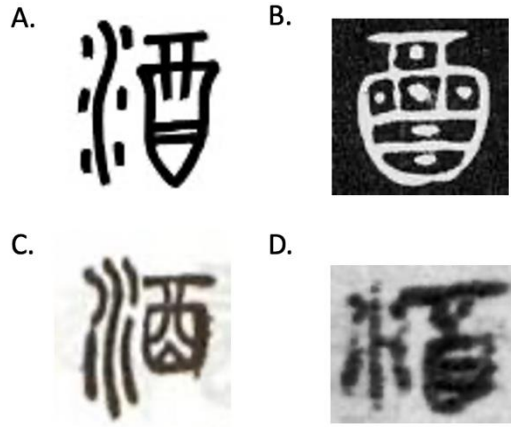


Figure 1. Renderings of *jiu* in early Chinese history: (A) Oracle Bone Inscriptions, c. second millennium BC. (B) Bronze Inscription, Western Zhou dynasty, c. eleventh–eighth centuries BC. (C) Small Seal Script, Shang dynasty, c. third century BC. (D) Mawangdui Manuscript, Han dynasty, c. second century BC. Adapted from the Multi-function Chinese Character Database of the Chinese University of Hong Kong⁷

Jiu has also been borrowed into other languages throughout East and Southeast Asia (see Table 2). In Sinoxenic languages such as Japanese, Korean, and Vietnamese, their pronunciation is derived from the Middle Chinese pronunciation; these specific languages show Chinese borrowing of both vocabulary and pronunciation and can be useful for the reconstruction of Middle Chinese.

Table 2. *Jiu* in other languages⁸

Language	Script	Pronunciation Notes
Japanese*	酒	Go-On: <i>shu</i> Kun: <i>sake</i>
Korean*	주	<i>ju</i>
Vietnamese*	<i>tửu</i>	Derived from Sinitic 酒 <i>jiu</i>
Indonesian	<i>ciu</i>	Derived from Southern Min 酒 <i>chiú</i>

* denotes Sinoxenic languages.

⁷ “酒”, in 漢語多功能字庫 (Multi-function Chinese Character Database), Chinese University of Hong Kong, 2014-present.

⁸ Wiktionary, s.v. 酒.

THE CHEMISTRY OF FERMENTATION AND EARLY FERMENTATION IN CHINA

Before discussing the origins of fermenting alcohol in China, it is necessary to first discuss the chemistry behind fermentation. Ethanol fermentation, or fermentation that results in ethyl alcohol such as that in beer or wine, involves the conversion of sugar into ethanol. First, monosaccharides such as glucose (or fructose, using additional steps) are first converted to pyruvate through glycolysis. Pyruvate is converted to acetaldehyde, which is subsequently reduced, catalyzed by pyruvate decarboxylase. The result is ethanol and carbon dioxide; two molecules of each is produced for every one molecule of glucose used as a reactant. Ethanol fermentation occurs in anaerobic organisms, or organisms which do not utilize molecular oxygen. For example, in yeast, glycolysis is the primary source of adenosine triphosphate (ATP), which serves as the “molecular currency” of the cell. After glycolysis, yeast will convert pyruvate into ethanol via the aforementioned process. An analogous process occurs in aerobic organisms, such as humans, through lactate fermentation; lactate is produced rather than ethanol. A primary example of this in humans is sore muscles during strenuous exercise.

The way in which fermentation occurs varies based on the sugar present in a particular brewing material. Grapes, for example, only need fermentation for alcohol to be produced. Grape juice (as well as other fruit juices) contain the requisite monosaccharides for fermentation, such as fructose and glucose. On the surface of many fruit skins, microorganisms are present and capable of performing ethanol fermentation. If the fruit is agitated such that the fruit juice can come into contact with the skin, ethanol fermentation will occur if the fruit is left to sit. On the other hand, cereal grains (grasses that are grown for edible grain) require a two-step process to produce ethanol: saccharification and fermentation. Saccharification is the hydrolysis of starches, such as amylose and amylopectin, to create fermentable monosaccharide sugar units via enzyme digestion. Common cereals include rice, wheat, corn, rye, millet, sorghum, oats, triticale, and barley — all potential candidates for fermentation.

Showing its deep history in China, chemical evidence of alcohol has been found dating back to the Neolithic period. A chemical analysis using infrared spectrometry, mass spectrometry, and liquid chromatography performed on various pottery jars found in Jiahu, Henan Province, provided scientific evidence of a fermented beverage produced as early as the seventh millennium BC. Based on various

dating methods, the beverage was determined to be made from rice, honey, and a fruit such as a hawthorn or grape. In addition, sealed bronze vessels from the Shang and Western Zhou (second millennium BC to c. eighth century BC) contained a cereal-based fermented beverage made from millet and rice, as well as early evidence of grape wine.⁹

There were many different alcoholic beverages that constituted *jiu* in Neolithic China. Four common beverages of the Neolithic Chinese included 醴 *li*, 酪 *lao4/luo4*, 醪 *lao2*, and 鬯 *chang4* (see Table 3). *Li* is referenced in the *Book of Rites* (*Liji* 禮記) as well as on oracle bone inscriptions as a drink for sacrificial ceremonies in the Shang dynasty.¹⁰ Most similar to an ale, *li* is made using malt and glutinous millet; an alternate translation, “day-old wine,” refers to another method of producing *li* by shortening the fermentation time of *jiu* (*qu* fermentation, discussed below). *Lao* or *luo* is a more obscure beverage that is mentioned alongside *li* and assumed to be a dairy-based fermented beverage because its character was used to indicate fermented dairy products in medieval and later times. However, it could also be made from fruit juice, producing a more wine-like beverage.¹¹ *Luo* is the earliest of these beverages, dating back to the Early Neolithic Period; it does not require a fermentation starter and can be made with existing microorganisms on fruit skins.¹² A beverage still produced among certain ethnic groups in Taiwan is *lao*, a wine-like beverage retaining its lees (the yeast/precipitates left over after the fermentation and aging of wine).¹³ *Chang* is an herbal wine that was used in various sacrificial offerings. Mentioned as early as the Oracle Bones of the Shang dynasty, *chang* was commonly made from black panicum millet as mentioned in the *Document Classic* (*Shujing* 書經) and *Book of Rites* (*Liji* 禮記).¹⁴

9 Patrick McGovern et al., “Fermented Beverages of Pre- and Proto-historic China,” *Proceedings of the National Academy of Sciences* 101, no. 51 (2004): 17593–17598.

10 Huang, “Fermentations and Food Science,” 156.

11 Huang, “Fermentations and Food Science,” 156.

12 Hsing-Tsung Huang, “The Origin of Alcoholic Fermentations in Ancient China,” in *Wine in Chinese Culture*, ed. Peter Kupfer (Berlin: LIT Verlag), 48–49.

13 Huang, “Fermentations and Food Science,” 156.

14 Huang, “Fermentations and Food Science,” 156–157.

Table 3. Drinks of the Neolithic Chinese.

Character	Modern Standard Mandarin (MSM)	Middle Sinitic	Definition
醴	lǐ	lejX	1. sweet liquor, made with malt (<i>nie</i> 蘖) and glutinous millet (<i>shu</i> 黍); oft translated as “mead”; ale more accurate (no honey) 2. day-old wine ¹⁵
酪	lào/luò	lak	Fermented mare’s milk (koumiss-like); yogurt-like; curdled milk or fruit juice ¹⁶ (See 果酪 below)
醪	láo	law	Unstrained wine (rice-based), still with lees; usually referring to a rich ale sweeter than <i>li</i> ¹⁷
鬯	chàng	trhjangH	Aromatic/herbal wine used in sacrificial offerings ¹⁸ ; made from black panicum millet

A crucial development in the production of *jiu* was *qu* fermentation. *Qu* 麴 (MC khjuwk) is a grain ferment/mold used as a fermentation agent to make *jiu*.¹⁹ *Qu* fermentation became a common technique for producing *jiu* as early as the second century BC. Importantly, *qu* fermentation enables

¹⁵ Kroll et al., *A Student’s Dictionary*, s.v. “醴 *li*.”

¹⁶ Kroll et al., *A Student’s Dictionary*, s.v. “酪 *lao*.”

¹⁷ Kroll et al., *A Student’s Dictionary*, s.v. “醪 *lao*.”

¹⁸ Kroll et al., *A Student’s Dictionary*, s.v. “鬯 *chang*.”

¹⁹ Kroll et al., *A Student’s Dictionary*, s.v. “麴 *qu*.”

saccharification and fermentation to occur in one step rather than as separate processing steps²⁰; this greatly reduced the complexity of first enzymatically breaking down starches to simpler monosaccharides. Records from the Jin dynasty indicate *qu* was derived from overcooked steamed rice that was subsequently dried and stored. After experimenting and further characterizing the dried and stored rice, it was discovered that it maintained the ability to ferment, and could be processed into *qu*.²¹ *Qu* itself is not monolithic; it can be subdivided into different categories based on microorganismal content or its intended use. For example, certain types of *qu* are specifically for alcohol fermentation, yet other types of *qu* containing exclusively *Aspergillus sojae* and *Aspergillus oryzae* are used to produce soy sauce and miso. In addition, among different kinds of *jiuqu* or alcohol fermentation starters, cultures vary based on the cereal and microbial composition.²²

An early reference to *qu* is made in the *Book of Documents* (*Shangshu* 尚書), chapter 23 (*Shuoming xia* 說命下):

若作酒醴，爾惟麴蘖 *ruo zuo jiu li, er wei qu nie*

Although this reference is important as an early mention of *qu*, the method of translation could lead to disparate conclusions. Based on inferred conjunctions, this quotation could implicate *qu* with the production of *jiu* and *nie* with the production of *li*. Alternatively, this quotation could suggest that, to produce *jiu* or *li*, it is necessary to combine two ingredients: *qu* and *nie*. In either case, this early reference in the *Document Classic* demonstrates the presence of *qu* in Chinese alcohol culture as early as the Spring and Autumn Period.

Through a taxonomical analysis of starch and microbial remains found on unearthened jars and vessels at two Neolithic sites, Lingkou and Guantaoyuan, damaged starches were found to have

²⁰ Peter Kupfer, “Amber Shine and Black Dragon Pearls: The History of Chinese Wine Culture,” *Sino-Platonic Papers* 278 (2018): 11.

²¹ Huang, “Fermentations and Food Science,” 162–165.

²² Xiao-Wei Zheng et al. “*Daqu* – A Traditional Chinese Liquor Fermentation Starter,” *Journal of the Institute of Brewing* 117, no. 1 (2011): 82–83.

undergone gelatinization (a process related to fermentation) at both sites. In addition, the type of starch varied based on location, with rice being present at a higher frequency in the vessels of Lingkou, which is situated in a geographic location more favorable to growing rice. Technology, such as funnel steamers, were also found to be present. In order to saccharify starches, microscopic analysis found husk phytoliths (sprouted plants such as wheat or millet) as well as fungi originating from plant leaves and stems.²³ This is similar to *caoqu* (草麴), where herbs are used as fermentation starters in addition to moldy grain. In addition, there is evidence that *qu* fermentation was used via fungi as well as yeasts at two Neolithic sites in Shaanxi Province.²⁴ These findings predate early textual evidence for *qu* fermentation, and suggest that the practice may have begun through trial-and-error in Neolithic China to produce alcohols made from a variety of cereal grains and starches that varied according to geographic and agricultural constraints.

JIUNIANG 酒釀

One ancient beverage that has survived to the present is *jiuniang* 酒釀 or fermented (glutinous) rice. Also known as *laozao* 醪糟, *jiuniang* is a beverage made from fermented steamed glutinous rice with a low alcohol content, approximately 1.5–2 percent.²⁵ *Jiuniang* utilizes *jiuzao* 酒糟 as a fermentation agent rather than *qu*. Importantly, *jiuzao*, or distiller's grains, are a byproduct of cereal brewing. So it is plausible that *jiuniang* became a byproduct of the cereal brewing process, resulting in a somewhat alcoholic yet sweet beverage. Importantly, *jiuniang* is a rustic product and was probably not written about by elite literati; this bestows somewhat mystical origins, considering that it is a common beverage in China. The brewing method for *jiuniang* is relatively simple vis-à-vis the ingredients needed; it involves water, ferment, glutinous rice, a vessel, and time. Importantly, this beverage retains the dregs

23 Li Liu et al., "The Origins of Specialized Pottery and Diverse Alcohol Fermentation Techniques in Early Neolithic China," *Proceedings of the National Academy of Sciences* 116, no. 26 (2019): 12772.

24 Li Liu, Jiajing Wang, and Huifang Liu, "The Brewing Function of the First Amphorae in the Neolithic Yangshao Culture, North China," *Archaeological and Anthropological Sciences* 12, no. 118 (2020): 10–12.

25 Jian-rong Li and Yun-Hwa P. Hsieh, "Traditional Chinese Food Technology and Cuisine," *Asia Pacific Journal of Clinical Nutrition* 13, no. 2 (2004): 151.

from the brewing process. Through a survey of early Sinological texts, such as the *Qimin yaoshu* (lit., Essential Skills to Benefit People; 齊民要術) and the *Huangdi neijing* (Yellow Emperor’s Inner Canon; 黃帝內經), possible references to *jiuniang* have been found. The *Qimin yaoshu* is a farmer’s almanac-type collection of agricultural texts written during the Northern and Southern Dynasties period in the sixth century AD. The *Huangdi neijing*, by contrast, is an older text, dated to the Han dynasty, approximately between the third century BC and the third century AD.

In the *Qimin yaoshu*, Book 7, Chapter 66, “Ferments and Brew” (齊民要術·卷第七·笨麴并酒第六十六), a recipe is found for *tujiu*, or yeast-based brew:

蜀人作醪酒法：十二月朝，取流水五斗，漬小麦麴二斤，密泥封。至正月、二月冻释，发，漉去滓，但取汁三斗，杀米三斗。炊作饭，调强软。合和，复密封。数十日便熟。合滓餐之，甘、辛、滑如甜酒味，不能醉人。

The Way of Making Yeast-Based Brew of the Shu People: On a day during the twelfth month, fetch five dou of running water, saturate two jin of barley ferment, and seal [the urn] shut with mud. When reaching the first or second month, when the frozen [surroundings] have dissolved, open [the mud-sealed urn] and filter [the liquid], leaving the dregs. Only take three dou of the liquid and three dou of saccharified rice. Cook the rice to make it become soft. Close [the urn], stir until it is thoroughly mixed, and re-seal. Count ten days and then it will be cooked. It can be eaten together with the dregs. Sweet, pungent, and smooth like the flavor of sweet *jiu*, it cannot be intoxicating.

From this description, it seems likely that this yeast-based brew is similar to *jiuniang*. It is fermented using saccharified rice, barley ferment, water, and time in a mud-sealed urn. In addition, it is to be eaten with the dregs. It is described as having a sweet, pungent, and smooth flavor, consistent with *jiuniang*. In the scholarly edition of the *Annotated Qimin Yaoshu*, *tujiu* is compared to *jiuniang*:²⁶

26 Qiyu Miao and Sixie Jia, *The Annotated and Collated Qimin yaoshu (Qimin yaoshu xiaoshi)*, 2nd ed. (Beijing: Zhongguo nongye chubanshe), 512.

新舊《辭源》、《辭海》以其“如甜酒味”，連糟吃，釋為“甜酒釀”，可酌。

In the old and new Font of Phrases and Sea of Phrases, *tujiu* has the flavor of a sweet liquor. It is eaten together with the dregs. It may be explained as sweet *jiuniang*.

As mentioned, *tujiu* is a likely candidate for *jiuniang* due to its flavor description as well as composition.

In addition to the *Qimin yaoshu*, there are other candidates for *jiuniang* in the *Huangdi neijing*. In the *Basic Questions*, Chapter 14, *Discussion of Decoctions and Sweet Wines* (黃帝內經·素問·湯液醪醴論), there are references to *laoli* (sweet wines; 醪醴):

黃帝問曰：為五穀湯液及醪醴，柰何。歧伯對曰：必以稻米，炊之稻薪，稻米者完，稻薪者堅。帝曰：何以然。歧伯曰：此得天地之和，高下之宜，故能至完，伐取得時，故能至堅也。

The Yellow Emperor asked: Regarding the decoctions and sweet wines made from the five grains, how is that done? Qi Bo replied: One must take rice and cook the rice straw; as for the rice, it is complete, as for the rice straw, it is hardened. The Emperor said: Why is that? Qi Bo replied: This is the sum of Heaven and Earth, suitable for high and low, therefore it can reach completion. It is cut down and taken at a suitable time so therefore it can become hardened.

This interaction between the Yellow Emperor and Qi Bo is not particularly descriptive. However, upon linguistic analysis, we see that *laoli* resembles *jiuniang*. From the information provided, it is a beverage made from rice. In addition, *lao* as defined in the Han dynasty-era dictionary *Shuowen Jiezi* references dregs:

《說文解字·酉部》：「醪，汁滓酒也。」

Shuowen Jiezi, You Radical: *Lao*, a brew containing the dregs.

Li, on the other hand, did not contain dregs but was known as a sweet alcoholic beverage.¹⁶ *Lao* and *li* are each distinct beverages in their own right. However, the compound *laoli* could be a reference to a proto-*jiuniang*: a sweet brew (from *li*) containing dregs (from *lao*) that is made from rice as described in the *Huangdi neijing*.

An additional reference to a *jiuniang*-type beverage is also found in the *Huangdi neijing* (Basic Questions), Chapter 24, “Blood, Qi, Body, and Mind” (黃帝內經·素問·血氣形志):

形數驚恐，經絡不通，病生於不仁，治之以按摩醪藥。

For those that are frequently panic stricken, their meridians are not flowing. Their illness comes from not being benevolent. The treatment is massage and *laoyao*.

This passage in the *Huangdi neijing* mentions a *laoyao* or “medicinal” brew. Wang Bing of the Tang dynasty, who authored a commentary on the *Huangdi neijing*, mentioned: “*Laoyao* can be called *jiuyao* (醪藥，謂酒藥也).” In addition, in the Miao Qiyu-annotated edition of the *Qimin yaoshu*, *jiuyao* is connected to *jiuniang* through the assertion that the sweet *jiuyao* can only produce sweet *jiuniang* and cannot produce liquor as yeast cannot survive in highly concentrated saccharified brews.²⁷ A detail that is hidden behind this connection is the low alcohol content of *jiuniang*. As it is generally less than 2 percent alcohol-by-volume (ABV), this is consistent with the idea that if a beverage such as *tianjiuyao* cannot be made into hard liquor with a high ABV, it can be made into *jiuniang* with a low ABV. Both references in the *Huangdi neijing* suggest a proto-*jiuniang* may have existed well into Han-dynasty China.

Jiuniang is also referenced by name in the *Bencao gangmu shiyi* (本草綱目拾遺), or

²⁷ Miao and Jia, *Qimin yaoshu xiaoshi*, 481.

Supplements to the Compendium of Materia Medica, with an entire section of Book 8 being devoted to it. Written by Zhao Xuemin (趙學敏) in the mid-eighteenth century during the Qing dynasty, the *Bencao gangmu shiyi* contain a number of the original Ming-dynasty *Bencao gangmu*. There are numerous examples of *jiuniang* being used in traditional Chinese medicinal recipes, one of which is in *Tablets for Preserving Vitality* (保元丹 *Bao yuan dan*) mentioned in Book 8, *Various Grains* (本草綱目拾遺·卷八·諸谷部):

保元丹 千金不易方：此丹張氏家傳，已五世矣，黃精一斤、甘枸杞四兩、酒釀五斤、好黃酒五斤，入罐煮一炷香，每飲一茶杯；藥渣搗為丸，加胡桃肉八兩、大黑棗八兩、青州柿餅一斤。

Tablets for Preserving Vitality, there is no easy method: This tablet has been passed down in the Zhang Family for five generations. One *jin* sealwort, forty-two sweet Chinese wolfberries, five *jin* of *jiuniang*, five *jin* of good millet wine, in a jar boil for as long as it takes to burn a stick of incense. Drink a teacup [of the liquid] each time; the dregs of the decoction are pounded into pills, and then add the flesh of eighty-two walnuts, eighty-two big black jujubes, and one *jin* of Qingzhou persimmon.

Although the temporal origins of *jiuniang* cannot be precisely dated, from materials in the *Huangdi neijing* and *Qimin yaoshu*, *jiuniang* (or a proto-form) was an ancient beverage consumed both recreationally (*tujiu*) as well as medicinally (*laoyao*). Considering that a strong candidate for proto-*jiuniang* came from modern-day Sichuan Province (the *Shu* people in antiquity), the beverage may have originally developed there. However, the linguistic shift to using the term *jiuniang* is harder to pinpoint; considering that *laozao* (醪糟) is an equally acceptable term, each may have arisen regionally without regard to the beverage's place of origin.

RELIGION AND *JIU* IN ANCIENT CHINA

The connection between *jiu* and religion in China follows an ancient tradition. Early oracle bone records document offerings of *jiu* to the gods; this is related to how the character *you* functions as a pictograph for a vessel of *jiu*. Beyond the Shang dynasty, multiple records in the Book of Odes, Book of Rites, and the Rites of the Zhou document offerings of *jiu* for both regular ritual ceremonies as well as sacrifices.²⁸ In the Zhou, there was also a distinctly cosmological element to *jiu*, as both *jiu* and the process of fermentation were thought to be sent from Heaven. This is a mark of the shift toward the idea that Heaven, or *tian*, was the arbiter of existence: for example, the Zhou dynasty mentions the "star of alcohol," *jiuxing* 酒星, as well as sees the integration of cosmological and astrological concepts into the brewing process.²⁹

The role of *jiu* in Chinese society changed due to the rise of Confucianism. In Confucianism, the concept of the "virtue of alcohol," *jiude* 酒德, became an integral part of social behavior. In order to exercise self-cultivation, *xiu* 修, and attain the status of a *junzi* 君子 ("superior man"), one must possess *jiude*.^{30,31} Confucianism marks a shift away from the previously cosmological notions about *jiu* and emphasizes human morality and autonomy.³² *Jiu* culture developed into an essential part of Confucianism and Confucian values, marking a substantial change in the evolution of China's *jiu* culture.

GRAPES IN CHINA: GRAPE WINE AND THE SILK ROAD

As a distinct *jiu* culture was being established in China through the fermentation of primarily cereal grains, the production of grape wine was also burgeoning in parallel. An early example of a grape wine-

28 Mu-Chou Poo, "The Use and Abuse of Wine in Ancient China," *Journal of the Economic and Social History of the Orient* 42, no. 2 (1999): 135.

29 Kupfer, "Amber Shine and Black Dragon Pearls," 8–9.

30 Kupfer, "Amber Shine and Black Dragon Pearls," 13–14.

31 Ian Newman, "Cultural Aspects of Drinking Patterns and Alcohol Controls in China," *Educational Psychology Papers and Publications* 94 (2002): 18.

32 Kupfer, "Amber Shine and Black Dragon Pearls," 14.

like beverage is *guoluo*, made from indigenous Chinese grapes of the genus *Vitis*, such as *Vitis thunbergi* and *Vitis flexuosa*. The grape most commonly used for wine in the West is also of the genus *Vitis*. *Vitis vinifera*, which is native to Iran, grows throughout Central Asia. According to Chinese tradition, as seen in the *Records of the Grand Historian*, *Vitis vinifera* was first imported into China in the second century BC by Zhang Qian, who traveled to Ferghana in modern-day eastern Uzbekistan.³³ A similar sentiment was found in both the Annals of the Later Han (*Hou Hanshu* 後漢書; published fifth century AD) and Annals of the Jin dynasty (*Jin Shu* 晉書; published seventh century AD), where grapes and grape wine are thought to be produced in Sogdiana.³⁴ In addition, Indo-Scythians were mentioned in a Liang dynasty (sixth century AD) text as a people competent in making grape wine as well as the fermentation of other plant-based products.³⁵ The grape was phono-semantically matched into Middle Sinitic as *buo dau* (lit. grape, vine), becoming the MSM *putao*. The original phonetic spelling found in the Annals of the Later Han was rendered 蒲桃.³⁶ Etymologically, this was borrowed from the Bactrian for wine, *bādāwa; it also has its roots in the Persian باد باد (and both Middle and Old Persian forms), meaning wine.³⁷ A case can be made that, if in fact the vine entered China via the Northern Silk Road from Ferghana, *buo dau* may be the original Ferganian word.³⁸ *Putao* is a thoroughly Sino-Iranian word; the linguistic heritage supports the notion of cultural contact to exchange the vine. Additionally, *putao* has many Chinese character variants due to its phono-semantically matching, the four most common of which are 蒲桃, 蒲陶, 蒲萄, and 葡萄. Importantly, this linguistic evidence also supports the idea that

33 Eric Trombert, "La vigne et le vin en Chine, Misères et succès d'une tradition allogène," *Journal Asiatique* 289, no. 2 (2001): 292–294.

34 Berthold Laufer, *Sino-Iranica: Chinese Contributions to the History of Civilization in Ancient Iran* (Chicago: Field Museum of Natural History), 221.

35 Laufer, *Sino-Iranica*, 222.

36 Laufer, *Sino-Iranica*, 225.

37 Wiktionary, s.v. 葡萄.

38 Laufer, *Sino-Iranica*, 225.

the vine entered China via people of Aryan rather than Turkish descent despite possible geographic connections.^{39,40}

How the vine entered China from the Indo-Iranian world has long been disputed. As previously mentioned, a commonly cited answer to this question lies in the *Records of the Grand Historian*, with the account of Zhang Qian’s travels. However, the *History of the Han* presents two contrasting narratives, each relying upon the Silk Road as a conduit for travel during the Han dynasty. One theory presents the vine traveling to Chang’an via the Northern Silk Road from Ferghana as a result of diplomatic or militaristic action. The oases along the Northern Silk Road offer literary evidence to substantiate this theory. However, a more likely alternative is via modern-day Kashmir in the Kingdom of Jibin. Similarly to the discovery of alfalfa, the vine was also discovered in Kashmir and, following the Southern Silk Road through the kingdoms of Nandou and Qiemo, is thought to have entered China proper.⁴¹ There is botanical and archaeological evidence for the vine’s having existed at these places (see Fig. 2).^{42,43}

39 Laufer, *Sino-Iranica*, 221.

40 The Turkish word for grape derives from the Uyghur *ösüm*.

41 Laufer, *Sino-Iranica*, 222.

42 Trombert, “La vigne et le vin en Chine,” 303–304.

43 Su Zhenxing, “On the Exchange of Ancient Chinese and Western Grape and Grape Wine Culture,” in *Wine in Chinese Culture*, ed. Peter Kupfer (Berlin: LIT Verlag), 163.

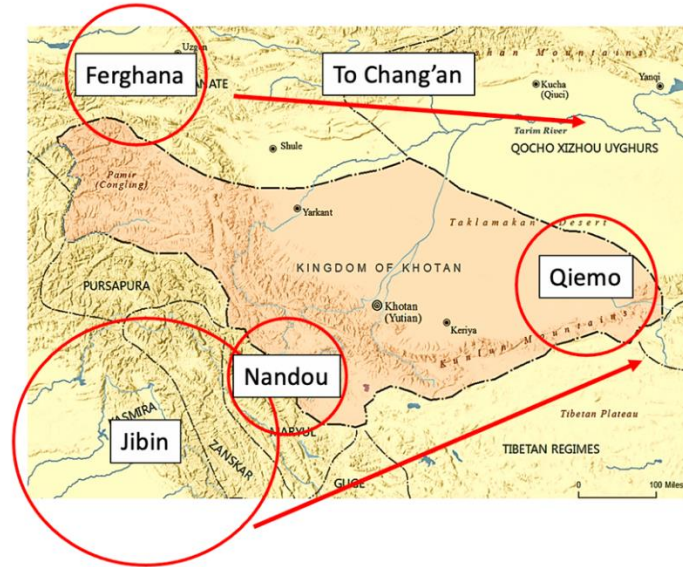


Figure 2. Routes of entry for the vine into China

A surge in the popularity of grape wine arose during the Tang and Song dynasties. While the grape had been in China for hundreds of years prior, this surge is correlated with the rise of wine-making. During the Tang dynasty, Turkish tribes residing in Turkistan introduced wine-making to the Chinese, despite their having inherited the vine from Iranian peoples.⁴⁴ A grape wine culture can be seen through literary sources, as both Tang and Song poetry were rich in references to *jiu*, and especially grape wine.⁴⁵ Li Bai, the famous Tang poet, writes colorfully about being drunk in his poem *Bringing in the Wine* 将进酒 in the *Complete Tang Poems* (全唐詩 *Quan Tangshi*). Li Bai speaks of the wonders of *jiu*:

钟鼓馔玉不足贵，但愿长醉不复醒。

Goblets, drums, delicacies, and jade are not precious enough
My only wish is to remain drunk and never sober up

⁴⁴ Laufer, *Sino-Iranica*, 233.

⁴⁵ Wang Mei, "Grape Wine in Ancient Chinese Literature," in *Wine in Chinese Culture*, ed. Peter Kupfer (Berlin: LIT Verlag), 179–180.

The primary conduit for the explosion of grape-wine culture in China rested on Tang territorial expansion into the Western Regions. Viticulture flourished, and the market for *jiu*, especially grape wine, expanded throughout the empire, leading to alcohol taxation increases.⁴⁶ This is not to discount the role of the Silk Road, serving as a thoroughfare for *jiu* culture as well as materials. Sogdian merchants were important catalysts of the *jiu*, and especially grape wine trade, throughout the Tang dynasty.⁴⁷

The Silk Road became an important conduit for the spread of alcohol and the development of an alcohol market. During and after the Han dynasty, Sogdian merchants were crucial for the introduction and spread of an alcohol culture along the Silk Road. This was in conjunction with the spread of Zoroastrianism.⁴⁸ Zoroastrians have historically consumed alcohol in the home as well as at celebratory events, in stark contrast with Islam.⁴⁹ In addition, a number of settlements along the Silk Road developed a *jiu* culture. Generally, this was associated with the spread of religious or cultural beliefs; however, in some areas, surprising juxtapositions allowed a *jiu* culture to co-exist with Buddhist and Persian values.⁵⁰ In addition, there is evidence of viticulture along multiple Silk Road settlements, suggesting that at least a subset of *jiu* culture was in fact grape wine-based.

Alongside a new *jiu* market during the Han dynasty, trade also allowed for the regionalization of fermentation, resulting in various types of *jiu* with varied ingredients such as spices and flowers.⁵¹ This regionalization was generally divided along a north–south axis, where *qu* fermentation remained dominant in the South, but wheat or millet-based brewing flourished in the north.⁵²

Besides being a conduit for material exchange, the Silk Road was also crucial for the spread of

46 Luo Guoguang, “The Influence of the Development of Viticulture on the History and Culture of Grape Wine in China,” in *Wine in Chinese Culture*, ed. Peter Kupfer (Berlin: LIT Verlag), 58.

47 Eric Trombert, “Un vestige vivant de la présence sogdienne en Chine du Nord: le vignoble du Shanxi,” *Études Thématiques* 17 (2005): 264.

48 Kupfer, “Amber Shine and Black Dragon Pearls,” 16.

49 Richard Foltz, “Zoroastrians in Iran: What Future in the Homeland?,” *Middle East Journal* 65, no. 1 (2011): 78.

50 Kupfer, “Amber Shine and Black Dragon Pearls,” 16.

51 Kupfer, “Amber Shine and Black Dragon Pearls,” 17.

52 Kupfer, “Amber Shine and Black Dragon Pearls,” 17.

cultural and religious ideas. Heavily influenced by Buddhism's expansion along the Silk Road, the period found Daoist and Buddhist ideals simultaneously being practiced. Coupled with this was the development of a Daoist alcohol culture; alcohol became at once a medicine (because of the alchemical methods used to make it), a symbol of individualism, and an object of ritual sacrifice.⁵³ Of course, this stood in stark contrast to many Buddhist teachings, which generally forbid the consumption of alcohol.

ALCOHOL AND BUDDHISM: THE PARADOX OF DUNHUANG

A paradoxical relationship exists between Buddhism and alcohol consumption. Throughout most of the Buddhist world, alcohol consumption is generally prohibited and has been since the latter half of the first millennium BC.⁵⁴ However, *jiu* was consumed by both Buddhist monks and lay people at Dunhuang, a garrison town in western Gansu that was a nexus of multiple Silk Road routes and a site of both material and intellectual exchange. There was a symbiotic relationship between *jiu* and Buddhism at Dunhuang; the materials for producing *jiu* and the purchasing of *jiu* were budgeted and recorded.⁵⁵ Generally, this cereal-based *jiu* was made from millet, and records of millet allocation show that a large proportion was dedicated to beer production.⁵⁶ In the context of religious practice, *jiu* was used in various functions such as feasts to honor the Buddha in monasteries and an accompaniment to various religious ceremonies.⁵⁷ These records were found among the Dunhuang Manuscripts, a collection of documents unearthed at Dunhuang in the early twentieth century. These manuscripts marked an important discovery of both secular and religious writings in a number of Sinitic and non-Sinitic

53 Kupfer, "Amber Shine and Black Dragon Pearls," 19–20.

54 Rolf Scheuermann, "Alcoholic Drinks and Drinking (Buddhism)," in "Buddhism and Jainism," ed. K. T. S. Sarao and J. D. Long, *Encyclopedia of Indian Religions*.

55 Eric Trombert, "Bière et bouddhisme: la consommation de boissons alcoolisées dans les monastères de Dunhuang aux VIIIe–Xe siècles," *Cahiers d'Extrême-Asie* 11 (2000): 135, 137.

56 Trombert, "Bière et Bouddhisme," 147.

57 Trombert, "Bière et Bouddhisme," 159–160, 164.

languages. The Dunhuang Manuscripts contain a diverse collection of content, including texts such as *bianwen* (transformation texts), sutras, poetry, and a variety of writings by lay students.⁵⁸

As did other societies in ancient China, Dunhuang had private “associations” that organized multiple facets of daily life such as religious gatherings and meetings. To communicate to their members, associations would publish lay society “circulars” that announced a club gathering or other important information that required member attendance. The lay society circulars (社司轉帖 *shesi zhuan tie*) were passed from member to member to spread the contained information; occasionally, certain members would acknowledge receipt by writing 知 *zhi* (to know/be aware of) on the circular before returning it to the place from which it was issued.⁵⁹ In these circulars, *jiu* was frequently used as a fine for deviance from the association’s rules and regulations. Various quantities of *jiu* had to be surrendered depending on the severity of the offence.

Such lay circulars are in the Dunhuang Manuscripts in varying degrees of preservation. In many, as mentioned, *jiu* is prominently featured as a fine assessed particularly for late attendance at lay society meetings. One example of this is in S.1453, a lay society circular dated 886 AD regarding a meeting to be held at the temple (Fig. 3):⁶⁰

58 Victor Mair, “Lay Students and the Making of Written Vernacular Narrative: An Inventory of the Tun-huang Manuscripts,” CHINOPERL Papers (*Journal of Chinese Oral and Performing Literature*) 10 (1981): 6.

59 Chunwen Hao, *Dunhuang Manuscripts: An Introduction to Texts from the Silk Road*, trans. Stephen Teiser (Diamond Bar, CA: Portico Publishing, 2020): 142–143.

60 Mair, “Lay Students and the Making of Written Vernacular Narrative,” 49. A translation of S.1453 is also available in *Dunhuang Manuscript Culture: End of the First Millennium* by Imre Galambos (Berlin: De Gruyter, 2020).

社司轉帖。右緣年支

座社局席，幸請諸公等，帖至並限

今月十日於節如蘭若門前取（齊）。如右「若」於時不到者，罰酒壹角；全不到者，罰半瓮。其帖速遞相分付，不得停帶「滯」，如帶「滯」帖者，准條科罰。帖周卻付本司，用（憑）告（罰）。

光啟二年丙午歲十月錄（事）張欺。

Lay Society Circular, [distributed] because of the yearly allotment.

It is a great honor to invite all of you gentlemen to this banquet. When the notice reaches [you], there is a limited period for you [to act in response].

On the 10th day of this month, we will all gather together at the gate of the hermitage as per agreement. At that time, those who do not arrive on time will be penalized and have to pay a fine of a hornful of brew. For those who do not arrive at all, you will be fined half a jar of brew. Go and spread this notice with each other rapidly and do not hold on to it for too long. If you do delay, you will be punished according to the regulations. After the notice is circulated around and returned [to the home office], we will rely on [the notice] to announce [penalties].

Dated 10th month of the 2nd year (*bingwu*) of the Guangqi reign period by Secretary Zhang Qi.

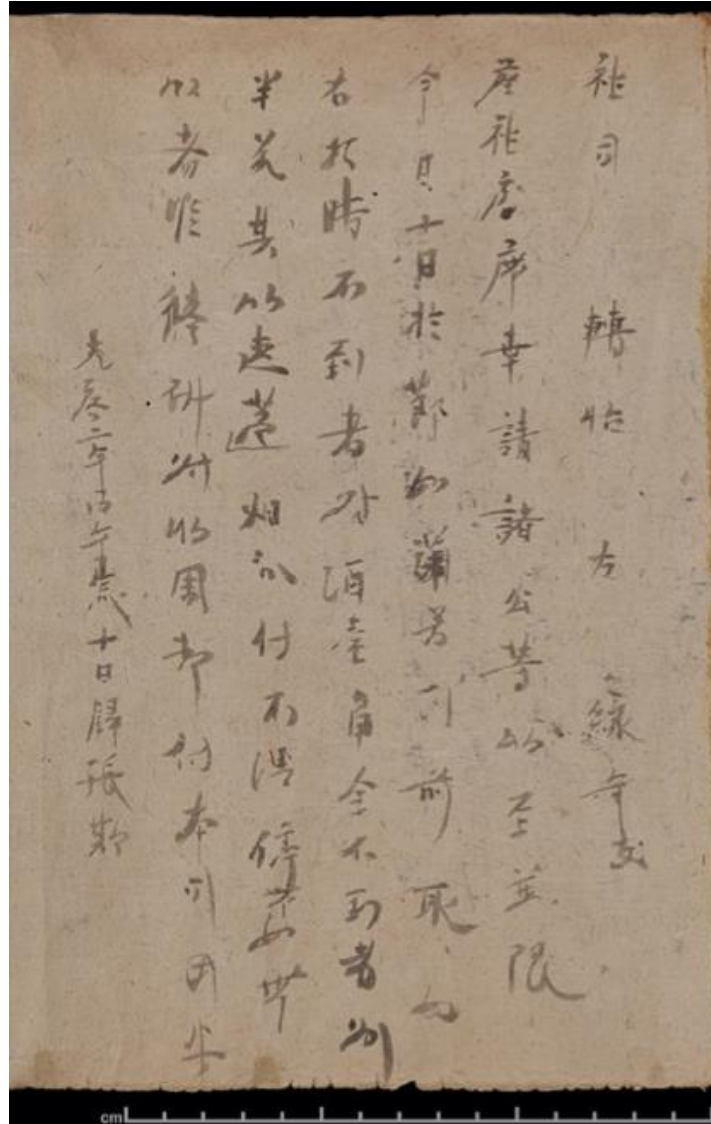
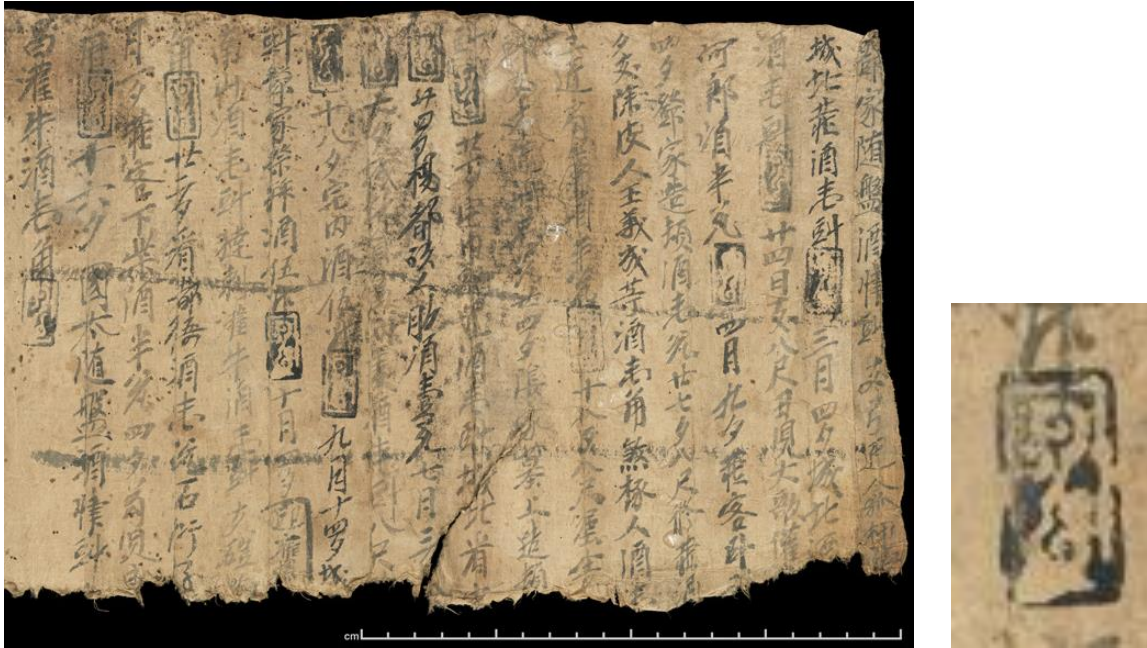


Figure 3. Lay circular at Dunhuang, S.1453. The British Library

Lay society circulars themselves were an integral part of daily life and societal functions. *Jiu* is not only mentioned in lay society circulars as a fine for late attendance, but also appears elsewhere. Other aspects of the extensive culture of brewing, selling, and consuming *jiu* recorded at Dunhuang are also mentioned. Textual evidence for this can be found within S.1398 verso, a manuscript noting the supply of *jiu* from different individuals (Fig. 4A):⁶¹

61 Mair, "Lay Students and the Making of Written Vernacular Narrative," 49.



A.

B.

Figure 4. Lay circular at Dunhuang, S.1398 verso. The British Library

As shown above, S.1398 shows a number of different commitments for contributions of *jiu* from different residents throughout Dunhuang, such as bowmakers (*gongjiang* 弓匠) and felt makers (*zhanjiang* 氈匠). In addition, *jiu* is arriving from different areas of the city (e.g., the north of the city; *chengbei* 城北). After each entry, there is a seal, presumably indicating a promise to provide the stated amount of *jiu* (Fig. 4B). Although half torn, S.1398 demonstrates that a wide variety of individuals throughout Dunhuang contributed to a *jiu* culture within the city.

THE DISTILLATION OF *JIU*

An important advance in the production of *jiu* was the invention of distillation. The date at which distillation arose in China is disputed. The classical narrative is based on texts such as the *Bencao gangmu* (Compendium of the Materia Medica 本草綱目), written by Li Shizhen in 1578 during the

Ming dynasty, which dates distillation to the Yuan dynasty.⁶² Multiple recipes in the *Bencao gangmu* feature *baijiu* (lit. clear liquor) as an ingredient, supporting both their availability and familiarity during the Ming. In addition, there is evidence from other classical texts that distilled *jiu* originated in the Tang and Song dynasties. However, there is archaeological evidence such as excavated murals and early proto-stills that indicates distillation may have begun as early as the later Han dynasty.⁶³ Originally, stills may have been associated with Daoist alchemy and used to generate various medicines through alchemical means. This could have been to produce *jiu* as well as distilled water, which could be used as a medication.⁶⁴

Distilled spirits are known as *shaojiu* or "burnt-liquor," as well as *baijiu*. These linguistic differences are reflected regionally in MSM, although these two words have become synonyms. The mention of *haojiu* in classical texts was originally thought to be evidence of the use of distillation; *shaojiu* may have originally referred to the mulling/warming process of already produced *jiu*.⁶⁵ Using mercury or bronze stills, fermented mash or already finished *jiu* could be distilled to produce *shaojiu* or *baijiu*. *Jiuqu*, or ferment, is used as a starter, and solid-state fermentation occurs: the production of metabolites by microorganisms on a solid surface. This method of fermentation is relatively inefficient, as alcohol still remains in the lees after the fermentation process.^{66, 67} The resulting distilled *jiu* represented a new class of *jiu*, one with a notably higher alcohol content than other types of *jiu*, that became popular throughout China.

62 Xiao-Wei Zheng and Bei-Zhong Han, "*Baijiu* (白酒): Chinese Liquor: History, Classification, and Manufacture," *Journal of Ethnic Foods* 3, no. 1 (2016): 19–20.

63 Huang, "Fermentations and Food Science," 202–207.

64 Kupfer, "Amber Shine and Black Dragon Pearls," 21.

65 Stephen Haw, *Marco Polo's China: A Venetian in the Realm of Khubilai Khan* (Oxon, UK: Routledge, 2006): 148.

66 Catharina Y. W. Ang, Keshun Liu, and Yao-Wen Huang, eds., *Asian Foods: Science and Technology* (Lancaster, PA: Technomic Publishing, 1999), 399.

67 Jin et al., "Mystery behind Chinese Liquor Fermentation," *Trends in Food Science & Technology* 63 (2017): 19–20.

CONCLUSIONS

The history and importance of *jiu* in China should not to be underestimated. Throughout centuries of discovery and cultural exchange, the landscape of *jiu* in China changed dramatically. *Jiu* plays a multifunctional role within Chinese society: as a social beverage, as a religious or traditional object, as a literary device, as well as a commercial entity. Although Neolithic beverages such as *li* and *lao* are well characterized, the textual origins of *jiuniang* have consistently been vague. It is clear that *jiuniang* potentially has origins dating back to the Han dynasty, with recipes in both medicinal and recreational contexts. Among the important conduits for the growth and development of a *jiu* culture was the Silk Road, which catalyzed both material and intellectual exchange. One such place along the Silk Road is Dunhuang, which has a unique relationship with *jiu*, as can be seen in the lay society documents. These circulars give a deep view into the role *jiu* played in everyday life and emphasize its important. Through *jiu*, it is possible to understand the importance of relations between China and the entities surrounding it, and how, as a conduit for exchange, the Silk Road facilitated the growth of an intricate and important beverage culture.

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